When you installing AGP card, please make sure the following notice is fully understood and practiced. If your AGP card has "AGP 4X/8X (1.5V) notch"(show below), please make sure your AGP card is AGP 4X/8X (1.5V).

AGP 2X notch   AGP 4X/8X notch

Caution: AGP 2X card is not supported by Intel® 845(GE/PE) / 845(E/G) / 850(E) / E7205. You might experience system unable to boot up normally. Please insert an AGP 4X/8X card.

Example 1: Diamond Vipper V770 golden finger is compatible with 2X/4X mode AGP slot. It can be switched between AGP 2X(3.3V) or 4X(1.5V) mode by adjusting the jumper. The factory default for this card is 2X(3.3V). The GA-8INXP (or any AGP 4X only) motherboards might not function properly, if you install this card without switching the jumper to 4X(1.5) mode in it.

Example 2: Some ATi Rage 128 Pro graphics cards made by "Power Color", the graphics card manufacturer & some SiS 305 cards, their golden finger is compatible with 2X(3.3V)/4X(1.5V) mode AGP slot, but they support 2X(3.3V) only. The GA-8INXP (or any AGP 4X only) motherboards might not function properly, If you install this card in it.

Note : Although Gigabyte's AG32S(G) graphics card is based on ATi Rage 128 Pro chip, the design of AG32S(G) is compliance with AGP 4X(1.5V) specification. Therefore, AG32S(G) will work fine with Intel® 845(GE/PE) / 845(E/G) / 850(E) / E7205 based motherboards.

Before you install PCI cards, please remove the Dual BIOS label from PCI slots if there is one.

WARNING: Never run the processor without the heatsink properly and firmly attached. PERMANENT DAMAGE WILL RESULT!

Mise en garde : Ne faites jamais tourner le processeur sans que le dissipateur de chaleur soit fix correctement et fermement. UN DOMMAGE PERMANENT EN RÉSULTERA !

Achtung: Der Prozessor darf nur in Betrieb genommen werden, wenn der W rmeableiter ordnungsgem β und fest angebracht ist. DIES HAT EINEN PERMANENTEN SCHADEN ZUR FOLGE!

Advertencia: Nunca haga funcionar el procesador sin el disipador de calor instalado correcta y firmemente. ¡SE PRODUCIRÁ UN DAÑO PERMANENTE!

Aviso: Nunca execute o processador sem o dissipador de calor estar adequado e firmemente conectado. O RESULTADO SERÁ UM DANO PERMANENTE!

警告： 将散热板牢固地安装到处理器上之前，不要运行处理器。过热将永远损坏处理器!

警告： 將散熱器牢固地安裝到處理器上之前，不要運行處理器。過熱將永遠損壞處理器!

경고: 히트싱크를 제대로 또 단단히 부착시키지 않은 채 프로세서를 구동시키지 마십시오. 영구적 고장이 발생합니다!

警告： 永久的な損傷を防ぐため、ヒートシンクを正しくしっかりと取り付けるまでは、プロセッサを動作させないようにしてください。

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-8INXP
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*** ☒ **EN 60555-2**	Disturbances in supply systems cause by household appliances and similar electrical equipment "Harmonics"
○ **EN 55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	○ **EN 61000-3-3*** ☒ **EN 60555-3**	Disturbances in supply systems cause 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 emission 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	○ **EN50091-2**	EMC requirements for uninterruptible power systems (UPS)

☒ **CE marking**

CE (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 bussiness equipment
○ **EN 60335**	Safety of household and similar electrical appliances	○ **EN 50091-1**	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

(Stamp)

Date : Nov. 15, 2002

Signature: *Timmy Huang*
Name: Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)

Responsible Party Name: **G.B.T. INC. (U.S.A.)**

Address: **17358 Railroad Street**

City of Industry, CA 91748

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

hereby declares that the product

Product Name: Motherboard

Model Number: GA-8INXP

Conforms to the following specifications:

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

Supplementary Information:

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

Representative Person's Name: ERIC LU

Signature: *Eric Lu*

Date: Nov. 15, 2002

GA-8INXP

P4 Titan-DDR Motherboard

USER'S MANUAL

Table of Content

Item Checklist

☑ The GA-8INXP motherboard

☑ CD for motherboard driver & utility

☑ GA-8INXP user's manual

☑ Quick PC Installation Guide

☑ RAID manual

☑ Serial ATA RAID manual

☐ GC-SATA Card **(optional)**
   (Manual; SATA cable x 1; Power cable x 1)

☑ I/O Shield

☑ IDE cable x 3 / Floppy cable x 1

☑ Serial ATA cable x 2

☑ 4 Port USB Cable x 1

☑ DPVRM x 1

☑ Audio Combo Kit x 1

☑ Motherboard Settings Label

⚠ WARNING!

Computer motherboards and expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Unplug your computer when working on the inside.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Hold components by the edges and try not touch the IC chips, leads or connectors, or other components.
4. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.
5. Ensure that the ATX power supply is switched off before you plug in or remove the ATX power connector on the motherboard.

Installing the motherboard to the chassis…

If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, do not become alarmed you can still attach the spacers to the mounting holes. Just cut the bottom portion of the spacers (the spacer may be a little hard to cut off, so be careful of your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the motherboard PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any printed circuit write or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.

Chapter 1 Introduction

Features Summary

Form Factor	–	30.5cm x 24.4cm ATX size form factor, 6 layers PCB
Motherboard	–	GA-8INXP Motherboard
CPU	–	Socket 478 for Intel® Micro FC-PGA2 Pentium® 4 processor
	–	Support Intel® Pentium® 4 (Northwood, 0.13 μm) processor
	–	Support Intel® Pentium® 4 Processor with HT Technology *
	–	Intel® Pentium® 4 533/400MHz FSB
	–	2nd cache depends on CPU
Chipset	–	Intel® E7205 Host/Memory controller
	–	Intel® ICH4 MuTIOL Media I/O
Memory	–	4 184-pin DDR DIMM sockets
	–	Supports Dual channel DDR266/DDR200 DIMM
	–	Supports 128MB/256MB/512MB/1GB unbuffered DRAM
	–	Supports up to 4GB DRAM (Max)
	–	Supports only 2.5V DDR DIMM
	–	Supports 64bit ECC type DRAM integrity mode
I/O Control	–	ITE8712F
Slots	–	1 AGP 3.0 slot supports 8X/4X mode
	–	5 PCI slots support 33MHz & PCI 2.2 compliant
On-Board IDE	–	2 IDE controllers provides IDE HDD/CD-ROM (IDE1, IDE2) with PIO, Bus Master (Ultra DMA33/ATA66/ATA100) operation modes
	–	IDE3 and IDE4 Compatible with RAID, Ultra ATA133/100, EIDE
Serial ATA	–	2 Serial ATA connectors in 150 Mb/s operation mode
	–	Controlled by Silicon Image SiI3112A
On-Board Peripherals	–	1 Floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88M bytes
	–	1 Parallel port supports Normal/EPP/ECP mode
	–	2 Serial ports (COMA & COMB)
	–	6 USB 2.0/1.1 ports (2 x Rear, 4 x Front by cable)
	–	1 IrDA connector for IR
	–	1 Smart Card Reader connector
	–	1 Front Audio connector
Hardware Monitor	–	CPU/System/Power fan revolution detect
	–	CPU temperature detect
	–	System voltage detect
	–	CPU/System/Power Fan Fail warning
On-Board LAN	–	Builit in Intel® RC82540EM (KENAI 32) Chipset
	–	1 RJ45 port

to be continued...

On-Board Sound	−	Realtek ALC650 CODEC
	−	Line Out / 2 front speaker
	−	Line In / 2 rear speaker (by s/w switch)
	−	Mic In / center & subwoofer (by s/w switch)
	−	SPDIF Out / SPDIF In
	−	CD In / AUX In / Game Port
On-Board RAID / Serial ATA	−	Onbard Promise PDC20276 / Silicon Image Sil3112A
	−	Supports data striping (RAID 0) or mirroring (RAID 1)
	−	Supports concurrent dual IDE controller operation
	−	Supports IDE bus master operation
	−	Displays status and error checking messages during boot-up
	−	Mirroring supports automatic background rebuilds
	−	Features LBA and Extended Interrupt 13 drive translation in controller onboard BIOS
PS/2 Connector	−	PS/2 Keyboard interface and PS/2 Mouse interface
BIOS	−	Licensed AWARD BIOS, 4M bit Flash ROM
	−	Supports Dual BIOS / Q-Flash
Additional Features	−	Support CPU Dual Power System (DPS)
	−	PS/2 Keyboard power on by password; PS/2 Mouse power on
	−	USB KB/Mouse wake up from S1, S3
	−	USB KB/Mouse power on from S5
	−	STR(Suspend-To-RAM)
	−	Wake on LAN (WOL)
	−	AC Recovery
	−	Poly fuse for keyboard over-current protection
	−	Supports EasyTune™ 4
	−	Supports @BIOS™

NOTE

"*" HT functionality requirement content :

Enabling the functionality of Hyper-Threading Technology for your computer system requires all of the following platform components:

- CPU: An Intel® Pentium 4 Processor with HT Technology
- Chipset: An Intel® Chipset that supports HT Technology
- BIOS: A BIOS that supports HT Technology and has it enabled
- OS: An operation system that has optimizations for HT Technology

CAUTION

Please set the CPU host frequency in accordance with your processor's specifications.

We don't recommend you to set the system bus frequency over the CPU's specification because these specific bus frequencies are not the standard specifications for CPU, chipset and most of the peripherals. Whether your system can run under these specific bus frequencies properly will depend on your hardware configurations, including CPU, Chipsets, SDRAM, Cards…etc.

GA-8INXP Motherboard Layout

Hardware Installation Process
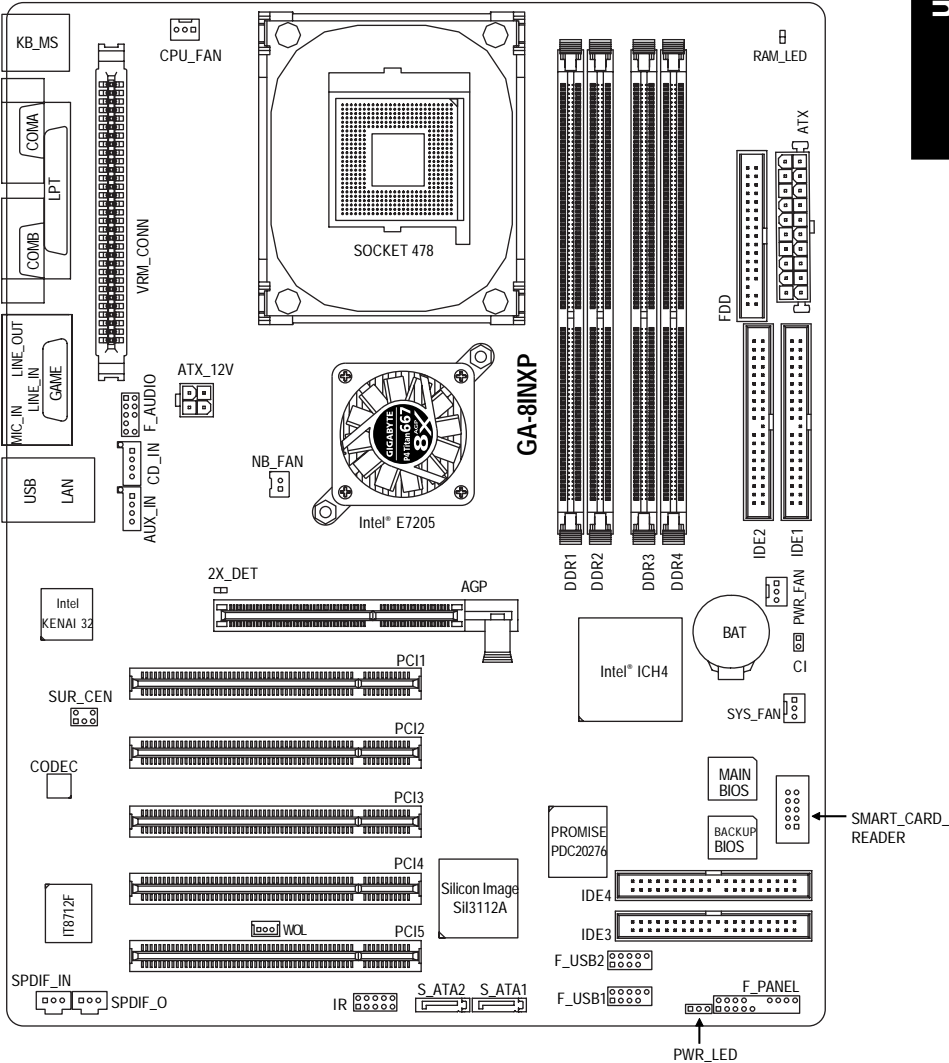
Chapter 2 Hardware Installation Process

To set up your computer, you must complete the following steps:

      Step 1- Install the Central Processing Unit (CPU)

      Step 2- Install memory modules

      Step 3- Install expansion cards

      Step 4- Connect ribbon cables, cabinet wires and power supply

      Step 5- Setup BIOS software

      Step 6- Install supporting software tools
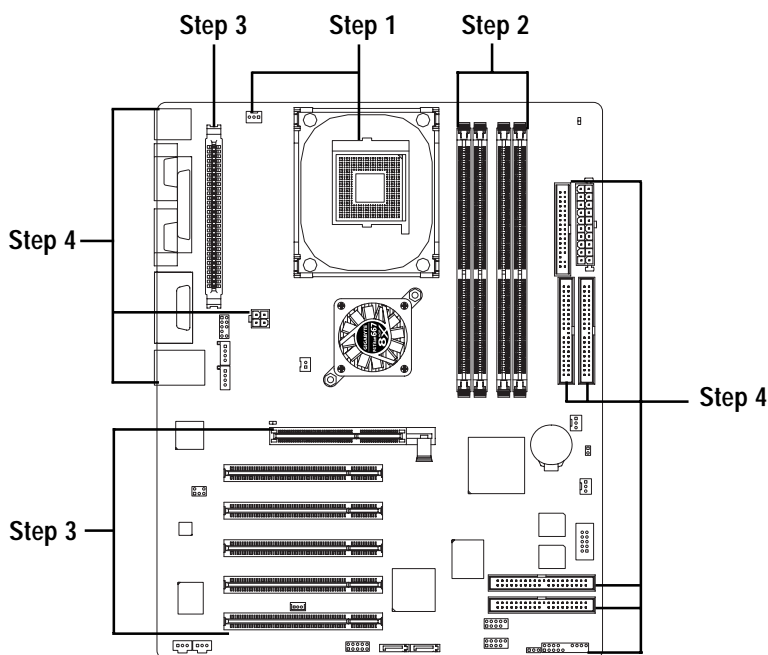
Step 1: Install the Central Processing Unit (CPU)
Step 1-1: CPU Installation

Angling the rod to 65⁰
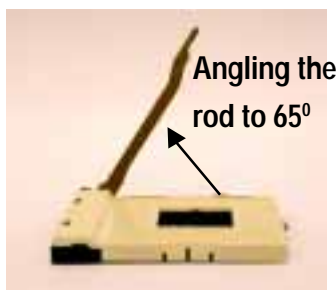
1. Angling the rod to 65-degree maybe feel a kind of tight , and then continue pull the rod to 90-degree when a noise "cough" made.

Socket Actuation Lever
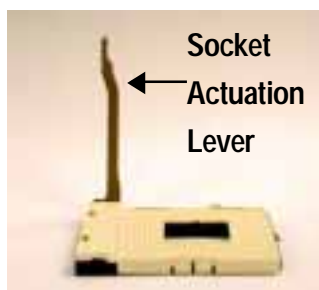
2. Pull the rod to the 90-degree directly .

Pin1 indicator

3. CPU Top View

Pin1 indicator

4. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.

☞ **Please make sure the CPU type is supported by the motherboard.**

☞ **If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation.**

Step 1-2: CPU Heat Sink Installation

1. Hook one end of the cooler bracket to the CPU socket first.

2. Hook the other end of the cooler bracket to the CPU socket.

❈ **Please use Intel approved cooling fan.**

❈ **We recommend you to apply the thermal tape to provide better heat conduction between your CPU and heatsink.**

(The CPU cooling fan might stick to the CPU due to the hardening of the thermal paste. During this condition if you try to remove the cooling fan, you might pull the processor out of the CPU socket alone with the cooling fan, and might damage the processor. To avoid this from happening, we suggest you to either use thermal tape instead of thermal paste, or remove the cooling fan with extreme caution.)

❈ **Make sure the CPU fan power cable is plugged in to the CPU fan connector, this completes the installation.**

❈ **Please refer to CPU heat sink user's manual for more detail installation procedure.**

Step 2: **Install memory modules**

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 socket. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.

DDR

1. The DIMM socket has a notch, so the DIMM memory module can only fit in one direction.
2. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.
3. Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module.
   Reverse the installation steps when you wish to remove the DIMM module.

🕒✳ **When RAM_LED is ON, do not install/remove DIMM from socket.**

🕒✳ **Please note that the DIMM module can only fit in one direction due to the one notches. Wrong orientation will cause improper installation. Please change the insert orientation.**

DDR Introduction

Established on the existing SDRAM industry infrastructure, DDR (Double Data Rate) memory is a high performance and cost-effective solution that allows easy adoption for memory vendors, OEMs and system integrators.

DDR memory is a sensible evolutionary solution for the PC industry that builds on the existing SDRAM infrastructure, yet makes awesome advances in solving the system performance bottleneck by doubling the memory bandwidth. DDR SDRAM will offer a superior solution and migration path from existing SDRAM designs due to its availability, pricing and overall market support. PC2100 DDR memory (DDR266) doubles the data rate through reading and writing at both the rising and falling edge of the clock, achieving data bandwidth 2X greater than PC133 when running with the same DRAM clock frequency. With peak bandwidth of 2.664GB per second, DDR memory enables system OEMs to build high performance and low latency DRAM subsystems that are suitable for servers, workstations, high-end PC's and value desktop SMA systems. With a core voltage of only 2.5 Volts compared to conventional SDRAM's 3.3 volts, DDR memory is a compelling solution for small form factor desktops and notebook applications.

GA-8INXP supports the Dual Channel Technology. After operating the Dual Channel Technology, the bandwidth of Memory Bus will add double up to 4.27GB/s.

GA-8INXP includes 4 DIMM sockets, and each Channel has two DIMM sockets as following:

- ⏩ Channel A : DIMM 1, DIMM 3
- ⏩ Channel B : DIMM 2, DIMM 4

If you want to operate the Dual Channel Technology, please note the following explanations due to the limitation of Intel chipset specifications.

1. Only one DDR memory module is installed: The Dual Channel Technology can't operate when only one DDR memory module is installed. Additionally, you can boot the system only when the memory module is inserted into Channel A. On the other hand, the memory module must be inserted into DIMM1 or DIMM3 sockets.

2. Two DDR memory modules are installed (the same memory size and type): The Dual Channel Technology will operate when two memory modules are inserted individually into Channel A and B. If you install two memory modules in the same channel, the Dual Channel Technology will not operate. Additionally, you can boot the system only when one of the memory modules is inserted into Channel A. On the other hand, the memory module must be inserted into DIMM1 or DIMM3 sockets.

3. Three DDR memory modules are installed: Please note that the Dual Channel Technology will "not" operate when three DDR memory modules are installed. If you install three memory modules, the system will only detect those memory modules inserted in Channel A, and those in Channel B will not be detected!

4. Four DDR memory modules are installed: If you install four memory modules at the same time, the Dual Channel Technology will operate only when those modules have the same memory size and type.

The following tables include all memory-installed combination types:
(Please note that those types not in the tables will not boot up.)

● Figure 1: Dual Channel Technology (DS: Double Side, SS: Single Side)

	DIMM 1	DIMM 2	DIMM 3	DIMM 4
2 memory modules	DS/SS	DS/SS	X	X
	X	X	DS/SS	DS/SS
4 memory modules	DS/SS	DS/SS	DS/SS	DS/SS

● Figure 2: Don't operate Dual Channel Technology (DS: Double Side, SS: Single Side)

	DIMM 1	DIMM 2	DIMM 3	DIMM 4
1 memory module	DS/SS	X	X	X
	X	X	DS/SS	X
2 memory modules	DS/SS	X	DS/SS	X

Step 3: Install expansion cards
Step 3-1: AGP Card Installation

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your computer's chassis cover, screws and slot bracket from the computer.
3. Press the expansion card firmly into expansion slot in motherboard.
4. Be sure the metal contacts on the card are indeed seated in the slot.
5. Replace the screw to secure the slot bracket of the expansion card.
6. Replace your computer's chassis cover.
7. Power on the computer, if necessary, setup BIOS utility of expansion card from BIOS.
8. Install related driver from the operating system.

AGP Card

Please carefully pull out the small white-drawable bar at the end of the AGP slot when you try to install / uninstall the AGP card. Please align the AGP card to the onboard AGP slot and press firmly down on the slot. Make sure your AGP card is locked by the small white-drawable bar.

When an AGP 2X (3.3V) card is installed the 2X_DET will light up, indicating a non-supported graphics card is inserted. Informing users that system might not boot up normally due to AGP 2X (3.3V) is not supported by the chipset.

Step 3-2: DPVRM (Dual Power Voltage Regulator Module) Installation

What is DPVRM ?

DPVRM (Dual Power Voltage Regulator Module) is a daughter card which can provide you the DPS (Dual Power System) function. A cool stylish neon blue DPVRM that supply a total 6-phase power circuit design, delivers a high durable power design for the new generation Intel® platform.

The DPVRM can work in a Dual Power System:
• Parallel Mode :
  DPVRM and motherboard CPU power can work simultaneously, providing a total of 6-phase power circuit.

How to install a DPVRM ?

Step 1

Step 2

Step 3

1. The DPVRM connector has a notch, so the DPVRM can only fit in one direction.
2. Insert the DPVRM vertically into the socket and then push it down.
3. Fix the DPVRM on the motherbard with the clip.
4. Reverse the installation steps if you want to remove the DPVRM.

Step 4: Connect ribbon cables, cabinet wires and power supply

Step 4-1: I/O Back Panel Introduction
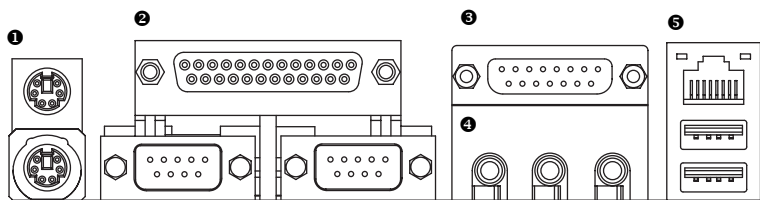
❶ **PS/2 Keyboard and PS/2 Mouse Connector**
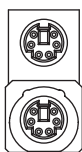
> PS/2 Mouse Connector
> (6 pin Female)
>
> PS/2 Keyboard Connector
> (6 pin Female)

➢ This connector supports standard PS/2 keyboard and PS/2 mouse.

❷ **Parallel Port and Serial Ports (COMA/COMB)**
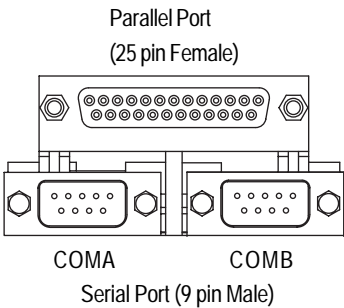
> Parallel Port
> (25 pin Female)

➢ This connector supports 2 standard COM ports and 1 Parallel port. Device like printer can be connected to Parallel port; mouse and modem etc. can be connected to Serial ports.

COMA   COMB
Serial Port (9 pin Male)

❸ Game / MIDI Ports
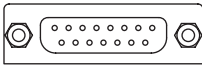
Joystick/ MIDI (15 pin Female)

➢ This connector supports joystick, MIDI keyboard and other relate audio devices.

❹ Audio Connectors

Line Out
(Front Speaker)

MIC In
(Center and Subwoofer)

Line In
(Rear Speaker)
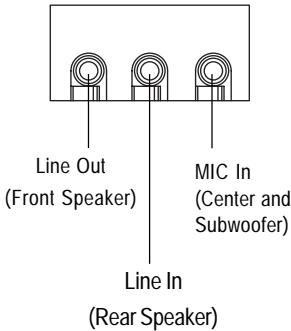
➢ After install onboard audio driver, you may connect speaker to Line Out jack, microphone to MIC In jack. Device like CD-ROM,walkman etc. can be connected to Line-In jack.
Please note:
You are able to use 2-/4-/6-channel audio feature by S/W selection.
If you want to enable 6-channel function, you have 2 choose for hardware connection.
Method1:
Connect "Front Speaker" to "Line Out"
Connect "Rear Speaker" to "Line In"
Connect "Center and Subwoofer" to "MIC Out ".
Method2:
You can refer to page 22, and contact your nearest dealer for optional SUR_CEN cable.

If you want the detail information for 2-/4-/6-channel audio setup installation, please refer to page 82.

❺ LAN / USB Connector

LAN

USB 0

USB 1
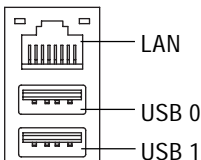
➢ Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard,mouse, scanner, zip, speaker...etc. Have a standard USB interface. Also make sure your OS supports USB controller. If your OS does not support USB controller, please contact OS vendor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

Step 4-2: Connectors Introduction
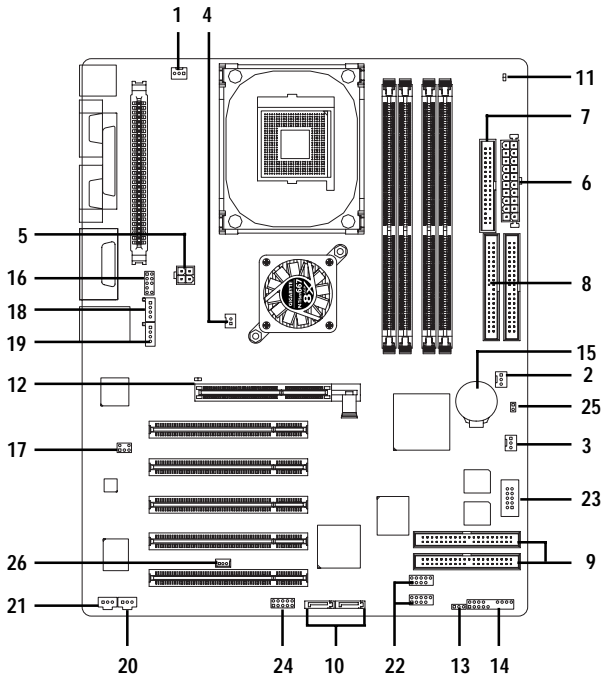
1)	CPU_FAN	14)	F_PANEL
2)	PWR_FAN	15)	BAT
3)	SYS_FAN	16)	F_AUDIO
4)	NB_FAN	17)	SUR_CEN
5)	ATX_12V	18)	CD_IN
6)	ATX	19)	AUX_IN
7)	FDD	20)	SPDIF_O
8)	IDE1 / IDE2	21)	SPDIF_IN
9)	IDE3 / IDE4	22)	F_USB1 / F_USB2
10)	S_ATA1 / S_ATA2	23)	SMART_CARD_READER
11)	RAM_LED	24)	IR
12)	2X_DET	25)	CI
13)	PWR_LED	26)	WOL

1) CPU_FAN (CPU Fan Connector)

```
        ┌─────────┐
        │ o o □ │ 1
        └─────────┘
Sense ──┘  │  └── GND
          +12V
```
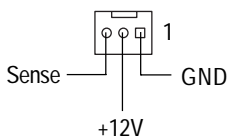
➢ Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports Max. current up to 600 mA.

2) PWR_FAN (Power Fan Connector)
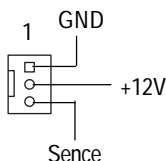
```
        GND
    1  ┌───┐
       │ □ │
       │ o ├── +12V
       │ o │
       └───┘
        Sence
```

➢ This connector allows you to link with the cooling fan on the system case to lower the system temperature.

3) SYS_FAN (System Fan Connector)
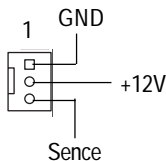
```
        GND
    1  ┌───┐
       │ □ │
       │ o ├── +12V
       │ o │
       └───┘
        Sence
```

➢ This connector allows you to link with the cooling fan on the system case to lower the system temperature.

4) NB_FAN (Chip Fan Connector)

```
    ┌───┐
    │ o ├── GND
    │ □ ├── VCC
    └───┘
     1
```
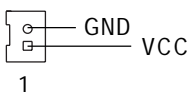
➢ If you installed wrong direction, the Chip Fan will not work. Sometimes will damage the Chip Fan. (Usually black cable is GND)

5) ATX_12V (+12V Power Connector)

+12V   GND

```
4  ┌─┬─┐  2
3  └─┴─┘  1
```

+12V   GND
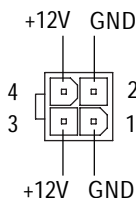
➢ This connector (ATX_12V) supplies the CPU operation voltage (Vcore).
  If this "ATX_12V connector" is not connected, system cannot boot.

6) ATX (ATX Power Connector)

20

+12V		VCC
5V SB(Stand by +5V)		VCC
Power Good		-5V
GND		GND
VCC		GND
GND		GND
VCC		PS-ON(Soft On/Off)
GND		GND
3.3V		-12V
3.3V		3.3V

1
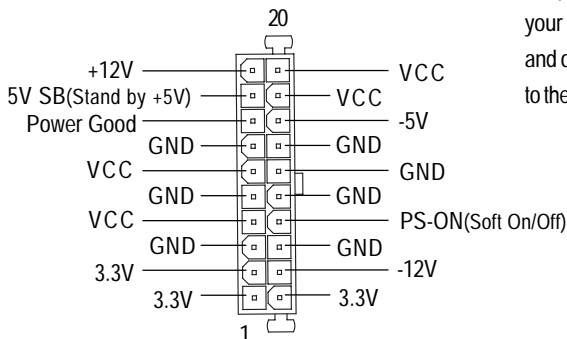
➢ AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the motherboard.

7) FDD (Floppy Connector)

1
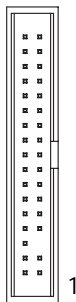
➢ Please connect the floppy drive ribbon cables to FDD. It supports 360K,1.2M, 720K, 1.44M and 2.88M bytes floppy disk types.
  The red stripe of the ribbon cable must be the same side with the Pin1.

8) IDE1 / IDE2 [IDE1 / IDE2 Connector (Primary/Secondary)]

IDE2   IDE1
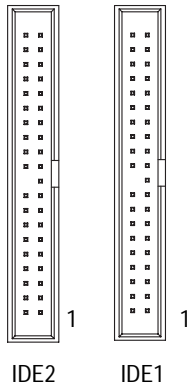
➢ Important Notice:
  Please connect first hard disk to IDE1 and
  connect CD-ROM to IDE2.
  The red stripe of the ribbon cable must be the
  same side with the Pin1.

9) IDE3 / IDE4 (RAID/ATA133, Green Connector)

1

IDE4

1
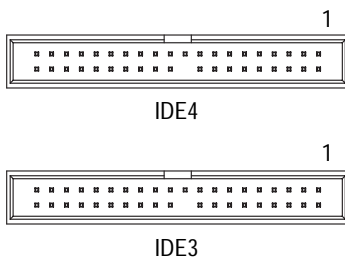
IDE3

➢ Important Notice:
  The red stripe of the ribbon cable must be the
  same side with the Pin1.
  If you wish to use IDE3 and IDE4, please use
  it in unity with BIOS (either RAID or ATA133).
  Then, install the correct driver to have proper
  operation. For details, please refer to the RAID
  manual.

10) S_ATA1/S_ATA2 (Serial ATA Connector)

GND
1   TXP
      TXN
        GND
      RXN
7   RXP
  GND
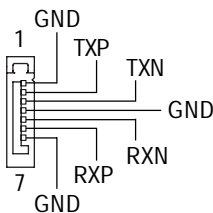
➢ You can connect the Serial ATA device to this
  connector, it provides you high speed transfer
  rates (150MB/sec).

11) RAM_LED

+

'

➢ Do not remove memory modules while RAM LED is on. It might cause short or other unexpected damages due to the 2.5V stand by voltage. Remove memory modules only when AC Power cord is disconnected.

12) 2X_DET

+ ☐ -

➢ When an AGP 2X (3.3V) card is installed the 2X_DET will light up, indicating a non-supported graphics card is inserted. Informing users that system might not boot up normally due to AGP 2X (3.3V) is not supported by the chipset.

13) PWR_LED

1 ☐ ○ ○
MPD+ │ MPD-
MPD-
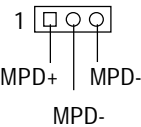
➢ PWR_LED is connect with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.
If you use dual color LED, power LED will turn to another color.

14) F_PANEL (2x10 Pins Connector)

```
        MSG+ MSG-   PW+ PW-        SPK+        SPK-
   2 |1○─○|1○─○   1○─○─○─○ | 20
   1 |1○─○ ○─○|1 ○         | 19
        HD+ HD-  RES- RES+ NC
```
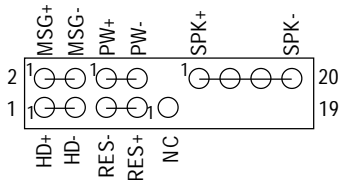
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+)
(Blue)	Pin 2: LED cathode(-)
SPK (Speaker Connector)	Pin 1: VCC(+)
(Amber)	Pin 2- Pin 3: NC
	Pin 4: Data(-)
RES (Reset Switch)	Open: Normal Operation
(Green)	Close: Reset Hardware System
PW (Soft Power Connector)	Open: Normal Operation
(Red)	Close: Power On/Off
MSG(Message LED/Power/Sleep LED)	Pin 1: LED anode(+)
(Yellow)	Pin 2: LED cathode(-)
NC (Purple)	NC

➢ Please connect the power LED, PC speaker, reset switch and power switch etc. of your chassis front panel to the F_PANEL connector according to the pin assignment above.

- 21 -   Hardware Installation Process

15) BAT (Battery)
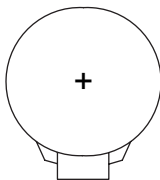
If you want to erase CMOS...
1. Turn OFF the computer and unplug the power cord.
2. Remove the battery, wait for 30 second.
3. Re-install the battery.
4. Plug the power cord and turn ON the computer.

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.

16) F_AUDIO (Front Audio Connector)
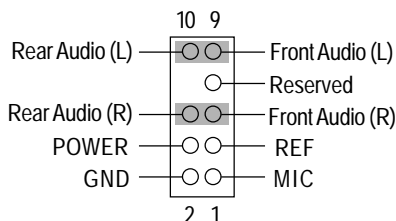
➢ If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper.

In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer.

17) SUR_CEN
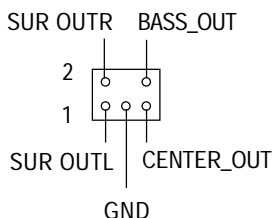
➢ Please contact your nearest dealer for optional SUR_CEN cable.

18) CD_IN (CD Audio In Connector)
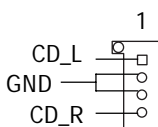
➢ Connect CD-ROM or DVD-ROM audio out to the connector.

19) AUX_IN (AUX In Connector)

➤ Connect other device (such as PCI TV Tunner audio out) to the connector.

```
             1
AUX_L ───┤□
GND   ────┤○
AUX_R ────┤○
```
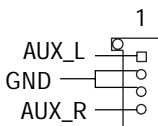
20) SPDIF_O (SPDIF Out)

```
        SPDIF Out
          │
VCC ──┐   │   ┌── GND
      │   │   │
   1 │□ ○ ○│
```

➤ The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. 6 Channel output : A "S/PDIF output" connector is available on the motherboard. Please contact your nearest dealer for optional SPDIF cable.
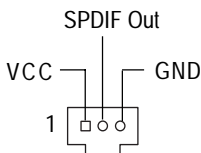
21) SPDIF_IN (SPDIF In)

```
        SPDIF In
          │
VCC ──┐   │   ┌── GND
      │   │   │
   1 │□ ○ ○│
```

➤ Use this feature only when your device has digital output function.
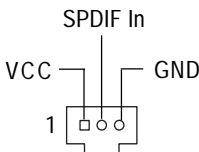
22) F_USB1 / F_USB2 (Front USB Connector)
(F_USB1 & F_USB2 connectors in yellow are for USB 2.0)

```
              USB Dy+
                │
USB Dy- ──┐     │    ┌── GND
Power   ──┐│    │    │┌── USB
         ││    │    ││  Over Current
        ┌─────────────┐
        │ ○ ○ ○ ○ ○ │
      1 │ ○ ○ ○ ○ │
        └─────────────┘
Power ──┘│         │
USB Dx- ─┘         └── GND
              │
           USB Dx+
```

➤ Be careful with the polarity of the front USB connector. Check the pin assignment while you connect the front USB cable. Please contact your nearest dealer for optional front USB 2.0 cable.
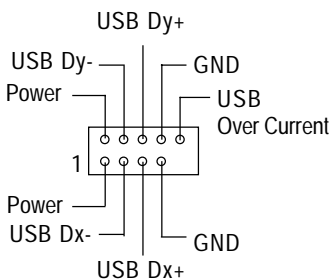
23) SMART_CARD_READER (Smart Card Interface, black connector)

```
              1  2
  V C C ──────○○────── GND
SCAPWCTL- ───○○────── SCARST-
  N C ───────○○────── N C
  SCAIO ─────○○────── N C
  SCACLK ────○○────── SCAPSNT
              9  10
```
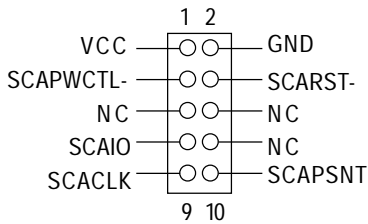
➢ The Smart IC Card could increase security in authenticating online transactions; the card reader device (inquire local distributor) made by Third Party could be purchased by users.

24) IR

```
              5VSB
  CIRRX ─────┐       ┌───── GND
  N C ───────┐│     │┌───── CIRTX
         6  ○ ○ ○ ○ ○  10
         1  ○ ○ ○ ○ ○  5
  V C C ─────┘│     │└───── IRTX
  N C ───────┘       └───── GND
                 IRRX
```
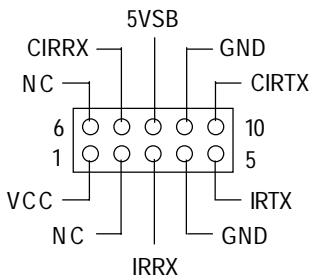
➢ Make sure the pin 1 on the IR device is aling with pin one the connector. To enable the IR/CIR function on the board, you are required to purchase an option IR/CIR module. For detail information please contact your autherized Gigabyte distributor.To use IR function only, please connect IR module to Pin1 to Pin5.

25) CI (Case Open)

```
  1 ┌─┐──── Signal
    └○┘──── GND
```
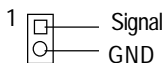
➢ This 2-pin connector allows your system to enable or disable the "Case Open" item in BIOS, if the system case begin remove.

26) WOL (Wake On LAN)

```
     1 ┌────┐
       │□○○│
  +5V SB ──┘│└── Signal
          GND
```
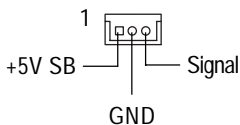
➢ This connector allows the remove servers to manage the system that installed this motherboard via your network adapter which also supports WOL.

English

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Chapter 3 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

Powering ON the computer and pressing <Del> immediately will allow you to enter Setup. If you require more advanced BIOS settings, please go to "Advanced BIOS" setting menu. To enter Advanced BIOS setting menu, press "Ctrl+F1" key on the BIOS screen.

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
<Enter>	Select Item
<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>	Item Help
<F3>	Reserved
<F4>	Reserved
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the file-safe default CMOS value from BIOS default table
<F7>	Load the Optimized Defaults
<F8>	Dual BIOS / Q-Flash utility
<F9>	System Information
<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 (For example: BIOS Ver. : D10)

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

CMOS Setup Utility-Copyright (C) 1984-2002 Award Software

▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Management Setup	Set Supervisor Password
▶ PnP/PCI Configurations	Set User Password
▶ PC Health Status	Save & Exit Setup
▶ Frequency/Voltage Control	Exit Without Saving
Top Performance	
ESC: Quit	F3: Change Language
F8: Dual BIOS / Q-Flash	F10: Save & Exit Setup
Time, Date, Hard Disk Type...	

Figure 1: Main Menu

NOTE **If you can't find the settings you want, please press "Ctrl + F1" to search the advanced option hidden.**

● **Standard CMOS Features**

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

● **Advanced BIOS Features**

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

● **Integrated Peripherals**

This setup page includes all onboard peripherals.

● **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.

● **PC Health Status**

This setup page is the System auto detect Temperature, voltage, fan, speed.

● **Frequency/Voltage Control**

This setup page is control CPU's clock and frequency ratio.

● **Top Performance**

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

● **Select Language**

This setup page is select multi language.

● **Load Fail-Safe Defaults**

Fail-Safe Defaults indicates the value of the system parameters which the system would be in safe configuration.

● **Load Optimized Defaults**

Optimized Defaults indicates the value of the system parameters which the system would be in best performance configuration.

● **Set Supervisor password**

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

● **Set User password**

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

● **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 Features

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Standard CMOS Features

		Item Help
Date (mm:dd:yy)	Fri, Nov 8 2002	
Time (hh:mm:ss)	9:41:23	Menu Level ▶
		Change the day, month,
▶IDE Primary Master	[None]	year
▶IDE Primary Slave	[None]	
▶IDE Secondary Master	[None]	<Week>
▶IDE Secondary Slave	[None]	Sun. to Sat.
Drive A	[1.44M, 3.5"]	<Month>
Drive B	[None]	Jan. to Dec.
Floppy 3 Mode Support	[Disabled]	
		<Day>
Halt On	[All, But Keyboard]	1 to 31 (or maximum
		allowed in the month)
Base Memory	640K	
Extended Memory	130048K	<Year>
Total Memory	131072K	1999 to 2098

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help	
F3: Language F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults	

Figure 2: Standard CMOS Features

☞ **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 1999 through 2098

☞ **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.

☞ **IDE Primary Master, Slave / IDE 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 manual type. Manual 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.

- ▶ Capacity   The hard disk size. The unit is Mega Bytes.
- ▶ Access Mode   The options are: CHS/ LBA/ Large/ Auto.
- ▶ Cylinder   The cylinder number of hard disk.
- ▶ Head   The read/ Write head number of hard disk.
- ▶ Precomp   The cylinder number at which the disk driver changes the write current.
- ▶ Landing Zone   The cylinder number that the disk driver heads(read/write) are seated when the disk drive is parked.
- ▶ Sector   The sector number of each track define on the hard disk.

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

☞ **Drive A / 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"   5.25 inch PC-type standard drive; 360K byte capacity.
- ▶ 1.2M, 5.25"   5.25 inch AT-type high-density drive; 1.2M byte capacity
                   (3.5 inch when 3 Mode is Enabled).
- ▶ 720K, 3.5"   3.5 inch double-sided drive; 720K byte capacity
- ▶ 1.44M, 3.5"   3.5 inch double-sided drive; 1.44M byte capacity.
- ▶ 2.88M, 3.5"   3.5 inch double-sided drive; 2.88M byte capacity.

C **Floppy 3 Mode Support (for Japan Area)**

- ▶ Disabled   Normal Floppy Drive. (Default value)
- ▶ Drive A   Enable Drive A is 3 mode Floppy Drive.
- ▶ Drive B   Enable Drive B is 3 mode Floppy Drive.
- ▶ Both   Enable Drive A & B are 3 mode Floppy Drives.

C **Halt on**

The category determines whether the computer will stop if an error is detected during power up.

- ▶ All Errors   Whenever the BIOS detects a non-fatal error the system will be stopped.
- ▶ No Errors   The system boot will not stop for any error that may be detected and you will be prompted.
- ▶ All, But Keyboard The system boot will not stop for a keyboard error; it will stop for all other errors. (Default value)
- ▶ All, But Diskette The system boot will not stop for a disk error; it will stop for all other errors.
- ▶ All, But Disk/Key The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

C **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 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K 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 1MB in the CPU's memory address map.

Advanced BIOS Features

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Advanced BIOS Features

SATA/RAID/SCSI Boot Order	[SCSI]	Item Help
First Boot Device	[Floppy]	Menu Level ▶
Second Boot Device	[HDD-0]	Select onboard RAID or
Third Boot Device	[CDROM]	PCI SCSI boot rom
Boot Up Floppy Seek	[Disabled]	order
CPU Hyper-Threading #	[Enabled]	
Flexible AGP 8X	[Auto]	
DRAM Data Integrity Mode	[ECC]	
Init Display First	[AGP]	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help	
F3: Language F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults	

Figure 3: Advanced BIOS Features

" **#** " System will detect automatically and show up when you install the Intel®
Pentium® 4 processor with HT Technology.

☞ **SATA/RAID / SCSI Boot Order**

This feature allows you to select the boot order Serial ATA, RAID or SCSI device.

- ▶ SCSI   Select your boot device priority by PCI SCSI.
- ▶ RAID   Select your boot device priority by RAID.
- ▶ SATA   Select your boot device priority by Serial ATA.

☞ **First / Second / Third Boot Device**

- ▶ Floppy   Select your boot device priority by Floppy.
- ▶ LS120   Select your boot device priority by LS120.
- ▶ HDD-0~3   Select your boot device priority by HDD-0~3.
- ▶ SCSI   Select your boot device priority by SCSI.
- ▶ CDROM   Select your boot device priority by CDROM.
- ▶ ZIP   Select your boot device priority by ZIP.
- ▶ USB-FDD   Select your boot device priority by USB-FDD.
- ▶ USB-ZIP   Select your boot device priority by USB-ZIP.

⊮ USB-CDROM Select your boot device priority by USB-CDROM.

⊮ USB-HDD   Select your boot device priority by USB-HDD.

⊮ LAN   Select your boot device priority by LAN.

⊮ Disabled   Select your boot device priority by Disabled.

☞ **Boot Up Floppy Seek**

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

⊮ 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 360K. (Default value)

⊮ Enabled   BIOS searches for floppy disk drive to determine it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks.

☞ **CPU Hyper-Threading #**

⊮ Disabled   Disable CPU Hyper Threading.

⊮ Enabled   Enable CPU Hyper Threading Feature. Please note that this feature is only working for operating system with multi processors mode supported. (Default value)

☞ **Flexible AGP 8X**

⊮Auto   Automatically set AGP transfer rate according to AGP compatibility and stability. (Default value)

⊮8X   Always set AGP transfer rate to 8X if the 8X mode supported by the AGP card.

⊮4X   Set AGP transfer rate to 4X mode no matter what the AGP transfer rate the card is.

☞ **DRAM Data Integrity Mode**

If you are using the Non-ECC DRAM, the mode will show "Non-ECC" and this function is disabled.

⊮ ECC   Set DRAM mode at ECC.

⊮ Non-ECC   Set DRAM mode at Non-ECC.

☞ **Init Display First**

This feature allows you to select the first initiation of the monitor display from which card when you install an AGP card and a PCI VGA card on board.

⊮ PCI   Set initial display first to PCI slot.

⊮ Enabled   Set initial display first to AGP. (Default value)

" # "   System will detect automatically and show up when you install the Intel® Pentium® 4 processor with HT Technology.

Integrated Peripherals

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Integrated Peripherals

On-Chip Primary PCI IDE	[Enabled]	Item Help
On-Chip Secondary PCI IDE	[Enabled]	Menu Level ▶
IDE1 Conductor Cable	[Auto]	If a hard disk
IDE2 Conductor Cable	[Auto]	controller card is
USB 1.1 Controller	[Enabled]	used, set at Disabled
USB 2.0 Controller	[Enabled]	
USB Keyboard Support	[Disabled]	[Enabled]
USB Mouse Support	[Disabled]	Enabled onboard IDE
AC97 Audio	[Auto]	PORT
AC97 Modem	[Auto]	
Onboard H/W Serial ATA	[Enabled]	[Disabled]
Serial ATA Function	[RAID]	Disabled onboard IDE
Onboard ATA/RAID Device	[Enabled]	PORT
RAID Controller Function	[ATA]	
Onboard H/W LAN	[Enabled]	
Onboard LAN Boot ROM	[Disabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
UART Mode Select	[Normal]	
x UR2 Duplex Mode	Half	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
x ECP Mode Use DMA	3	
Game Port Address	[201]	
Midi Port Address	[330]	
Midi Port IRQ	[10]	
CIR Port Address	[Disabled]	
x CIR Port IRQ	11	

↑↓→←: Move   Enter: Select   +/-/PU/PD: Value   F10: Save   ESC: Exit   F1: General Help
F3: Language   F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults

Figure 4: Integrated Peripherals

C **On-Chip Primary PCI IDE**

When Enabled, allows you to use the onboard primary PCI IDE. If a hard disk controller card is used, set at Disabled.

➤ Disabled   Disable onboard 1st channel IDE port.

➤ Enabled   Enable onboard 1st channel IDE port. (Default value)

C **On-Chip Secondary PCI IDE**

When Enabled, allows you to use the onboard primary PCI IDE. If a hard disk controller card is used, set at Disabled.

➤ Disabled   Disable onboard 2nd channel IDE port.

➤ Enabled   Enable onboard 2nd channel IDE port. (Default value)

C **IDE1 Conductor Cable**

➤ Auto   Will be automatically detected by BIOS. (Default Value)

➤ ATA66/100   Set IDE1 Conductor Cable to ATA66/100 (Please make sure your IDE device and cable is compatible with ATA66/100).

➤ ATA33   Set IDE1 Conductor Cable to ATA33 (Please make sure your IDE device and cable is compatible with ATA33).

C **IDE2 Conductor Cable**

➤ Auto   Will be automatically detected by BIOS. (Default Value)

➤ ATA66/100   Set IDE2 Conductor Cable to ATA66/100 (Please make sure your IDE device and cable is compatible with ATA66/100).

➤ ATA33   Set IDE2 Conductor Cable to ATA33 (Please make sure your IDE device and cable is compatible with ATA33).

C **USB 1.1 Controller**

Disable this function if you are not using onboard USB feature.

➤ Enabled   Enable USB Controller. (Default value)

➤ Disabled   Disable USB Controller.

C **USB 2.0 Controller**

Disable this function if you are not using onboard USB 2.0 feature.

➤ Enabled   Enable USB 2.0 Controller. (Default value)

➤ Disabled   Disable USB 2.0 Controller.

☞ **USB Keyboard Support**

When a USB keyboard is installed, please set at Enabled.

▶ Disabled   Disable USB keyboard support. (Default Value)

▶ Enabled   Enable USB keyboard support.

☞ **USB Mouse Support**

When a USB mouse is installed, please set at Enabled.

▶ Disabled   Disable USB mouse support. (Default Value)

▶ Enabled   Enable USB mouse support.

☞ **AC97 Audio**

▶ Auto   Auto detect onboard AC'97 audio. (Default value)

▶ Disabled   Disable this function.

☞ **AC97 Modem**

▶ Auto   BIOS will search MC97 codec (AMR Modem Card). If found, MC97 function will
                be enabled, if no MC97 codec found, MC97 function will be disabled.
                (Default value)

▶ Disabled   Disable AC'97 modem.

☞ **Onboard H/W Serial ATA**

If you haven't connect any Serial ATA device to the Serial ATA connector but enable the function,
the normal message "Primary Channel: Drive not found ; Secondary Channel: Drive not found" will
come out. Ignore this message or set the option at Disabled to make the message disappear.

▶ Enabled   Enable Onboard Serial ATA function. (Default Value)

▶ Disabled   Disable this function.

☞ **Serial ATA Function**

▶ RAID   Set onborad Serial ATA chip function as RAID. (Default Value)

▶ BASE   Set onborad Serial ATA chip function as BASE.

☞ **OnboardATA/RAIDDevice**

If you don't set any HDD Device in IDE3 or IDE4 but enable this function, the normal message "MBUltra133(PDC20276) BIOS is not installed becasue there are no drives attached" will come out. Ignore this message or set the option at Disabled to make the message disappear.

▸ Enabled   Enable Onboard ATA/RAID function. (Default Value)
▸ Disabled   Disable this function.

☞ **RAID Controller Function**

▸ RAID   Set onborad RAID chip function a RAID.
▸ ATA   Set onborad RAID chip function a ATA. (Default Value)

☞ **Onboard H/W LAN**

▸ Disabled   Disable onboard LAN function.
▸ Enabled   Enable Onboard LAN function. (Default Value)

☞ **Onboard LAN Boot ROM**

This function decide whether to invoke the boot ROM of the onboard LAN chip.

▸ Disabled   Disable this function. (Default Value)
▸ Enabled   Enable this function.

☞ **Onboard Serial Port 1**

▸ Disabled   Disable onboard Serial port 1.
▸ 3F8/IRQ4   Enable onboard Serial port 1 and address is 3F8, using IRQ4. (Default value)
▸ 2F8/IRQ3   Enable onboard Serial port 1 and address is 2F8, using IRQ3.
▸ 3E8/IRQ4   Enable onboard Serial port 1 and address is 3E8, using IRQ4.
▸ 2E8/IRQ3   Enable onboard Serial port 1 and address is 2E8, using IRQ3.
▸ Auto   BIOS will automatically setup the port 1 address.

☞ **Onboard Serial Port 2**

▸ Disabled   Disable onboard Serial port 2.
▸ 3F8/IRQ4   Enable onboard Serial port 2 and address is 3F8, using IRQ4.
▸ 2F8/IRQ3   Enable onboard Serial port 2 and address is 2F8, using IRQ3. (Default value)
▸ 3E8/IRQ4   Enable onboard Serial port 2 and address is 3E8, using IRQ4.
▸ 2E8/IRQ3   Enable onboard Serial port 2 and address is 2E8, using IRQ3.
▸ Auto   BIOS will automatically setup the port 2 address.

C **UART Mode Select**

This feature allows you to determine which Infra Red (IR) function of onboard I/O chip.

▶ Normal   Set onboard I/O chip UART to Normal Mode. (Default Value)

▶ IrDA   Set onboard I/O chip UART to IrDA Mode.

▶ ASKIR   Set onboard I/O chip UART to ASKIR Mode.

▶ SCR   Set onboard I/O chip UART to SCR Mode.

C **UR2 Duplex Mode**

This feature allows you to seclect IR mode.

This function will available when "UART Mode Select" doesn't set at Normal.

▶ Full   IR Function Duplex Full.

▶ Half   IR Function Duplex Half. (Default Value)

C **Onboard Parallel port**

This feature allows you to select from a given set of parameters if the parallel port uses the onboard I/O controller.

▶ Disabled   Disable onboard LPT port.

▶ 378/IRQ7   Enable onboard LPT port and address is 378, using IRQ7. (Default Value)

▶ 278/IRQ5   Enable onboard LPT port and address is 278, using IRQ5.

▶ 3BC/IRQ7   Enable onboard LPT port and address is 3BC, using IRQ7.

C **Parallel Port Mode**

This feature allows you to connect with an advanced printer via the port mode it supports.

▶ SPP   Using Parallel port as Standard Parallel Port. (Default Value)

▶ EPP   Using Parallel port as Enhanced Parallel Port.

▶ ECP   Using Parallel port as Extended Capabilities Port.

▶ ECP+EPP   Using Parallel port as ECP & EPP mode.

C **ECP Mode Use DMA**

This feature allows you to select Direct Memory Access(DMA) channel if the ECP mode selected.

This function will available when "Parallel Port Mode" set at ECP or ECP+EPP.

▶ 1   Set ECP Mode Use DMA to 1.

▶ 3   Set ECP Mode Use DMA to 3. (Default Value)

☞ **Game Port Address**

This feature allows you to select the game port address or disable it.

▶ Disabled   Disable this function.

▶ 201   Set Game port address to 201. (Default Value)

▶ 209   Set Game port address to 209.

☞ **Midi Port Address**

This feature allows you to select the Midi port address or disable it.

▶ Disabled   Disable this function.

▶ 330   Set Midi port address to 330. (Default Value)

▶ 300   Set Midi port address to 300.

☞ **Midi Port IRQ**

▶ 5   Set Midi Port IRQ to 5.

▶ 10   Set Midi Port IRQ to 10. (Default Value)

☞ **CIR Port Address**

This feature allows you to select the CIR port address or disable it.

▶ Disabled   Disable this function. (Default Value)

▶ 310   Set CIR port address to 310.

▶ 320   Set CIR port address to 320.

☞ **CIR Port IRQ**

▶ 11   Set CIR Port IRQ to 11. (Default Value)

▶ 5   Set CIR Port IRQ to 5.

Power Management Setup

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Power Management Setup

ACPI Suspend Type	[S1(POS)]	Item Help
Power LED in S1 state	[Blinking]	Menu Level ▶
Soft-Off by PWR-BTTN	[Instant-off]	[S1]
PME Event Wake Up	[Enabled]	Set suspend type to
ModemRingOn/WakeOnLan	[Enabled]	Power On Suspend under
Resume by Alarm	[Disabled]	ACPI OS
x Date (of Month) Alarm	Everyday	
x Time (hh:mm:ss) Alarm	0 : 0 : 0	[S3]
Power On by Mouse	[Disabled]	Set suspend type to
Power On by Keyboard	[Disabled]	Suspend to RAM under
x KB Power ON Password	Enter	ACPI OS
AC Back Function	[Soft-Off]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help		
F3: Language F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

Figure 5: Power Management Setup

☞ **ACPI Suspend Type**

▶ S1(POS)   Set ACPI suspend type to S1. (Default Value)

▶ S3(STR)   Set ACPI suspend type to S3.

☞ **Power LED in S1 state**

▶ Blinking   In standby mode(S1), power LED will blink. (Default Value)

▶ Dual/OFF   In standby mode(S1):

a. If use single color LED, power LED will turn off.

b. If use dual color LED, power LED will turn to another color.

☞ **Soft-off by PWR-BTTN**

▶ Instant-Off   User can press Power button to power off system instantly. (Default Value)

▶ Delay 4 Sec.   User can press Power button for 4 seconds to power off system. System will enter suspend mode if button is pressed less than 4 seconds.

☞ **PME Event Wake Up**

When set at Enabled, any PCI-PM event awakes the system from a PCI-PM controlled state.

This feature requires an ATX power supply that provides at least 1A on the +5VSB lead.

▶ Disabled   Disable PME Event wake up function.

▶ Enabled   Enable PME Event wake up. (Default Value)

☞ **ModemRingOn/WakeOnLAN**

An incoming call via modem can awake the system from any suspend state or an input signal comes from the other client server on the LAN can awake the system from any suspend state.

▶ Disabled   Disable Modem Ring on/wake on LAN function.

▶ Enabled   Enable Modem Ring on/wake on LAN. (Default Value)

☞ **Resume by Alarm**

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

▶ Disabled   Disable this function. (Default Value)

▶ Enabled   Enable alarm function to POWER ON system.

     If RTC Alarm Lead To Power On is Enabled.

     Date (of Month) Alarm :   Everyday, 1~31

     Time (hh : mm : ss) Alarm :   (0~23) : (0~59) : (0~59)

☞ **Power On by Mouse**

▶ Disabled   Disable this function. (Default Value)

▶ Mouse Click   You can double click the mouse to power on system.

☞ **Power On by Keyboard**

This feature allows you to set the method for powering-on the system.

The option "Password" allows you to set up to 5 alphanumeric characters to power-on the system.

The option "Keyboard 98" allows you to use the standard keyboard 98 to power on the system.

▸ Disabled   Disable this function. (Default Value)

▸ Password   Input password (from 1 to 5 characters) and press Enter to set the keyboard power on password.

▸ Keyboard 98   If your keyboard have "POWER Key" button, you can press the key to power on your system.

☞ **KB Power On Password**

When "Power On by Keyboard" set at Password, you can set the password here.

Input 1~5 charactors and press Enter to set the keyboard power on password.

☞ **AC Back Function**

▸ Soft-Off   When AC-power back to the system, the system will be in "Off" state. (Default Value)

▸ Full-On   When AC-power back to the system, the system always in "On" state.

▸ Memory   When AC-power back to the system, the system will return to the Last state before AC-power off.

PnP/PCI Configurations

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PnP/PCI Configurations

		Item Help
PCI 1/5 IRQ Assignment	[Auto]	Menu Level ▶
PCI 2 IRQ Assignment	[Auto]	Device(s) using this
PCI 3 IRQ Assignment	[Auto]	INT:
PCI 4 IRQ Assignment	[Auto]	
		RAID Cntrlr
		-Bus 2 Dev12 Func 0
		USB 1.1 Host Cntrlr
		-Bus 0 Dev29 Func 2
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help		
F3: Language F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

Figure 6: PnP/PCI Configurations

☞ **PCI 1/5 IRQ Assignment**

▶ Auto	Auto assign IRQ to PCI 1/5. (Default value)
▶ 3,4,5,7,9,10,11,12,14,15	Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 1/5.

☞ **PCI 2 IRQ Assignment**

▶ Auto	Auto assign IRQ to PCI 2. (Default value)
▶ 3,4,5,7,9,10,11,12,14,15	Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 2.

☞ **PCI 3 IRQ Assignment**

▶ Auto	Auto assign IRQ to PCI 3. (Default value)
▶ 3,4,5,7,9,10,11,12,14,15	Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 3.

☞ **PCI 4 IRQ Assignment**

▶ Auto	Auto assign IRQ to PCI 4. (Default value)
▶ 3,4,5,7,9,10,11,12,14,15	Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 4.

PC Health Status

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PC Health Status

Reset Case Open Status	[Disabled]	Item Help
Case Opened	Yes	Menu Level ▶
VCORE	1.474V	[Disabled]
VCC15	1.504V	Don't reset case
+3.3V	3.280V	open status
+5V	4.945V	
+12V	12.288V	[Enabled]
Current CPU Temperature	33°C	Clear case open
Current CPU FAN Speed	4687 RPM	status at next boot
Current POWER FAN Speed	0 RPM	
Current SYSTEM FAN Speed	0 RPM	
CPU Warning Temperature	[Disabled]	
CPU FAN Fail Warning	[Disabled]	
POWER FAN Fail Warning	[Disabled]	
SYSTEM FAN Fail Warning	[Disabled]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help		
F3: Language F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

Figure 7: PC Health Status

☞ **Reset Case Open Status**

☞ **Case Opened**

If the case is closed, "Case Opened" will show "No".

If the case have been opened, "Case Opened" will show "Yes".

If you want to reset "Case Opened" value, set "Reset Case Open Status" to "Enabled" and save CMOS, your computer will restart.

☞ **Current Voltage (V) VCORE / VCC15 / +3.3V / +5V / +12V**

Detect system's voltage status automatically.

☞ **Current CPU Temperature (°C)**

Detect CPU temperature automatically.

☞ **Current CPU / POWER / SYSTEM FAN Speed (RPM)**

▶ Detect CPU/Power/System Fan speed status automatically.

☞ **CPU Warning Temperature**

▶ Disabled	Don't monitor CPU's temperature. (Default value)
▶ 60°/140°F	Alarm when CPU current temperature over than 60°/140°F.
▶ 70°/158°F	Alarm when CPU current temperature over than 70°/158°F.
▶ 80°/176°F	Alarm when CPU current temperature over than 80°/176°F.
▶ 90°/194°F	Alarm when CPU current temperature over than 90°/194°F.

☞ **CPU / POWER / SYSTEM FAN Fail Warning**

| ▶ Disabled | Don't monitor current fan speed. (Default value) |
| ▶ Enabled | Enalbe FAN warning alarm when FAN stops. |

Frequency/Voltage Control

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Frequency/Voltage Control

CPU Clock Ratio	[15X]	Item Help
CPU Host Clock Control	[Disabled]	Menu Level ▶
x CPU Host Frequency (Mhz)	100	
x PCI/AGP Frequency fixed	33/67	
PCI/AGP Frequency (Mhz)	33/66	
DIMM OverVoltage Control	[Normal]	
AGP OverVoltage Control	[Normal]	
AGP Voltage Control	[Normal]	
Normal CPU Vcore	1.475V	

↑↓→←: Move   Enter: Select   +/-/PU/PD: Value   F10: Save   ESC: Exit   F1: General Help
F3: Language   F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults

Figure 8: Frequency/Voltage Control

☞ **CPU Clock Ratio**

This option will not be shown or not be available if you are using a CPU with the locked ratio.

▶ 15X~21X   It's depends on CPU Clock Ratio.

☞ **CPU Host Clock Control**

Note: If system hangs up before enter CMOS setup utility, wait for 20 sec for times out reboot. When times out occur, system will reset and run at CPU default Host clock at next boot.

▶ Disabled   Disable CPU Host Clock Control. (Default value)
▶ Enabled   Enable CPU Host Clock Control.

☞ **CPU Host Frequency (Mhz)**

This item will be available when "CPU Host Clock Control" is set to Enabled.

▶ 100~200   Set CPU Host frequency from 100Mhz to 200Mhz.

   *If you want DDR run in 200Mhz, the CPU Host Frequency have to set at 100Mhz.

   *If you want DDR run in 266Mhz, the frequency have to set at 133Mhz.

🔥 Incorrect using it may cause your system broken. For power End-User use only!

☞ **PCI/AGP Frequency fixed**

This item will be available when "CPU Host Clock Control" is set to Enabled.

▸ Disabled   Disable this function.

▸ 33/67~48/97   You can fix the PCI/AGP frequency as the item you select, no matter what CPU frequency is selected.

♨Incorrect using it may cause your system broken. For power End-User use only!

☞ **PCI/AGP Frequency (Mhz)**

The values depend on PCI/AGP frequency select.

☞ **DIMM OverVoltage Control**

Increase DIMM voltage may get more stable for overclock but it may damage to DIMM module when enable this feature.

▸ Normal   Supply voltage as DIMM module required. (Default value)

▸ +0.1V~+0.3V   Increase the voltage rages as you required.

♨Incorrect using it may cause your system broken. For power End-User use only!

☞ **AGP OverVoltage Control**

Increase AGP voltage may get more stable for overclock but it may damage to AGP card when enable this feature.

▸ Normal   Supply voltage as AGP card required. (Default value)

▸ +0.1V~+0.3V   Increase the voltage rages as you required.

♨Incorrect using it may cause your system broken. For power End-User use only!

☞ **CPU Voltage Control**

Increase CPU voltage may get stable for overclock but it may damage to CPU when enable this feature.

▸ Normal   Supply voltage as CPU required. (Default value)

▸ 1.500V~1.675V   Set CPU voltage from 1.500V to 1.675V.

♨Incorrect using it may cause your system broken. For power End-User use only!

☞ **Normal CPU Vcore**

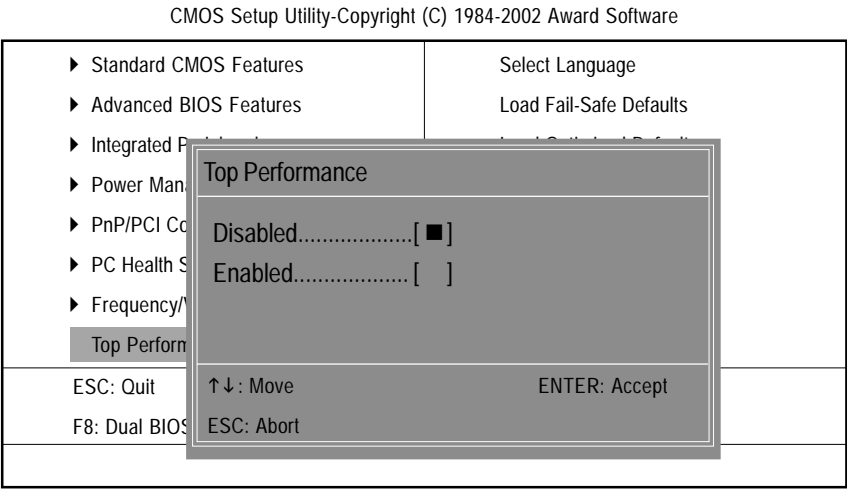The vlaues depend on current CPU voltage.

Top Performance

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▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated P...	
▶ Power Man...	Top Performance
▶ PnP/PCI Co...	
▶ PC Health S...	Disabled..................[■]
▶ Frequency/\...	Enabled...................[ ]
Top Perform...	
ESC: Quit	↑↓ : Move ENTER: Accept
F8: Dual BIOS	ESC: Abort

Figure 9: Top Performance

Top Performance

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

▶▶ Disabled Disable this function. (Default Value)

▶▶ Enabled Enable Top Performance function.

💣 You must check whether your RAM, CPU support over clock when you set "Top Performance" to "Enabled".

Select Language

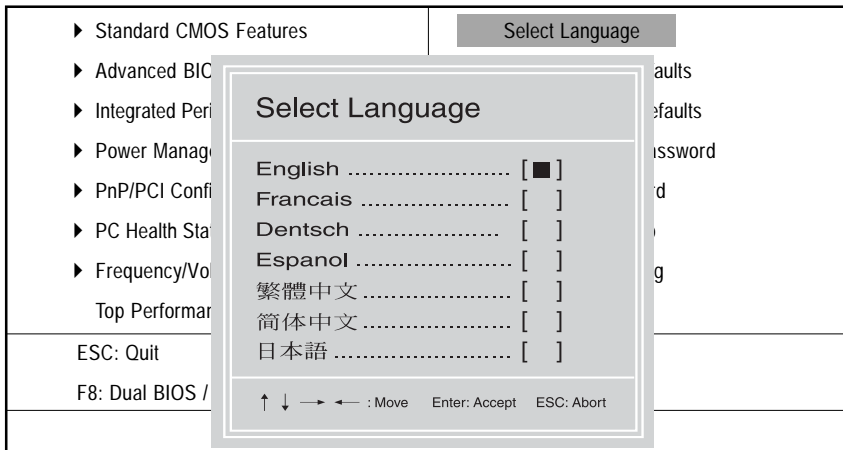CMOS Setup Utility-Copyright (C) 1984-2002 Award Software

▶ Standard CMOS Features	Select Language
▶ Advanced BIO	
▶ Integrated Peri	
▶ Power Manage	
▶ PnP/PCI Confi	
▶ PC Health Stat	
▶ Frequency/Vol	
Top Performan	
ESC: Quit	
F8: Dual BIOS /	

Select Language

English .... [■]
Francais .... [ ]
Dentsch .... [ ]
Espanol .... [ ]
繁體中文 .... [ ]
简体中文 .... [ ]
日本語 .... [ ]

↑ ↓ → ← : Move   Enter: Accept   ESC: Abort

Figure 10:Select Language

Select Language

Multi Language is supports 7 languages. There are English, French, Spanish, Germany, Traditional Chinese, Simplified Chinese, Japanese.

Load Fail-Safe Defaults

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▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Ma~~~~~~~~~~	~~~~~~~~~~~~~~~
▶ PnP/PCI (	Load Fail-Safe Defaults (Y/N) ? N
▶ PC Health Status	Save & Exit Setup
▶ Frequency/Voltage Control	Exit Without Saving
Top Performance	
ESC: Quit	F3: Change Language
F8: Dual BIOS / Q-Flash	F10: Save & Exit Setup
Load Fail-Safe Defaults	

Figure 11: Load Fail-Safe Defaults

Load Fail-Safe Defaults

Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

Load Optimized Defaults

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▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power M~~anagement Setup~~	~~Set Supervisor Password~~
▶ PnP/PCI	Load Optimized Defaults (Y/N) ? N
▶ PC Health Status	Save & Exit Setup
▶ Frequency/Voltage Control	Exit Without Saving
Top Performance	
ESC: Quit	F3: Change Language
F8: Dual BIOS / Q-Flash	F10: Save & Exit Setup
Load Optimized Defaults	

Figure 12: Load Optimized Defaults

Load Optimized Defaults

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

Set Supervisor/User Password

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▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Ma d	
▶ PnP/PCI Enter Password:	
▶ PC Health Status	Save & Exit Setup
▶ Frequency/Voltage Control	Exit Without Saving
Top Performance	
ESC: Quit	F3: Change Language
F8: Dual BIOS / Q-Flash	F10: Save & Exit Setup
Change/Set/Disable Password	

Figure 13: Password Setting

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

Type the password, up to eight characters, and press <Enter>. 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.

The BIOS Setup program allows you to specify two separate passwords:

SUPERVISOR PASSWORD and a USER PASSWORD. When disabled, anyone may access all BIOS Setup program function. When enabled, the Supervisor password is required for entering the BIOS Setup program and having full configuration fields, the User password is required to access only basic items.

If you select "System" at "Password Check" in Advance BIOS Features 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" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.

Save & Exit Setup

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▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Ma~~nagement Setup~~	~~Set Supervisor Password~~
▶ PnP/PCI	Save to CMOS and EXIT (Y/N) ? Y
▶ PC Health Status	Save & Exit Setup
▶ Frequency/Voltage Control	Exit Without Saving
Top Performance	
ESC: Quit	F3: Change Language
F8: Dual BIOS / Q-Flash	F10: Save & Exit Setup
Save Data to CMOS	

Figure 14: 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

CMOS Setup Utility-Copyright (C) 1984-2002 Award Software

▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power Management Setup	Set Supervisor Password
▶ PnP/PCI Co — Quit Without Saving (Y/N) ? N	
▶ PC Health Status	Save & Exit Setup
▶ Frequency/Voltage Control	Exit Without Saving
Top Performance	
ESC: Quit	F3: Change Language
F8: Dual BIOS / Q-Flash	F10: Save & Exit Setup
Abandon all Data	

Figure 15: Exit Without Saving

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

Type "N" will return to Setup Utility.

Chapter 4 Technical Reference

Block Diagram
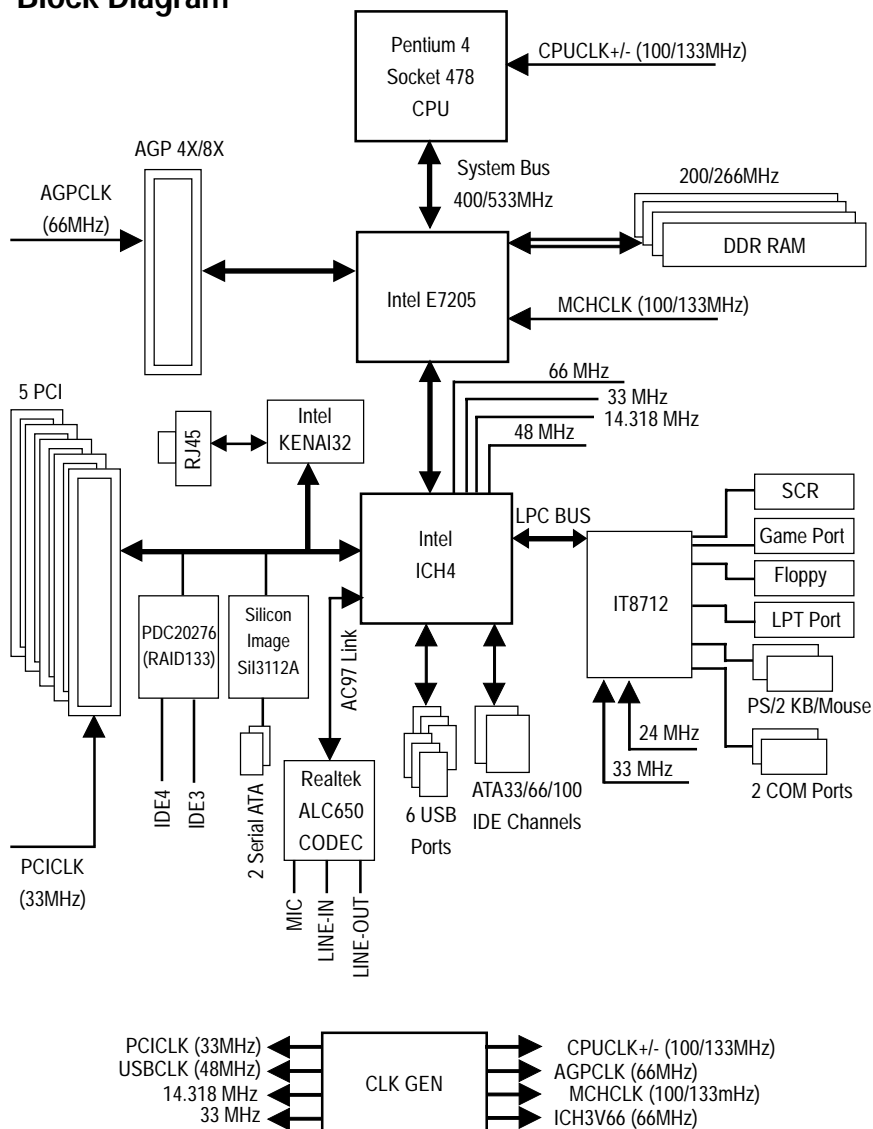
@BIOS™ Introduction

Gigabyte announces @BIOS
Windows BIOS Live Update Utility

Have you ever updated BIOS by yourself? Or like many other people, you just know what BIOS is, but always hesitate to update it? Because you think updating newest BIOS is unnecessary and actually you don't know how to update it.

Maybe not like others, you are very experienced in BIOS updating and spend quite a lot of time to do it. But of course you don't like to do it too much. First, download different BIOS from website and then switch the operating system to DOS mode. Secondly, use different flash utility to update BIOS. The above process is not a interesting job. Besides, always be carefully to store the BIOS source code correctly in your disks as if you update the wrong BIOS, it will be a nightmare.

Certainly, you wonder why motherboard vendors could not just do something right to save your time and effort and save you from the lousy BIOS updating work? Here it comes! Now Gigabyte announces @BIOS—the first Windows BIOS live update utility. This is a smart BIOS update software. It could help you to download the BIOS from internetand update it. Not like the other BIOS update software, it's a Windows utility. With the help of "@BIOS", BIOS updating is no more than a click.

Besides, no matter which mainboard you are using, if it's a Gigabyte's product*, @BIOS help you to maintain the BIOS. This utility could detect your correct mainboard model and help you to choose the BIOS accordingly. It then downloads the BIOS from the nearest Gigabyte ftp site automatically. There are several different choices; you could use "Internet Update" to download and update your BIOS directly. Or you may want to keep a backup for your current BIOS, just choose "Save Current BIOS" to save it first. You make a wise choice to use Gigabyte, and @BIOS update your BIOS smartly. You are now worry free from updating wrong BIOS, and capable to maintain and manage your BIOS easily. Again, Gigabyte's innovative product erects a milestone in motherboard industries.

For such a wonderful software, how much it costs? Impossible! It's free! Now, if you buy a Gigabyte's motherboard, you could find this amazing software in the attached driver CD. But please remember, connected to internet at first, then you could have a internet BIOS update from your Gigabyte @BIOS.

EasyTune™ 4 Introduction

Gigabyte announces *EasyTune™ 4* Windows based Overclocking utility

EasyTune 4 carries on the heritage so as to pave the way for future generations.

Overclock" might be one of the most common issues in computer field. But have many users ever tried it? The answer is probably "no". Because "Overclock" is thought to be very difficult and includes a lot of technical know-how, sometimes "Overclock" is even considered as special skills found only in some enthusiasts. But as to the experts in "Overclock", what's the truth? They may spend quite a lot of time and money to study, try and use many different hardware or BIOS tools to do "Overclock". And even with these technologies, they still learn that it's quite a risk because the safety and stability of an "Overclock" system is unknown. Now everything is different because of a Windows based overclocking utility "EasyTune 4" --announced by Gigabyte. This windows based utility has totally changed the gaming rule of "Overclock". This is the first windows based overclocking utility is suitable for both normal and power users. Users can choose either "Easy Mode" or "Advanced Mode" for overclocking at their convenience. For users who choose "Easy Mode", they just need to click "Auto Optimize" to have autoed and immediate CPU overclocking. This software will then overdrive CPU speed automatically with the result being shown in the control panel. If users prefer "Overclock" by them, there is also another choice. Click "Advanced Mode" to enjoy "sport drive" class Overclocking user interface. "Advanced Mode", allows users to change the system bus / AGP / Memory working frequency in small increments to get ultimate system performance. It operates in coordination with Gigabyte motherboards. Besides, it is different from other traditional overclocking methods, EasyTune 4 doesn't require users to change neither BIOS nor hardware switch/ jumper setting; on the other hand, they can do "Overclock" at easy step . Therefore, this is a safer way for "Overclock" as nothing is changed on software or hardware. If user runs EasyTune 4 over system's limitation, the biggest lost is only to restart the computer again and the side effect is then well controlled. Moreover, if one well-performed system speed has been tested in EasyTune 4, user can "Save" this setting and "Load" it in next time. Obviously, Gigabyte EasyTune 4 has already turned the "Overclock" technology toward to a newer generation. This wonderful software is now free bundled in Gigabyte motherboard attached in driver CD. Users may make a test drive of "EasyTune 4" to find out more amazing features by themselves.

*Some Gigabyte products are not fully supported by EasyTune 4. Please find the products supported list in the web site.

*Any "Overclocking action" is at user's risk, Gigabyte Technology will not be responsible for any damage or instability to your processor, motherboard, or any other components.

DPS (Dual Power System) Introduction

DPS - A new innovation technology from Gigabyte Technology in which gives you a total of 6-phase power circuit design. Providing 2 extra phase power circuits that motherboard design guideline recommended. In a DPS (Dual Power System) designed motherboard, an additional 3-phase power circuit DPVRM (Dual Power Voltage Regulator Module) daughter card is added on the motherboard. Providing a more durable and stable power circuit to sustain a larger electric current up to 150A.

DPS (Dual Power System) specially design for the future coming processor, which demands a higher working frequency and a more stable and durable power circuit.
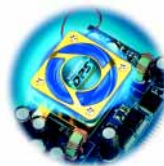
Working mode in a Dual Power System:

Parallel Mode:

Both DPVRM (Dual Power Voltage Regulator Module) and onboard power circuit working simultaneously, providing a total of 6-phase power circuit. If any power circuit fails, the remaining power circuit will keep working as main power circuit.
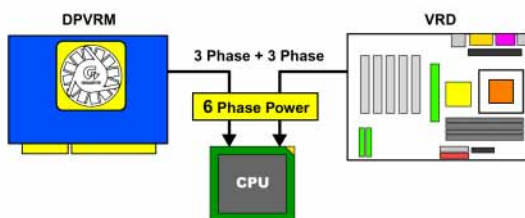
Flash BIOS Method Introduction

Method 1 : Dual BIOS / Q-Flash

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 and Q-Flash Utility?

1.) After power on the computer, pressing <Del> immediately during POST (Power On Self Test) it will allow you to enter Award BIOS CMOS SETUP, then press <F8> to enter Flash utility.

CMOS Setup Utility-Copyright (C) 1984-2002 Award Software

▶ Standard CMOS Features	Select Language
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Integrated Peripherals	Load Optimized Defaults
▶ Power M	
▶ PnP/PCI	Enter Dual BIOS / Q-Flash Utility (Y/N)? Y
▶ PC Health Status	Save & Exit Setup
▶ Frequency/Voltage Control	Exit Without Saving
Top Performance	
ESC: Quit	F3: Change Language
F8: Dual BIOS / Q-Flash	F10: Save & Exit Setup
Time, Date, Hard Disk Type...	

2.) Award Dual BIOS Flash ROM Programming Utility

Dual BIOS Utility V1.30			
Boot From...	Main Bios		
Main ROM Type/Size.....................................	SST 49LF003A	512K	
Backup ROM Type/Size.................................	SST 49LF003A	512K	
Wide Range Protection	Disable		
Boot From	Main Bios		
Auto Recovery	Enable		
Halt On Error	Disable		
Keep DMI Data	Enable		
Copy Main ROM Data to Backup			
Load Default Settings			
Save Settings to CMOS			
Q-Flash Utility			
Update Main BIOS from Floppy			
Update Backup BIOS from Floppy			
Save Main BIOS to Floppy			
Save Backup BIOS to Floppy			
PgDn/PgUp: Modify	↑↓: Move	ESC: Reset	F10: Power Off

3.) Dual BIOS Item explanation:

• **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 torequest 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.

Status 2:

   If one of the main BIOS or the Backup BIOS fails, this item *"Boot From : Main BIOS(Default)"* will become gray and will not be changed by user.

- **Auto Recovery : Enable(Default), Disable**

  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 Error 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.>*

- **Keep DMI Data : Enable(Default), Disable**

  Enable: The DMI data won't be replaced by flashing new BIOS.(recommend)

  Disable: The DMI data will be replaced by flashing new BIOS.

- **Copy Main ROM Data to Backup**

  (If you boot from Backup ROM, this item will change to "Copy Backup ROM Data to Main)

  Auto recovery message:

  BIOS Recovery: Main to Backup

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

  BIOS Recovery: Backup to Main

  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.)

- **Load Default Settings**

  Load dual BIOS default value.

- **Save Settings to CMOS**

  Save revised setting.

Save **Main BIOS to Floppy / Save Backup BIOS to Floppy**

✐In the A:drive, insert the floppy disk, then Press Enter to Run.

```
───────────────── TYPE FILE NAME ─────────────────

▶ File name: XXXX.XX


  Total Size: 1.39M                    Free Size: 1.39M
  F5: Refresh            DEL: Delete            TAB: Switch
```

To name the file.

Congratulate you have accomplished the saving.

CONTROLKEYS

\<PgDn/PgUp\>	Make changes
\<↑\>	Move to previous item
\<↓\>	Move to next item
\<Enter\>	Run
\<Esc\>	Reset
\<F10\>	Power Off

DualBIOS™ Technology FAQ

GIGABYTE Technology is pleased to introduce DualBIOS technology, a hot spare for your system BIOS. This newest "Value-added" feature, in a long series of innovations from GIGABYTE, is available on this 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:

This new technology will eliminate valuable system down time and costly repair bills cause by BIOS failures.

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:

This new technology will eliminate valuable system down time and costly repair bills cause by BIOS failures.

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 awarning 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.

C. What is Q-Flash Utility?

Q-Flash utility is a pre-O.S. BIOS flash utility enables users to update its BIOS within BIOS mode, no more fooling around any OS.

D. How to use Q-Flash?

Load Main BIOS from Floppy / Update Backup BIOS from Floppy

✒In the A: drive, insert the "BIOS" diskette, then Press Enter to Run.

```
───────────── 1 File(s) found ─────────────

▶ XXXX.XX                                          256K


  Total Size: 1.39M                   Free Size: 1.14M
  F5: Refresh            DEL: Delete          ESC: Return Main
```

Where XXXX.XX is name of the BIOS file.

✒Press Enter to Run.

```
        Are you sure to update BIOS?

    [Enter] to contiune Or [ESC] ot abort...
```

✒Press Enter to Run.

```
        !! COPY BIOS Completed -Pass !!

        Please press any key to continue
```

Congratulation! You have completed the flashed and now can restart system.

Method 2 : BIOS Flash Utility

BIOS Flash Procedure

We use GA-7VTX motherboard and Flash841 BIOS flash utility as example.

Please flash the BIOS according to the following procedures if you are now under the DOS mode.

Flash BIOS Procedure:

STEP 1:

(1) Firstly you have to install the extraction utility such as winzip or pkunzip for unzip the files. Both of these utilities are available on many shareware download pages like http://www.cnet.com

STEP 2: Make a DOS boot diskette. (See example: Windows 98 O.S.)

Beware: Windows ME/2000 are not allowed to make a DOS boot diskette.

(1) With an available floppy disk in the floppy drive. Please leave the diskette "UN-write protected" type. Double click the "My Computer" icon from Desktop, then click "3.5 diskette (A)" and right click to select "Format (M)"
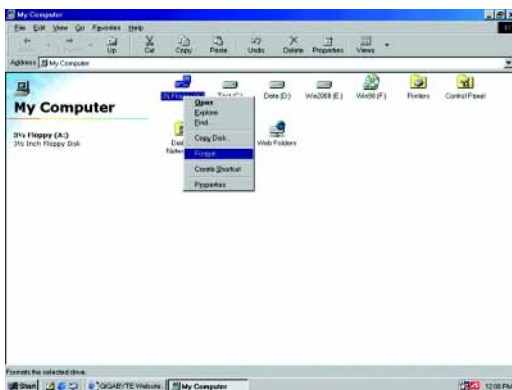
(2) Select the "Quick (erase)" for Format Type, and pick both "Display summary when finished" and "Copy system files", after that press "Start". That will format the floppy and transfer the needed system files to it.

Beware: This procedure will erase all the prior data on that floppy, so please proceed accordingly.
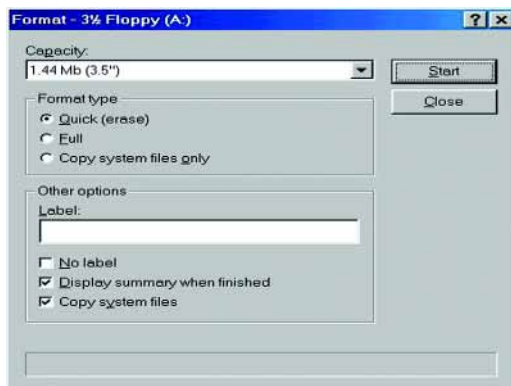
(3) After the floppy has been formatted completely, please press "Close".
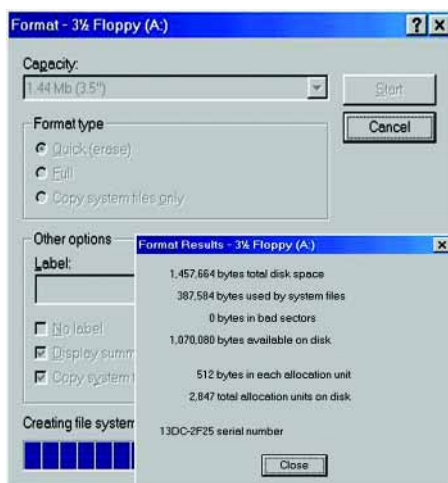
STEP 3: Download BIOS and BIOS utility program.

(1) Please go to Gigabyte website http://www.gigabyte.com.tw/index.html, and click "Support".

(2) From Support zone, click the "Motherboards BIOS & Drivers".
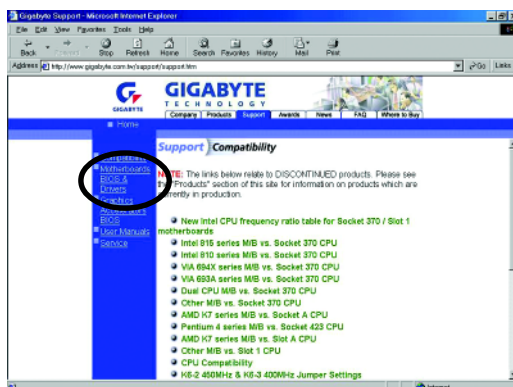
(3) We use GA-7VTX motherboard as example. Please select GA-7VTX by Model or Chipset optional menu to obtain BIOS flash files.
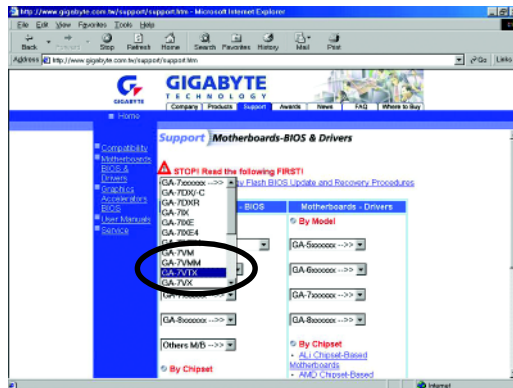
(4) Select an appropriate BIOS version (For example: F4), and click to download the file. It will pop up a file download screen, then select the "Open this file from its current location" and press "OK".

(5) At this time the screen shows the following picture, please click "Extract" button to unzip the files.
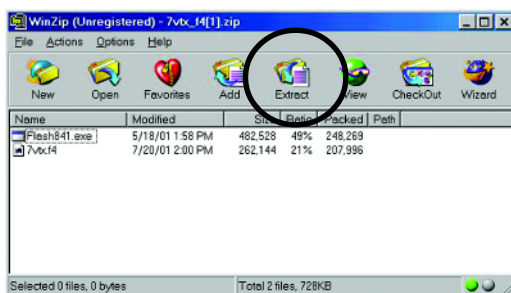
(6) Please extract the download files into the clean bootable floppy disk A mentioned in STEP 2, and press "Extract".
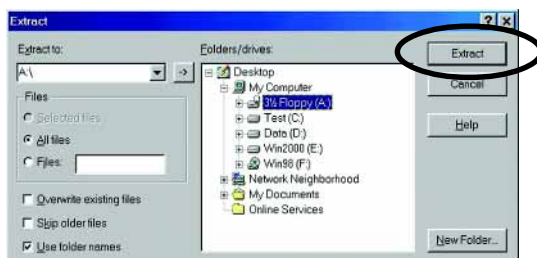
STEP 4: Make sure the system will boot from the floppy disk.

(1) Insert the floppy disk (contains bootable program and unzip file) into the floppy drive A. Then, restart the system. The system will boot from the floppy disk. Please press <DEL> key to enter BIOS setup main menu when system is boot up.

```
American    Release:09/16/99
Megatrends  AMIBIOS (C) 1999 American Megatrend

7VTX F1
Check System Health OK
AMD-Athlon(tm)Processor-900MHz
Checking NVRAM...
262144KB

                                                              Dual
                                                              BIOS

Wait...
Press F1 to enter Dual BIOS Utility. Press ESC to quit
Press any key to contiune

( C ) American Megatrends Inc.,
63-0001-001199-00101111-071595-VIA_K7-GA7VTX1-F
```

(2) Once you enter the BIOS setup utility, the main menu will appear on the screen. Use the arrows to highlight the item "BIOS FEATURES SETUP".

AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.24b	
(C) 1999 American Megatrends, Inc. All Rights Reserved	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	HARDWARE MONITOR & MISC 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…	

(3) Press "Enter" to enter "BIOS FEATURES SETUP" menu. Use the arrows to highlight the item "1st Boot Device", and then use the "Page Up" or "Page Down" keys to select "Floppy".

AMIBIOS SETUP - BIOS FEATURES SETUP		
(C.) 2001 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	ESC: Quit ↑↓←→: Select Item
Floppy Drive Seek	: Disabled	F1 : Help PU/PD/+/- : Modify
Password Check	: Setup	F5 : Old Values (Shift)F2: Color
		F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

(4) Press "ESC" to go back to previous screen. Use the arrows to highlight the item "SAVE & EXIT SETUP" then press "Enter". System will ask "SAVE to CMOS and EXIT (Y/N)?" Press "Y" and "Enter" keys to confirm. Now the system will reboot automatically, the new BIOS setting will be taken effect next boot-up.

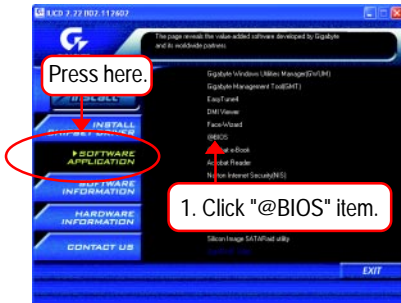| AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.24b	
(C) 2001 American Megatrends, Inc. All Rights Reserved	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	HARDWARE MONITOR & MISC SETUP
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD
POWER MANAGEMENT SETUP	USER PASSWORD
PNP / PCI CONFIG	Save to CMOS and EXIT (Y/N)? Y
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	

STEP 5: BIOS flashing.

(1) After the system boot from floppy disk, type "A:\> dir/w" and press "Enter" to check the entire files in floppy A. Then type the "BIOS flash utility" and "BIOS file" after A:\>. In this case you have to type "A:\> Flash841 7VTX.F4" and then press "Enter".

```
Starting Windows 98…

Microsoft(R) Windows98
   © Copyright Microsoft Corp 1981-1999

A:\> dir/w
   Volume in drive A has no label
Volume Serial Number is 16EB-353D
Directory of A:\
COMMAND.COM     7VTX.F4    FLASH841.EXE
         3 file(s)      838,954  bytes
         0 dir(s)       324,608  bytes free

A:\> Flash841 7VTX.F4
```

(2) Now screen appears the following Flash Utility main menu. Press "Enter", the highlighted item will locate on the model name of the right-upper screen. Right after that, press "Enter" to start BIOS Flash Utility.
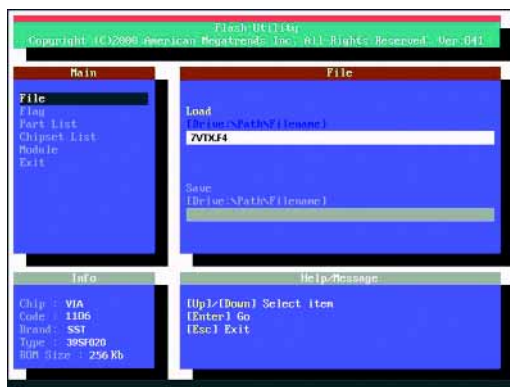
(3) It will pop up a screen and asks "Are you sure to flash the BIOS?" Press [Enter] to continue theprocedure, or press [ESC] to quit.

Beware: Please do not turn off the system while you are upgrading BIOS. It will render your BIOS corrupted and system totally inoperative.
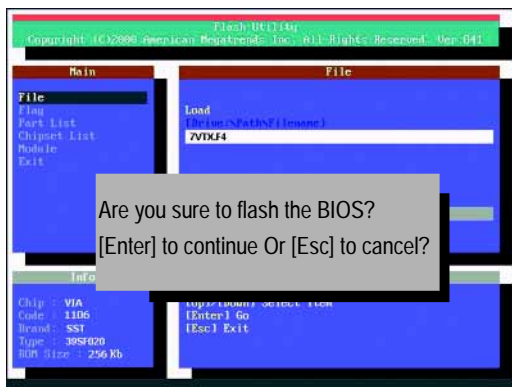
(4) The BIOS flash completed. Please press [ESC] to exit Flash Utility.
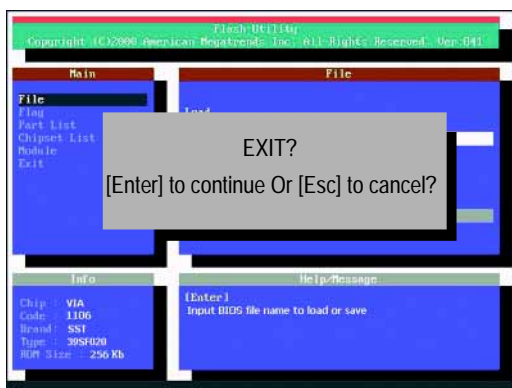
STEP 6: Load BIOS defaults.

Normally the system redetects all devices after BIOS has been upgraded. Therefore, we highly recommend reloading the BIOS defaults after BIOS has been upgraded. This important step resets everything after the flash.

(1) Take out the floppy diskette from floppy drive, and then restart the system. The boot up screen will indicate your motherboard model and current BIOS version.

```
        American    Release:09/16/99
        Megatrends  AMIBIOS (C) 1999 American Megatrend
7VTX F4
Check System Health OK
AMD-Athlon(tm)Processor-900MHz
Checking NVRAM...
262144KB




Wait...
Press F1 to enter Dual BIOS Utility. Press ESC to quit
Press any key to contiune



( C ) American Megatrends Inc.,
63-0001-001199-00101111-071595-VIA_K7-GA7VTX1-F
```

(2) Don't forget to press <DEL> key to enter BIOS setup again when system is boot up. Use the arrows to highlight the item "LOAD SETUP DEFAULTS" then press "Enter". System will ask "Load Setup Defaults (Y/N)?" Press "Y" and "Enter" keys to confirm.

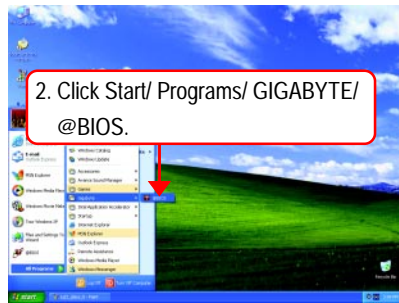| AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.24b	
(C) 2001 American Megatrends, Inc. All Rights Reserved	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	HARDWARE MONITOR & MISC SETUP
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD
POWER MANAGEMENT SETUP	USER PASSWORD
PNP / PCI CONFIG	Load Setup Defaults? (Y/N)?N
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 Defaults	

(3) Use the arrows to highlight the item "SAVE & EXIT SETUP" and press "Enter". System will ask "SAVE to CMOS and EXIT (Y/N)?" Press "Y" and "Enter" keys to confirm. Now the system will reboot automatically, the new BIOS setting will be taken effect next boot-up.

AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.24b	
(C) 2001 American Megatrends, Inc. All Rights Reserved	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	HARDWARE MONITOR & MISC SETUP
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD
POWER MANAGEMENT SETUP	USER PASSWORD
PNP / PCI CONFIG	Save to CMOS and EXIT (Y/N)? Y
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	

(4) Congratulate you have accomplished the BIOS flash procedure.

Method 3 : @BIOS™ Utility

If you don't have DOS boot disk, we recommend that you used Gigabyte @BIOS™ program to flash BIOS.

Press here.

1. Click "@BIOS" item.

(1)

2. Click Start/ Programs/ GIGABYTE/ @BIOS.

(2)

3.Click "Ｐ".

Click here

(3)

4. Please select @BIOS sever site, then Click "OK".
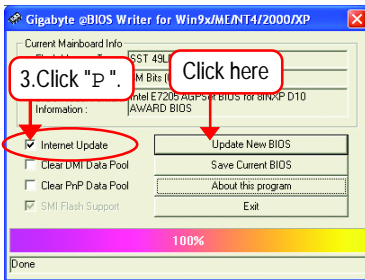
(4)

Methods and steps:

I. Update BIOS through Internet

   a. Click "Internet Update" icon

   b. Click "Update New BIOS" icon

   c. Select @BIOS™ sever

   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: 8INXP.D10).

  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. Selecting wrong model 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 interruption during updating will cause system unbooted

2- / 4- / 6-Channel Audio Function Introuction

The installation of Windows 98SE/2K/ME/XP is very simple. Please follow next step to install the function!

Stereo Speakers Connection and Settings:

We recommend that you use the speaker with amplifier to acqiire the best sound effect if the stereo output is applied.

STEP 1:
Connect the stereo speakers or earphone to "Line Out".
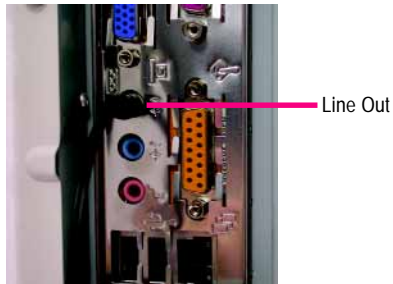
Line Out

STEP 2 :

After installation of the audio driver, you'll find an icon on the taskbar's status area. Click the audio icon "Sound Effect" from the windows tray at the bottom of the screen.
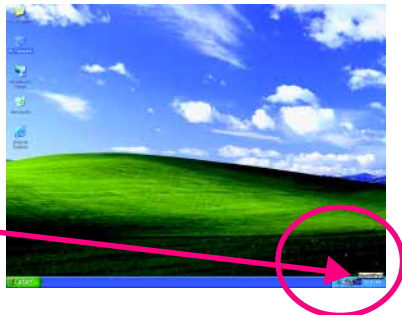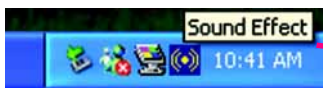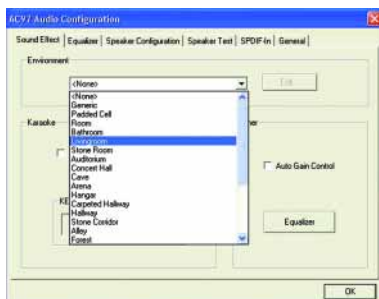
STEP 3:
Select "Speaker Configuration", and choose the "2 channels for stereo speakers out put".

⊙ 2 channels mode for stereo speakers output
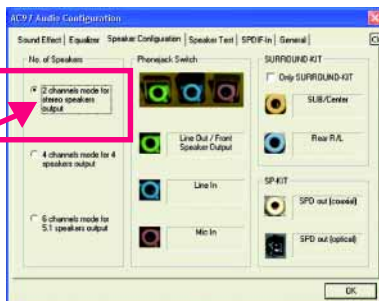
4 Channel Analog Audio Output Mode

STEP 1 :

Connect the front channels to "Line Out", the rear channels to "Line In".
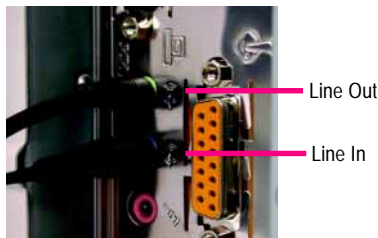
Line Out

Line In

STEP 2 :

After installation of the audio driver, you'll find an icon on the taskbar's status area. Click the audio icon "Sound Effect" from the windows tray at the bottom of the screen.

Sound Effect
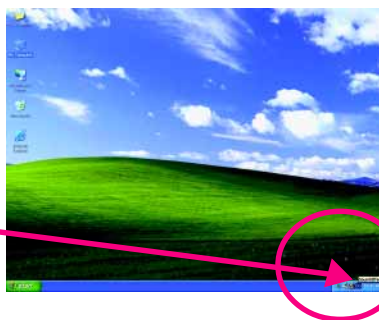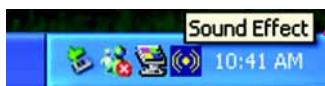
STEP 3 :

Select "Speaker Configuration", and choose the "4 channels for 4 speakers out put".

Disable "Only SURROUND-KIT", and press "OK".
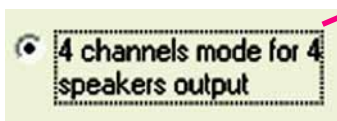
⊙ 4 channels mode for 4 speakers output

When the "Environment settings" is "None", the sound would be performed as stereo mode (2 channels output). Please select the other settings for 4 channels output.

Basic 6 Channel Analog Audio Output Mode

Use the back audio panel to connect the audio output without any additional module.

STEP 1 :

Connect the front channels to "Line Out", the rear channels to "Line In", and the Center/Subwoofer channels to "MIC In".
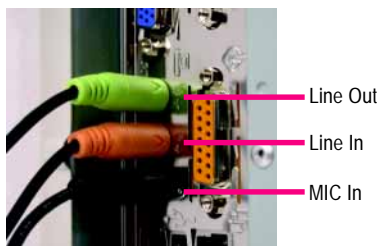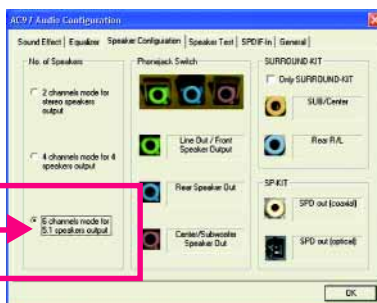
Line Out

Line In

MIC In

STEP 2 :

After installation of the audio driver, you'll find an [icon] icon on the taskbar's status area. Click the audio icon "Sound Effect" from the windows tray at the bottom of the screen.

STEP 3 :

Select "Speaker Configuration", and choose the "6 channels for 5.1 speakers out put".
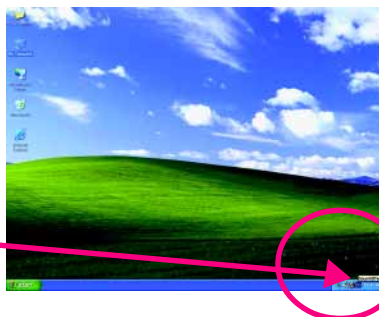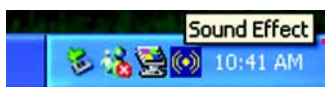
Disable "Only SURROUND-KIT" and pess "OK".

6 channels mode for 5.1 speakers output

Advanced 6 Channel Analog Audio Output Mode (using Audio Combo Kit, Optional Device):

(Audio Combo Kit provides SPDIF output port : optical & coaxis and SURROUND-KIT : Rear R/L & Center/subwoofer)

SURROUND-KIT access analog output to rear channels and Center/Subwoofer channels. It is the best solution if you need 6 channel output, Line In and MIC at the same time. "SURROUND-KIT" is included in the GIGABYTE unique "Audio Combo Kit" as picture.
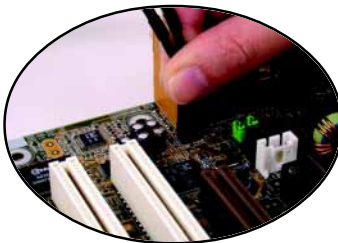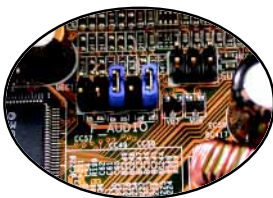

STEP 1 :

Insert the "Audio Combo Kit" in the back of the case, and fix it with the screw.
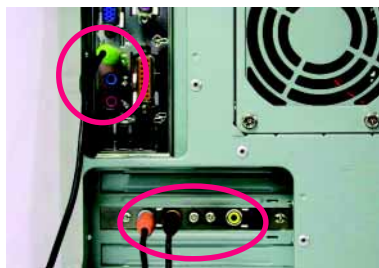

STEP 2 :

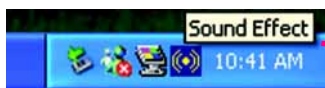Connect the "SURROUND-KIT" to SUR_CEN on the M/B.

STEP 3 :

Connect the front channels to back audio panel's "Line Out", the rear channels to SURROUND-KIT's REAR R/L, and the Center/Subwoofer channels to SURROUND-KIT's SUB CENTER.
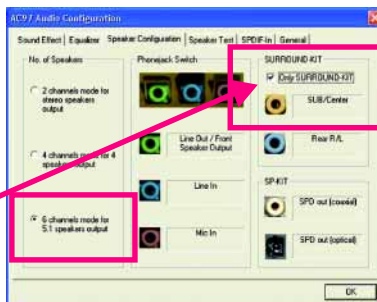
STEP 4 :

Click the audio icon "Sound Effect" from the windows tray at the bottom of the screen.

STEP 5 :

Select "Speaker Configuration", and choose the "6 channels for 5.1 speakers out put".

Enable "Only SURROUND-KIT" and press "OK".

SURROUND-KIT

☑ Only SURROUND-KIT
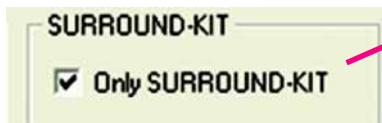
Basic & Advanced 6 Channel Analog Audio Output Mode Notes:

When the "Environment settings" is "None", the sound would be performed as stereo mode (2 channels output). Please select the other settings for 6 channels output.

SPDIF Output Device (Optional Device)

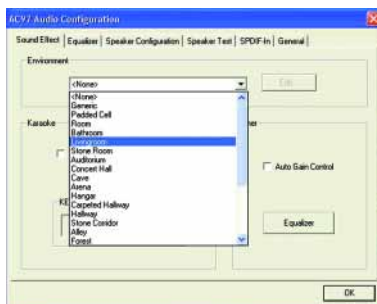A "S/PDIF output" device is available on the motherboard. Cable with rear bracket is provided and could link to the "S/PDIF output" connector (As picture.) For the further linkage to decoder, rear bracket provides coaxial cable and Fiber connecting port.
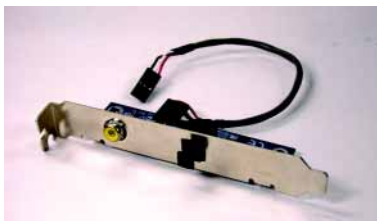
1. Connect the SPDIF output device to the rear bracket of PC, and fix it with screw.

2. Connect SPDIF wire to the motherboard.
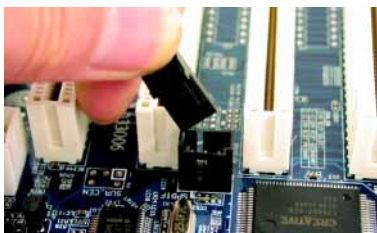
3. Connect co-axial or optical output to the AC3 decoder.

_____

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Chapter 5 Appendix

Install Drivers

NOTE

Pictures below are shown in Windows XP (IUCD ver 2.22)

Insert the driver CD-title that came with your motherboard into your CD-ROM drive, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

INSTALL CHIPSET DRIVER

This page shows the drivers that need to be installed for the system. Click each item to install the driver manually or switch to the [Xpress Install] to install the drivers automatically.
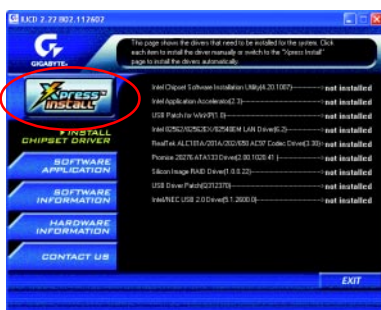
The "Xpress Install" uses the"Click and Forget" technology to install the drivers automatically. Just select the drivers you want then click the "GO" button. The [Xpress Install] will finish the installation for you automatically.

NOTE Massage: Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.

We recommend that you install all components in the list.
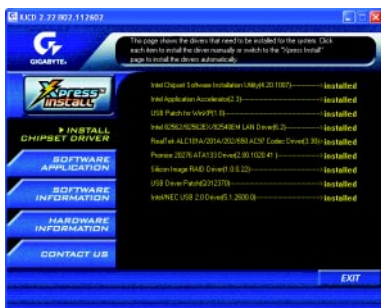
Driver install finished !
You have to reboot system !

Item Description

■ Intel Chipset Software Installation Utility

Tell the operating system how the chipset components will be configured

■ Intel Application Accelerator

Designed to improve performance of the storage sub-system and overall system performance

■ USB Patch for WinXP

This patch driver can help you to resolve the USB device wake up S3 hang up issue in XP

■ Intel 82562/82562EX/82540EM LAN Driver

For Intel® PRO/10/100/1000/Wireless Ethernet connections

■ RealTek ALC101A/201A/202/650 AC97 Codec Driver

For Intel® ICH/ICH2/ICH4 AC97 audio

■ Promise 20276 ATA133 Driver

For Promise 20276 ATA133/RAID IDE controller

■ Silicon Image RAID Driver

Serial-ATA RAID Driver from Silicon Image

■ USB Driver Patch

This patch driver can help you to resolve some USB device issue on XP

■ Intel/NEC USB 2.0 Driver

It is recommended that you use the Microsoft Windows update for the most updated driver
for XP/2K

SOFTWARE APPLICATION

This page reveals the value-added software developed by Gigabyte and its worldwide partners.

■ Gigabyte Windows Utilities Manager (GWUM)

This utility can integrate the Gigabyte's applications in the system tray

■ Gigabyte Management Tool (GMT)

A useful tool which can manage the computer via the network

■ EasyTune 4

Powerful utility that integrates the overclocking and hardware monitoring functions

■ DMI Viewer

Windows based utility which is used to browse the DMI/SMBIOS information of the system

■ Face-Wizard

New utility for adding BIOS logo

■ @BIOS

Gigabyte windows flash BIOS utility

■ Acrobat e-Book

Useful utility from Adobe

■ Acrobat Reader

Popular utility from Adobe for reading .PDF file format documents

■ Norton Internet Security (NIS)

Integrated utility which includes anti-virus, ads, etc.

■ Silicon Image SATA Raid utility

RAID utility for Silicon Image Serial-ATA 3112

> *Please do not install "Silicon Image SIL3112 SATARaid Driver Utility" under WIN98 or WIN ME if there is no Serial ATA Deivce.*
> *For top performance and compatibility, it is recommend to use the SATA daughter card which has Silcon Image Chipset.*

SOFTWARE INFORMATION

This page list the contects of softwares and drivers in this CD title.

HARDWARE INFORMATION

This page lists all device you have for this motherboard.

CONTACT US

Contact us via the information in this page all over the world.

● Taiwan

Gigabyte Technology Co., Ltd.

Address: No.6, Bau Chiang Road, Hsin-Tien, Taipei Hsien, Taiwan, R.O.C.

TEL: 886 (2) 8912-4888 (50 lines)

FAX: 886 (2) 8912-4004

E-mail:english@gigabyte.com.tw

Web Address: http://www.gigabyte.com.tw

● USA

G.B.T. INC.

Address: 17358 Railroad St, City of Industry, CA 91748.

Tel: 1 (626) 854-9338

Fax: 1 (626) 854-9339

E-mail:sales@giga-byte.com

　　　support@giga-byte.com

Web Address: www.giga-byte.com

● Germany

G.B.T. Technology Trading GmbH

Tel: 49-40-2533040

Fax: 49-40-25492343 (Sales)

Tel: 49-01803-428468 (Tech.)

Fax: 49-01803-428329 (Tech.)

E-mail:support@gigabyte.de

Web Address: www.gigabyte.de

● JAPAN/Nippon Giga-Byte Corporation

Fax: 81-3-5791-5439

Web Address: www.gigabyte.co.jp

● U.K

G.B.T. TECH. CO. LTD.

Tel: 44-1908-362700

Fax: 44-1908-362709

E-mail:support@gbt-tech.co.uk

Web Address: www.gbt-tech.co.uk

● The Netherlands

Giga-Byte Technology B.V.

Address: Postbus 1385, 5602 BJ, Eindhoven, The Netherlands

Tel: +31 40 290 2088

Fax: +31 40 290 2089

E-mail:info@giga-byte.nl

Web Address: http://www.giga-byte.nl

● China

Shanghai Office

Tel: 86-21-64737410

Fax: 86-21-64453227

Web Address: www.gigabyte.com.cn

GuangZhou Office

Tel: 86-20-87586273

Fax: 86-20-87544306

Web Address: www.gigabyte.com.cn

Beijing Office

Tel: 86-10-82856054

86-10-82856064

86-10-82856094

Fax: 86-10-82856575

Web Address: www.gigabyte.com.cn

E-mail:bjsupport@gigabyte.com.cn

Chengdu Office

Tel: 86-28-85236930

Fax: 86-28-85256822

Web Address: www.gigabyte.com.cn

Face-Wizard Utilities Installation

What is Face-Wizard™ ?

Face-Wizard™ is a windows based utility with user-friendly interface that allows users to change the boot-up logo with picture from Gigabyte Logo Gallery on web site or other compatible picture you have.

How does it work?

Face-Wizard™ allows user to select BIOS on board or file in hard drive, floppy disk, zip, MO or other storage devices and combine the compatible picture you prefer into BIOS. And not only this, Face-Wizard™ also helps user to update BIOS in windows mode.

What's benefit for using Face-Wizard™ ?

It can personalize boot-up logo to show your unique style from others, and never again looking at the black and white boot up screen.

1. Click "Face-Wizard" item.

(1)

2. Click "Next".

(2)

3. Click "Finish".

(3)

4. Click Start/ Programs/ GIGABYTE/ FaceWizard.

(4)

5. Click "Help".
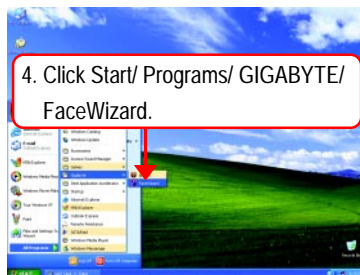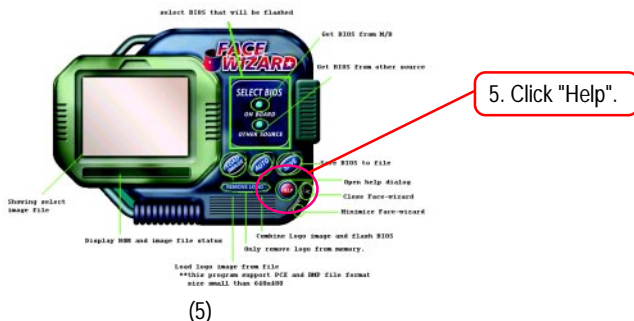
(5)

EasyTune 4 Utilities Installation

Powerful utility that integrates the overclocking and hardware monitoring functions

1. Click "EasyTune4" item.

(1)

2. Click "Next".

(2)

(3)

3. Click "Finish" to restart computer.

(4)
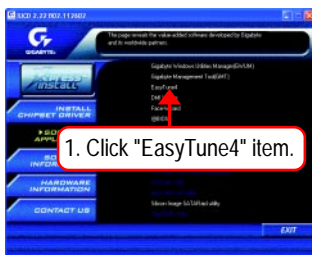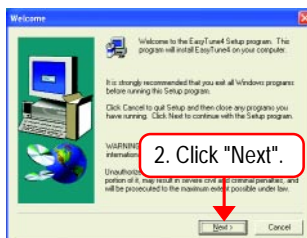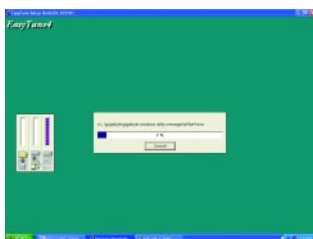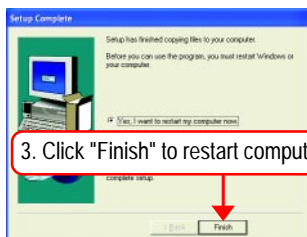
4. Right Click the icon to start "EasyTune 4".
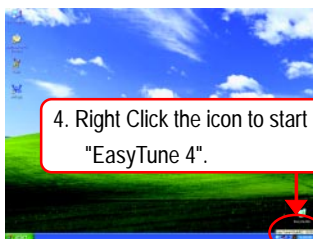
(5)

(6)

Acronyms

Acronyms	Meaning
ACPI	Advanced Configuration and Power Interface
APM	Advanced Power Management
AGP	Accelerated Graphics Port
AMR	Audio Modem Riser
ACR	Advanced Communications 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
FSB	Front Side Bus
HDD	Hard Disk Device
IDE	Integrated Dual Channel Enhanced
IRQ	Interrupt Request

Acronyms	Meaning
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture
LAN	Local Area Network
I/O	Input / Output
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
MIDI	Musical Instrument Digital Interface
MTH	Memory Translator Hub
MPT	Memory Protocol Translator
NIC	Network Interface Card
OS	Operating System
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

Technical Support/RMA Sheet

Customer/Country:		Company:		Phone No.:
Contact Person:		E-mail Add. :		

Model name/Lot Number:				PCB revision:
BIOS version:		O.S./A.S.:		

Hardware Configuration	Mfs.	Model name	Size:	Driver/Utility:
CPU				
Memory Brand				
Video Card				
Audio Card				
HDD				
CD-ROM / DVD-ROM				
Modem				
Network				
AMR / CNR				
Keyboard				
Mouse				
Power supply				
Other Device				

Problem Description:

_____

_____

Troubleshooting

If you encounter any trouble during boot up, please follow the troubleshooting procedures.

START

Turn off the power and unplug the AC power cable, then remove all of the add-on cards and cables from motherboard.

Please make sure motherboard & chassis are not short ? — Yes → Please isolate the short pin.

No

Failure has been excluded.

Please make sure all jumper settings (such as CPU system bus speed, frequency ratio, voltage and etc) are set properly. — No → Make sure the jumper setting are correct.

Yes

Failure has been excluded.

Check if the CPU cooling fan attached to CPU properly. Is CPU cooling fan power connected to CPU_FAN properly? — No → Plug the CPU cooling fan power in the CPU fan connector. Plug in the AC power connector.

Yes

Failure has been excluded.

Check if the memory install properly into the DIMM slot. — No → Insert and push the memory module vertically into the DIMM slot.

Yes

Failure has been excluded.

Insert the VGA card. Then plug in ATX power cable and turn on the system.

A

A

Is memory LED on and CPU fan running? — No → The problem could be caused by power supply, CPU, memory or CPU/memory socket itself.

Yes ← Failure has been excluded.

Check if there is display. — No → Perhaps your VGA card / VGA slot or monitor is defective.

Yes ← Failure has been excluded.

Turn off the system. Reboot after keyboard and mouse have been plugged in.

Check if keyboard is working properly. — No → It is possible that your keyboard or keyboard connector is defective.

Yes

Press <Del> to enter BIOS setup. Choose "Load Optimized Defaults" and save then exit setup. ← Failure has been excluded.

Turn off the system and re-connect the IDE cable. Check if the system can reboot successfully. — No → The problem was probably caused by the IDE device / connector or cable.

Yes

Reinstall Windows OS, and reinstall add-on cards and cables. Then try to reboot the system. ← Failure has been excluded.

END

If the above procedure unable to solve your problem, please contact with your local retailer or national distributor for help. Or, you could submit your question to the service mail via Gigabyte website technical support zone (http://www.gigabyte.com.tw). The appropriate response will be provided ASAP.