

GA-8IRX
P4 Titan DDR Motherboard

USER'S MANUAL

Pentium®4 Processor Motherboard
Rev. 2.0 Third Edition
12MD-8IRX-2003



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



Do not use AGP 2X card (3.3V) in this motherboard. It will burn and damage the motherboard due to Intel® 845 chipset can't support AGP 2X (3.3V).

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). If you install this card in GA-8IRX (or any AGP 4X only) motherboards without switching the jumper to 4X mode (1.5V), it will burn the motherboard.

Example 2: ATi Rage 128 Pro (Power Color) & SiS 305 golden finger is compatible with 2X/4X mode AGP slot, but it supports 2X (3.3V) only. If you install this card in GA-8IRX (or any AGP 4X only) motherboards, it will burn the motherboard.

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



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



- ✍ The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.
- ✍ Third-party brands and names are the property of their respective owners.
- ✍ Please do not remove any labels on motherboard, this may void the warranty of this motherboard.
- ✍ Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.



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

Miễn trách nhiệm: Không chạy máy vi tính nếu không gắn bộ tản nhiệt đúng cách và chắc chắn. **Sẽ dẫn đến hỏng hóc vĩnh viễn.**

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Advertencia: Nunca haga funcionar el procesador sin el disipador de calor instalado correctamente. **SE PRODUCIRÁ UN DAÑO PERMANENTE.**

Atenção: Nunca execute o processador sem o dissipador de calor está devidamente e firmemente conectado. **O RESULTADO SERÁ UM DANO PERMANENTE!**

警告: 处理器必须在安装散热器之前，正确运行处理器，否则将造成永久损坏！

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경고: 프로세서가 냉각기 및 견고히 부착되기 전에, 프로세서를 구동시키지 마십시오. 영구적 손상을 초래할 수 있습니다.

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Declaration of Conformity

We, Manufacturer/Importer
(full address)

G.B.T. Technology Trading GmbH
Ausschlagweg 41, 1F, 20537 Hamburg, Germany

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

Mother Board

GA-8IRX

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 5081-1 EN 5082-1	Generic emission standard Part 1: Residual commercial and light industry 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 5081-2	Generic emission standard Part 2: Industrial environment
EN 55020	Immunity from radio interference of broadcast receivers and associated equipment	EN 5082-2	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	EN 50091-2	EMC requirements for uninterruptible power systems (UPS)

CE marking



(EC conformity marking)

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

EN 60065	Safety requirements for mains operated electronic and related apparatus for household and similar general use	EN 60950
EN 60335	Safety of household and similar electrical appliances	EN 50091-1

Manufacturer/Importer

(S to mp)

Date: Oct 11, 2001

Signature: Timmy Huang
Name: Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)



Responsible Party **G.B.T. INC.**

Name: _____
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: Mother board

Model Number:GA-8IRX

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 interference received, including that may cause undesired operation.

Representative Person's Name: ERIC LU

Signature: Eric Lu

Date: Oct. 11, 2001

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
BBS	BIOS Boot Specification
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
I/O	Input / Output
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture

to be continued.....

Acronyms	Meaning
LAN	Local Area Network
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
MIDI	Musical Interface Digital Interface
MTH	Memory Translator Hub
MPT	Memory Protocol Translator
NIC	Network Interface Card
OS	Operating System
OEM	Original Equipment Manufacturer
PAC	PCI A.G.P. Controller
POST	Power-On Self Test
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
SCI	Special Circumstance Instructions
SECC	Single Edge Contact Cartridge
SRAM	Static Random Access Memory
SMP	Symmetric Multi-Processing
SMI	System Management Interrupt
USB	Universal Serial Bus
VID	Voltage ID

4)

Technical Support/RMA Sheet

Customer/ Country:	Company:	Phone No.:
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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:

4)



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CPU				
Memory				
Brand				
Video Card				
Audio Card				
HDD				
CD-ROM / DVD-ROM				
Modem				
Network				
AMR / CNR				
Keyboard				
Mouse				
Power supply				
Other Device				

Problem Description:

4)

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Item Checklist

- ✍ The GA-8IRX motherboard
- ✍ IDE cable x 1/ Floppy cable x 1
- ✍ CD for motherboard driver & utility (IUCD)
- ✍ GA-8IRX user's manual
- ✍ Quick PC Installation Guide
- ✍ USB Cable x 1



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 to 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 wire 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 22.8cm ATX size form factor, 4 layers PCB.
CPU	☞ Socket 478 for Intel® Micro FC-PGA2 Pentium® 4 processor ☞ Support Intel® Pentium® 4 (Northwood, 0.13um) processor ☞ Intel Pentium®4 400MHz FSB ☞ 2nd cache depend on CPU
Chipset	☞ Chipset 82845 HOS T/AGP/Controller ☞ 82801BA(ICH2) I/O Controller Hub
Memory	☞ 3 184-pin DDR DIMM sockets ☞ Supports PC1600 DDR or PC2100 DDR DIMM ☞ Supports up to 2GB DRAM (Max) ☞ Supports only 2.5V DDR DIMM ☞ Supports 64bit ECC type DRAM integrity mode
I/O Control	☞ IT8712
Slots	☞ 1 CNR(Communication and Networking Riser) Slot ☞ 1 AGP slot 4X (1.5V) device support ☞ 6 PCI slot supports 33MHz & PCI 2.2 compliant
On-Board IDE	☞ An IDE controller on the Intel 82801BA PCI chipset provides IDE HDD/CD-ROM with PIO, Bus Master (Ultra DMA33/ATA66/ATA100) operation modes. ☞ Can connect up to four IDE devices
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) ☞ 4 USB ports (Rear USB x 2, Front USB x 2) ☞ 1 SCR connector ☞ 1 IrDA connector for IR
Hardware Monitor	☞ CPU/Power/System Fan Revolution detect ☞ CPU/Power/System Fan Control ☞ CPU Overheat Warning ☞ System Voltage Detect

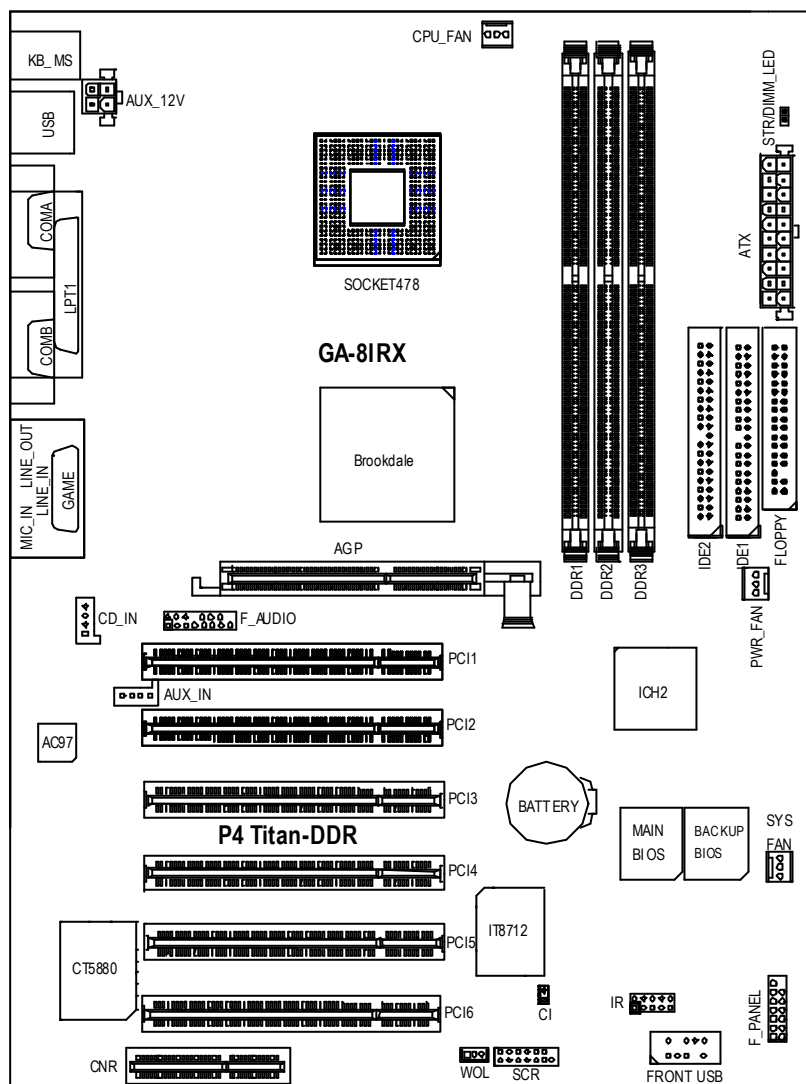
to be continued.....

On-Board Sound	☞ Creative CT5880 Sound Chipset + Sigmatel 9708T CODEC
	☞ Line In/Line Out/Mic In/CD In/AUX_IN/Game Port
PS/2 Connector	☞ PS/2 Keyboard interface and PS/2 Mouse interface
BIOS	☞ Licensed AWARD BIOS, 4M bit x 2 FWH
	☞ Supports Dual BIOS
Additional Features	☞ PS/2 Keyboard power on by password
	☞ PS/2 Mouse power on
	☞ External Modem wake up
	☞ STR(Suspend-To-RAM)
	☞ Wake on LAN
	☞ AC Recovery
	☞ USB KB/Mouse wake up from S3
	☞ Supports @BIOS
	☞ Supports Easy Tunell
	☞ Supports Multi Language
Special Features	☞ Over Voltage (DDR / AGP)
	☞ Over Clock (CPU / DDR)



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.

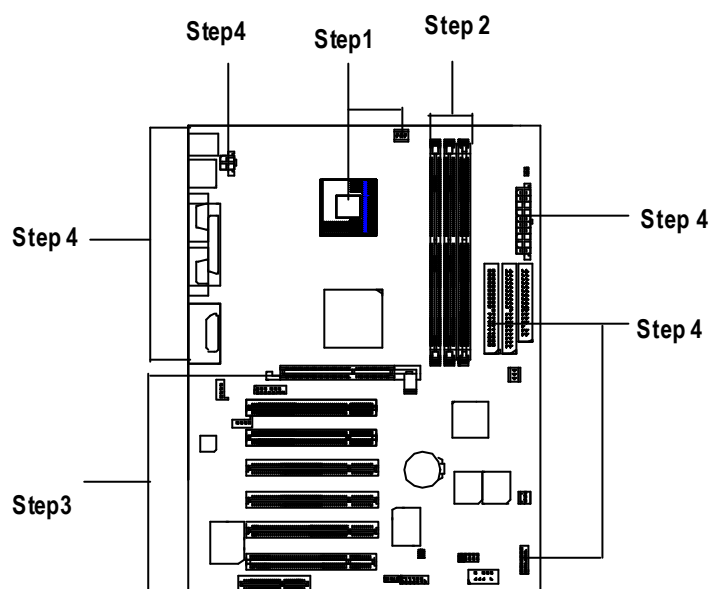
GA-8IRX Motherboard Layout



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

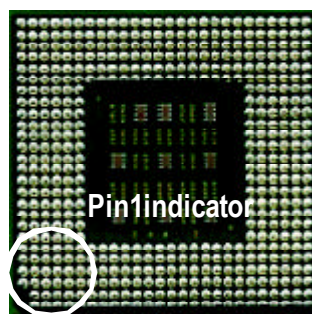


Step 1: Install the Central Processing Unit (CPU)

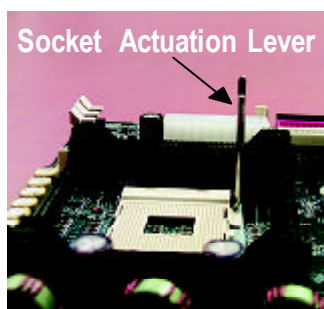
Step 1-1 CPU Installation



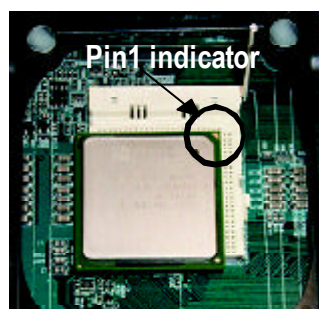
CPU Top View



CPU Bottom View



1. Pull up the CPU socket lever and up to 90-degree angle.
3. Press down the CPU socket lever and finish CPU installation.



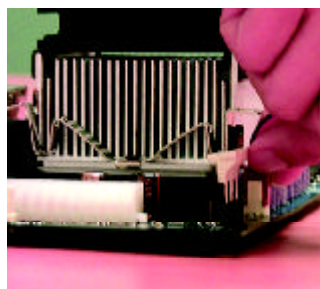
2. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.

- ✂ 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 along 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 3 dual inline memory module (DIMM) sockets, but it can only support a maximum of 4 banks of DDR memory. DDR slot 1 uses 2 banks, DDR slot 2&3 share the remaining 2 banks. Please refer to the following tables for possible memory configurations supported. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM Slot. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.

Total Memory Sizes With Unbuffered DDR DIMM

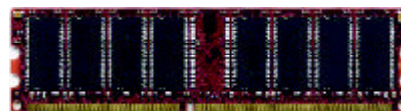
Devices used on DIMM	1 DIMM x 64 / x 72	2 DIMMs x 64 / x 72	3 DIMMs x 64 / x 72
64 Mbit (2Mx 8x 4 banks)	128MBytes	256MBytes	256MBytes
64 Mbit (1Mx 16x 4 banks)	32MBytes	64 MBytes	96 MBytes
128 Mbit (4Mx 8x 4 banks)	256MBytes	512MBytes	512MBytes
128 Mbit (2Mx 16x 4 banks)	64 MBytes	128MBytes	196MBytes
256 Mbit (8Mx 8x 4 banks)	512MBytes	1 GBytes	1 GBytes
256 Mbit (4Mx 16x 4 banks)	128MBytes	256MBytes	384MBytes
512 Mbit (16Mx 8x 4 banks)	1 GBytes	2 GBytes	2 GBytes
512 Mbit (8Mx 16x 4 banks)	256MBytes	512MBytes	768MBytes

Notes: Double-sided x 16 DDR memory devices are not support by Intel 845 chipset.

DDR1	DDR2	DDR3
S	S	S
D	S	S
D	D	X
D	X	D
S	D	X
S	X	D

D:Double Sided DIMM S:Single Sided DIMM

X:Not Use



DDR



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

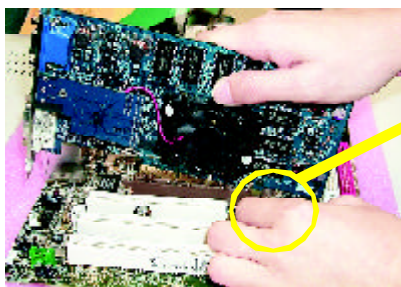


⚠ When STR/DIMM LED is ON, do not install/remove DIMM from socket.

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

Step 3: Install expansion cards

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.



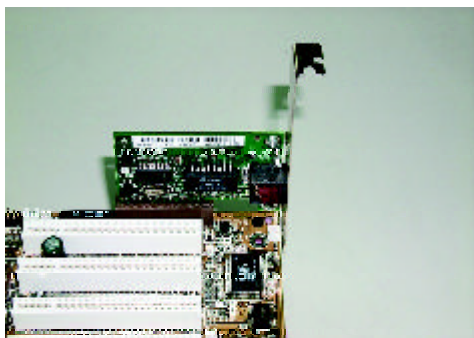
AGP Card



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.

Issues To Beware Of When Installing CNR

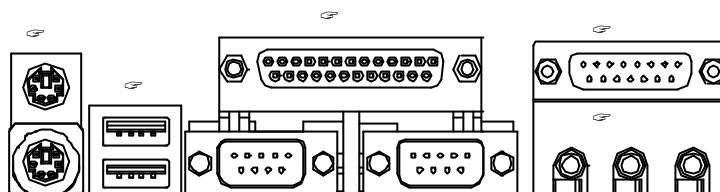
Please use standard CNR card like the one in order to avoid mechanical problem.



Standard CNR Card

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

Step 4-1 : I/O Back Panel Introduction



PS/2 Keyboard and PS/2 Mouse Connector

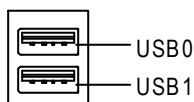


PS/2 Mouse Connector
(6 pin Female)

PS/2 Keyboard Connector
(6 pin Female)

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

USB Connector

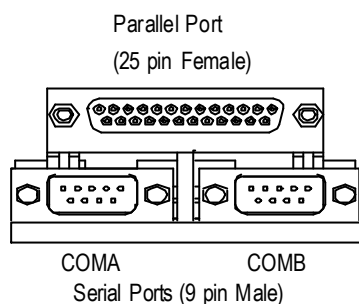


USB 0

USB 1

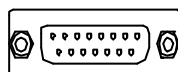
✎ Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker..etc. Have a standard USB interface. Also make sure your OS (Win 95 with USB supplement, Win98, Windows 2000, Windows ME, WinNT with SP 6) supports USB controller. 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.

☞ Parallel Port and Serial Ports (COMA/COMB)



☞ 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.

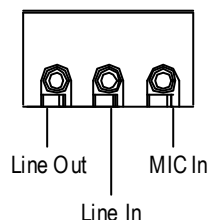
☞ Game/MIDI Ports



Joystick/ MIDI (15 pin Female)

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

☞ Audio Connectors



☞ After install onboard audio driver, you may connect speaker to Line Out jack, micro phone to MIC In jack. Device like C D-ROM , walkman etc can be connected to Line-In jack.

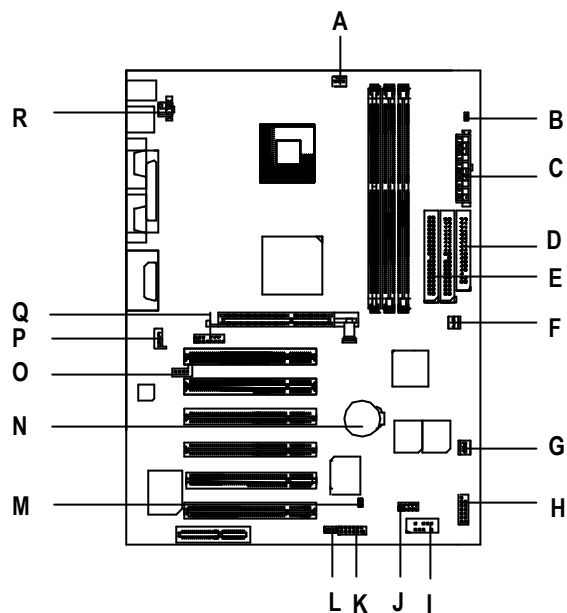
Please note: Line Out 1: Line Out or SPDIF (The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby digital decoder). To enable SPDIF, simply insert SPDIF connector into Line Out1. Line Out1 will become SPDIF Out automatically.

To enable Four Speaker (for Creative 5880 audio only), and Line In will become Line Out2 to support second pair of stereo speakers.



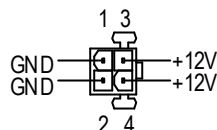
If you want to realize the “Four Speaker & SPDIF” setup information in detail, please download this manual from Gigabyte web <http://www.gigabyte.com.tw>.

Step 4-2 :Connectors Introduction

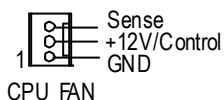


A) CPU_FAN	J) IR/CIR
B) STR/DIMM_LED	K) SCR
C) ATX	L) WOL
D) FLOPPY	M) CI
E) IDE1/IDE2	N) BAT
F) PWR_FAN	O) AUX_IN
G) SYS_FAN	P) CD_IN
H) F_PANEL	Q) F_AUDIO
I) FRONT_USB	R) AUX_12V

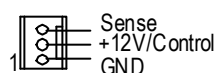
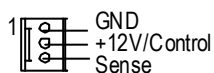
- R) AUX_12V(+12V Power Connector)** ✎ This connector (ATX +12V) is used only for CPU Core Voltage.



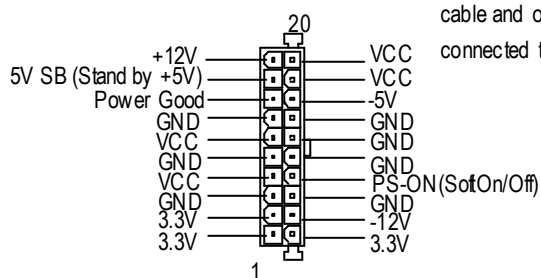
- A) CPU_FAN (CPU Fan Connector)** ✎ Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports Max. current up to 600mA .



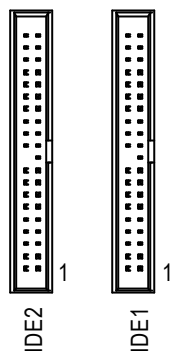
- F) PWR_FAN (PowerFan Connector)** **G) SYS_FAN (SystemFan Connector)**



- C) ATX (ATX Power Connector)** ✎ 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 mainboard.



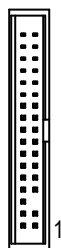
E) IDE1 / IDE2 Connector(Primary/Secondary]



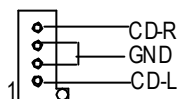
Important Notice:

Please connect first harddisk to IDE1
and connect CDROM to IDE2.

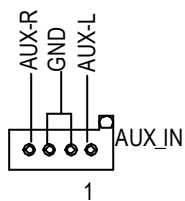
D) FLOPPY (Floppy Connector)



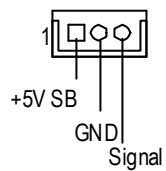
P) CD_IN (CD Audio Line In Connector)

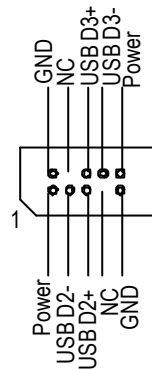


O) AUX_IN (AUX In Connector)



L) WOL(Wake on LAN)

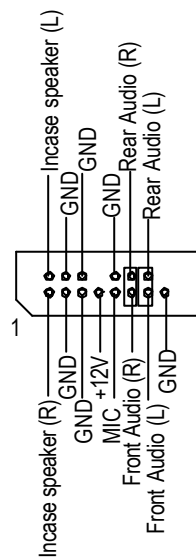


I) FRONT_USB (Front USB Connector)

⚠ Be careful with the polarity of the front panel USB connector. Check the pin assignment while you connect the front panel USB cable. Please contact your nearest dealer for optional front panel USB cable.

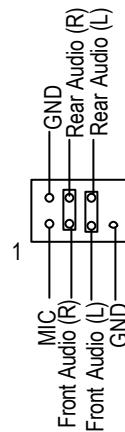
Q) F_AUDIO (F_AUDIO Connector)

There are two types of front audio connector, please refer to the tables below before you install.



Type1

⚠ If you want to use type 1-Front Audio connector, you must remove 11-12, 13-14 Jumper. If you want to use type 2-Front Audio connector, you must remove 3-4, 5-6 Jumper. In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assignment on the cable is the same as the pin assignment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer



Type2

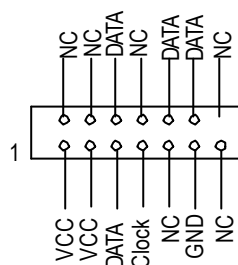
B) STR/DIMM_LED



STR/DIMM_LED

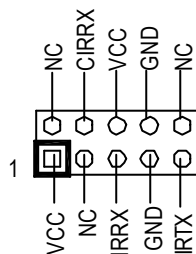
- Do not remove memory modules while DIMM LED is on. It might cause short or other unexpected damages due to the 2.5V stand by voltage. Remove memory modules only when STR function is disabled by jumper and AC Power cord is disconnected.

K) SCR (Smart Card Reader Header)



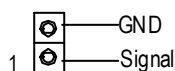
- This MB supports smart card reader. To enable smart card reader function an optional smart card reader box is required. Please contact your authorized distributor.

J) IR/CIR (IR/CIR)



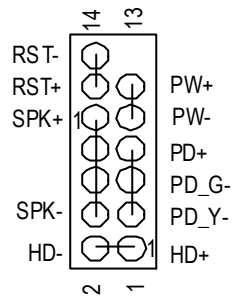
- Make sure the pin 1 on the IR device is aligning with pin one the connector. To enable the IR/CIR function on the board, you are required to purchase an option IR/CIR module. For detail information please contact your authorized Giga-Byte distributor.
- To use IR function only, please connect IR module to Pin1 to Pin5.

M) CI (CASE OPEN)



- This 2 pin connector allows your system to enable or disable the system alarm if the system case begin remove.

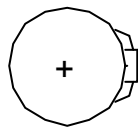
H) F_PANEL (2x7 pins jumper)



HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
SPK (Speaker Connector)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(-)
RST (Reset Switch)	Open: Normal Operation Close: Reset Hardware System
PD+/PD_G-/PD_Y-(Power LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-) Pin 3: LED cathode(-)
PW (Soft Power Connector)	Open: Normal Operation Close: Power On/Off

✍ 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.

N) BAT (Battery)

**CAUTION**

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

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

After power on the computer, pressing immediately during POST (Power On Self Test) it will allow you to enter standard BIOS CMOS 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.

GETTING HELP

Main Menu

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

Status Page Setup Menu / Option Page Setup Menu

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

The Main Menu

Once you enter Award BIOS CMOS Setup Utility, the Main Menu 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.

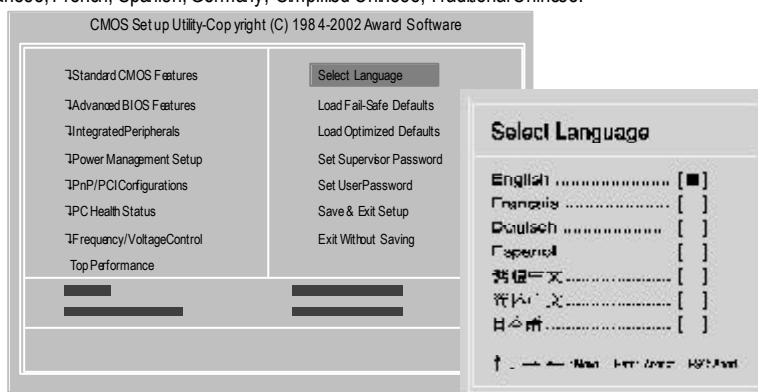
Dual BIOS / Q-Flash Utility

After power on the computer, pressing immediately during POST (Power On Self Test) it will allow you to enter Award BIOS CMOS SETUP, then press <F8> to enter Dual BIOS/Q-Flash utility. ***If you want to detail information for "Dual BIOS/Q-Flash Utility", please download this manual from Gigabyte web***

<http://www.gigabyte.com.tw>

Select Language

You can press <F3> to select multi language. There are 7 languages available, including English, Japanese, French, Spanish, Germany, Simplified Chinese, Traditional Chinese.





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.



Advanced Chips et Features

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

We would not suggest you change the chipset default setting unless you really need it.



Integrated Peripherals

This setup page includes all onboard peripherals.

*We would not suggest you change the default setting unless you really need it.
For power End-User use only.*



Power Management Setup

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

*We would not suggest you change the default setting unless you really need it.
For power End-User use only.*



PnP/PCI Configurations

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

*We would not suggest you change the default setting unless you really need it.
For power End-User use only.*



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.

For power End-User use only.



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

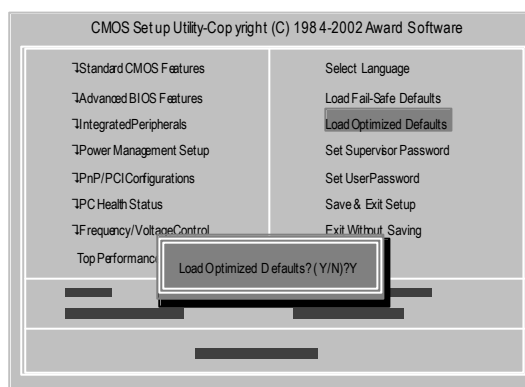
Save CMOS value settings to CMOS and exit setup.



Exit Without Saving

Abandon all CMOS value changes and exit setup.

Load Optimized Default

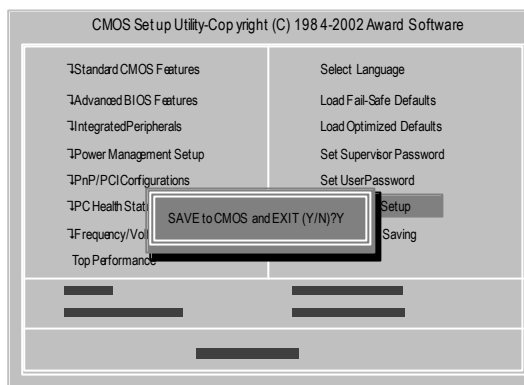


Load Optimized Defaults

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

To Load Optimized, move cursor, by pressing the arrow keys on the keyboard, to highlight the optimized default and press enter key then press "Y" if you decide to load this option.

Save & Exit Setup



✍ To save exit the BIOS setting screen press F10, and press "Y" if you want to save setting. By typing "N" or "ESC" will take you back to setup screen.



If you want to realize the BIOS setup information in detail, please download this manual from Gigabyte web <http://www.gigabyte.com.tw>.

Chapter 4 Driver Installation

Picture below are shown in Windows ME (IUCD driver version 1.9)

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, 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.

A. Installing Intel 845 Chipset Driver

Please install this driver as the first priority. this item installs the chipset driver utility that enables Plug-n-Play INF support for Intel chipset component.

B. Installing Sound Driver

Click this item to install sound driver.



A: Intel 845 Chipset Driver Installation

Follow the setup that showing on the screen to install the Utility.



A-1. Windows 9x/ME/2000/XP INF Update Utility
Click "Windows 9x/ME/2000/XP INF Update Utility" item.

A-2. Intel Ultra ATA Storage Driver
Click "Intel Ultra ATA Storage Driver" item.

B: Sound Driver Installation



Press "Audio" icon.

1. Click "Creative CT5880 Sound Driver" item.

GA-8IRX
P4 Titan DDR Motherboard

USER'S MANUAL

Pentium®4 Processor Motherboard
Rev. 2.0 Third Edition
12MD-8IRX-2003

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Item Checklist

- ✍ The GA-8IRX motherboard
- ✍ IDE cable x 1/ Floppy cable x 1
- ✍ CD for motherboard driver & utility (IUCD)
- ✍ GA-8IRX user's manual
- ✍ Quick PC Installation Guide
- ✍ USB Cable x 1



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 to 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 wire 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 22.8cm ATX size form factor, 4 layers PCB.
CPU	☞ Socket 478 for Intel® Micro FC-PGA2 Pentium® 4 processor ☞ Support Intel® Pentium® 4 (Northwood, 0.13um) processor ☞ Intel Pentium®4 400MHz FSB ☞ 2nd cache depend on CPU
Chipset	☞ Chipset 82845 HOS T/AGP/Controller ☞ 82801BA(ICH2) I/O Controller Hub
Memory	☞ 3 184-pin DDR DIMM sockets ☞ Supports PC1600 DDR or PC2100 DDR DIMM ☞ Supports up to 2GB DRAM (Max) ☞ Supports only 2.5V DDR DIMM ☞ Supports 64bit ECC type DRAM integrity mode
I/O Control	☞ IT8712
Slots	☞ 1 CNR(Communication and Networking Riser) Slot ☞ 1 AGP slot 4X (1.5V) device support ☞ 6 PCI slot supports 33MHz & PCI 2.2 compliant
On-Board IDE	☞ An IDE controller on the Intel 82801BA PCI chipset provides IDE HDD/CD-ROM with PIO, Bus Master (Ultra DMA33/ATA66/ATA100) operation modes. ☞ Can connect up to four IDE devices
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) ☞ 4 USB ports (Rear USB x 2, Front USB x 2) ☞ 1 SCR connector ☞ 1 IrDA connector for IR
Hardware Monitor	☞ CPU/Power/System Fan Revolution detect ☞ CPU/Power/System Fan Control ☞ CPU Overheat Warning ☞ System Voltage Detect

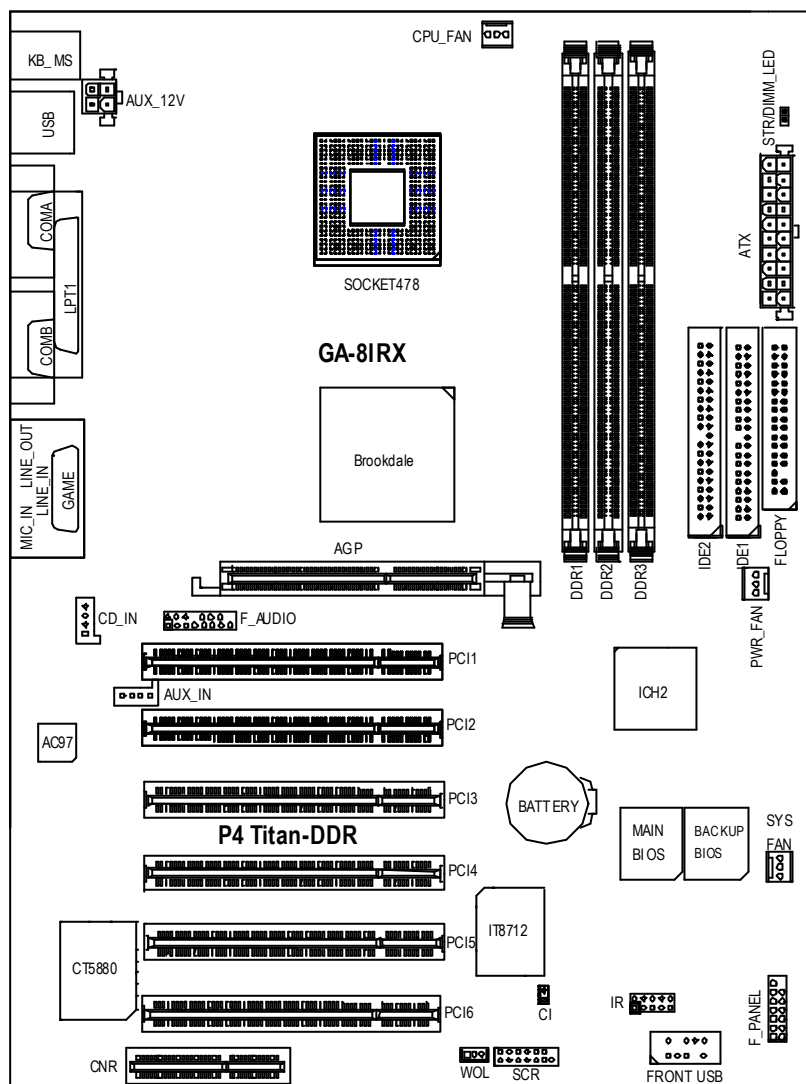
to be continued.....

On-Board Sound	☞ Creative CT5880 Sound Chipset + Sigmatel 9708T CODEC
	☞ Line In/Line Out/Mic In/CD In/AUX_IN/Game Port
PS/2 Connector	☞ PS/2 Keyboard interface and PS/2 Mouse interface
BIOS	☞ Licensed AWARD BIOS, 4M bit x 2 FWH
	☞ Supports Dual BIOS
Additional Features	☞ PS/2 Keyboard power on by password
	☞ PS/2 Mouse power on
	☞ External Modem wake up
	☞ STR(Suspend-To-RAM)
	☞ Wake on LAN
	☞ AC Recovery
	☞ USB KB/Mouse wake up from S3
	☞ Supports @BIOS
	☞ Supports Easy Tunell
	☞ Supports Multi Language
Special Features	☞ Over Voltage (DDR / AGP)
	☞ Over Clock (CPU / DDR)



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.

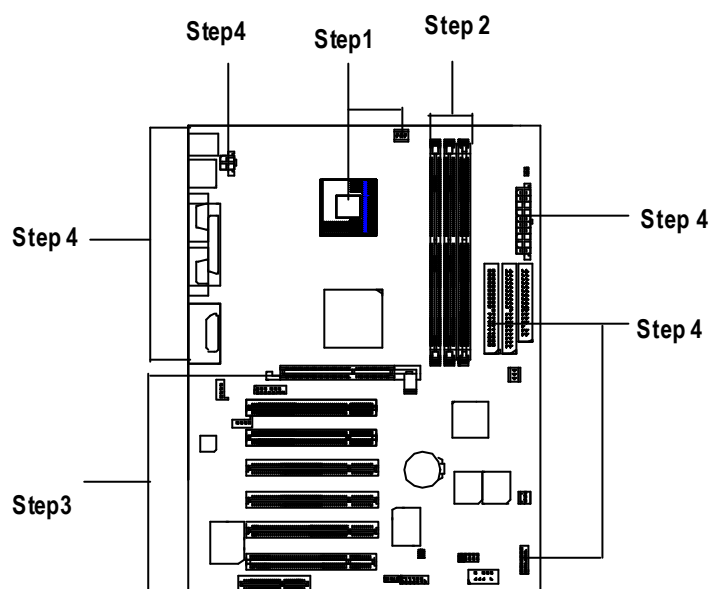
GA-8IRX Motherboard Layout



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

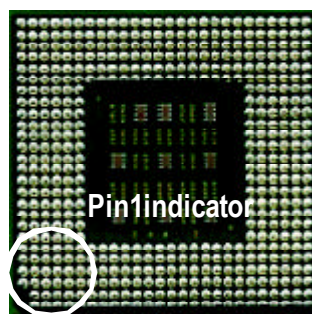


Step 1: Install the Central Processing Unit (CPU)

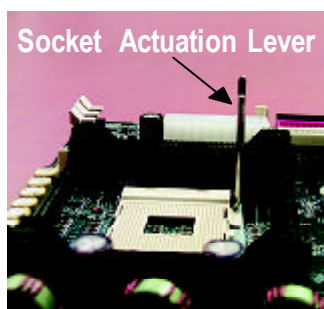
Step 1-1 CPU Installation



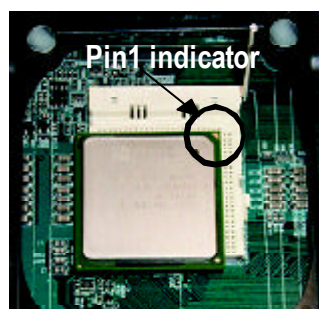
CPU Top View



CPU Bottom View



1. Pull up the CPU socket lever and up to 90-degree angle.
3. Press down the CPU socket lever and finish CPU installation.



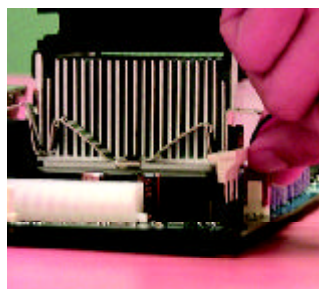
2. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.

- ✂ 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 along 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 3 dual inline memory module (DIMM) sockets, but it can only support a maximum of 4 banks of DDR memory. DDR slot 1 uses 2 banks, DDR slot 2&3 share the remaining 2 banks. Please refer to the following tables for possible memory configurations supported. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM Slot. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.

Total Memory Sizes With Unbuffered DDR DIMM

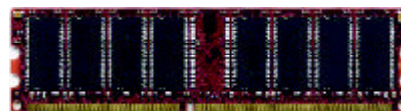
Devices used on DIMM	1 DIMM x 64 / x 72	2 DIMMs x 64 / x 72	3 DIMMs x 64 / x 72
64 Mbit (2Mx 8x 4 banks)	128MBytes	256MBytes	256MBytes
64 Mbit (1Mx 16x 4 banks)	32MBytes	64 MBytes	96 MBytes
128 Mbit (4Mx 8x 4 banks)	256MBytes	512MBytes	512MBytes
128 Mbit (2Mx 16x 4 banks)	64 MBytes	128MBytes	196MBytes
256 Mbit (8Mx 8x 4 banks)	512MBytes	1 GBytes	1 GBytes
256 Mbit (4Mx 16x 4 banks)	128MBytes	256MBytes	384MBytes
512 Mbit (16Mx 8x 4 banks)	1 GBytes	2 GBytes	2 GBytes
512 Mbit (8Mx 16x 4 banks)	256MBytes	512MBytes	768MBytes

Notes: Double-sided x 16 DDR memory devices are not support by Intel 845 chipset.

DDR1	DDR2	DDR3
S	S	S
D	S	S
D	D	X
D	X	D
S	D	X
S	X	D

D:Double Sided DIMM S:Single Sided DIMM

X:Not Use



DDR



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

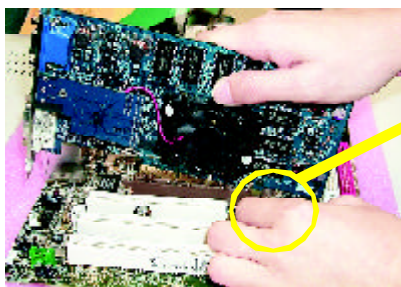


⚠ When STR/DIMM LED is ON, do not install/remove DIMM from socket.

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

Step 3: Install expansion cards

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.



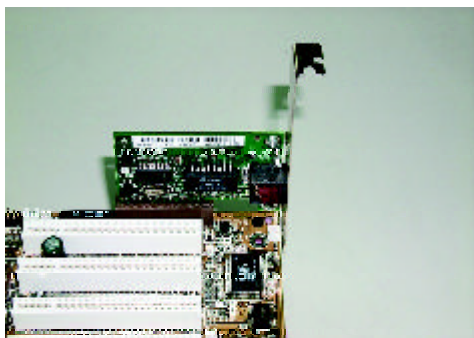
AGP Card



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.

Issues To Beware Of When Installing CNR

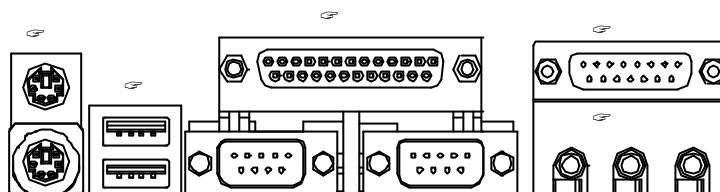
Please use standard CNR card like the one in order to avoid mechanical problem.



Standard CNR Card

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

Step 4-1 : I/O Back Panel Introduction



PS/2 Keyboard and PS/2 Mouse Connector

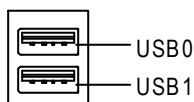


PS/2 Mouse Connector
(6 pin Female)

PS/2 Keyboard Connector
(6 pin Female)

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

USB Connector

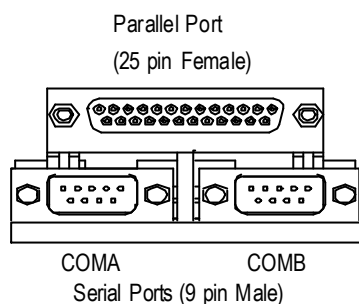


USB 0

USB 1

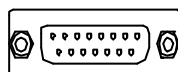
✎ Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker..etc. Have a standard USB interface. Also make sure your OS (Win 95 with USB supplement, Win98, Windows 2000, Windows ME, WinNT with SP 6) supports USB controller. 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.

☞ Parallel Port and Serial Ports (COMA/COMB)



☞ 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.

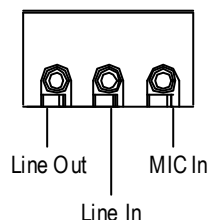
☞ Game/MIDI Ports



Joystick/ MIDI (15 pin Female)

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

☞ Audio Connectors



☞ After install onboard audio driver, you may connect speaker to Line Out jack, micro phone to MIC In jack. Device like C D-ROM , walkman etc can be connected to Line-In jack.

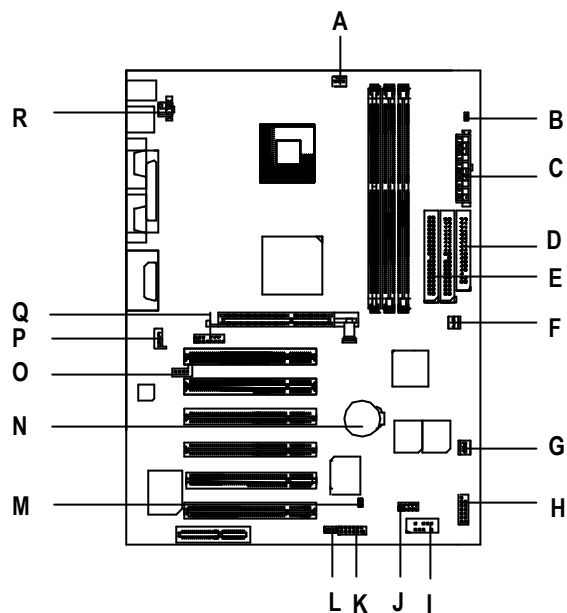
Please note: Line Out 1: Line Out or SPDIF (The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby digital decoder). To enable SPDIF, simply insert SPDIF connector into Line Out1. Line Out1 will become SPDIF Out automatically.

To enable Four Speaker (for Creative 5880 audio only), and Line In will become Line Out2 to support second pair of stereo speakers.



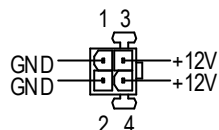
If you want to realize the “Four Speaker & SPDIF” setup information in detail, please download this manual from Gigabyte web <http://www.gigabyte.com.tw>.

Step 4-2 :Connectors Introduction

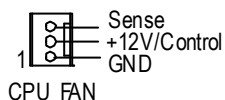


A) CPU_FAN	J) IR/CIR
B) STR/DIMM_LED	K) SCR
C) ATX	L) WOL
D) FLOPPY	M) CI
E) IDE1/IDE2	N) BAT
F) PWR_FAN	O) AUX_IN
G) SYS_FAN	P) CD_IN
H) F_PANEL	Q) F_AUDIO
I) FRONT_USB	R) AUX_12V

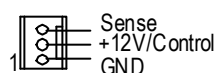
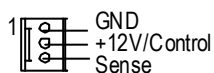
- R) AUX_12V(+12V Power Connector)** ✎ This connector (ATX +12V) is used only for CPU Core Voltage.



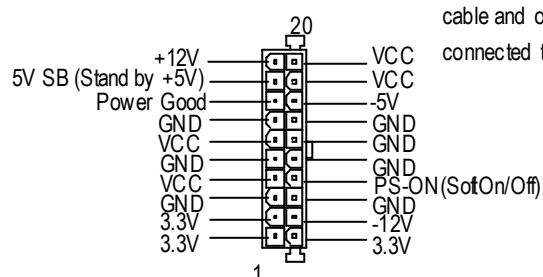
- A) CPU_FAN (CPU Fan Connector)** ✎ Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports Max. current up to 600mA .



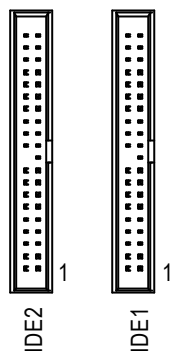
- F) PWR_FAN (Power Fan Connector)** **G) SYS_FAN (System Fan Connector)**



- C) ATX (ATX Power Connector)** ✎ 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 mainboard.



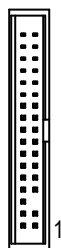
E) IDE1 / IDE2 Connector(Primary/Secondary]



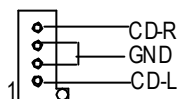
Important Notice:

Please connect first harddisk to IDE1
and connect CDROM to IDE2.

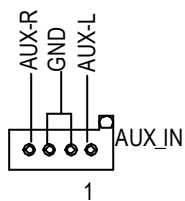
D) FLOPPY (Floppy Connector)



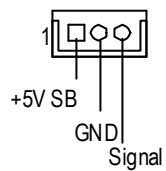
P) CD_IN (CD Audio Line In Connector)

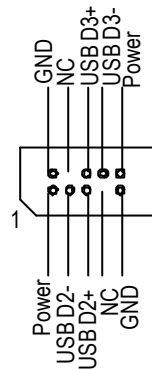


O) AUX_IN (AUX In Connector)



L) WOL(Wake on LAN)

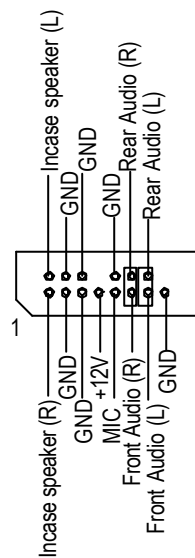


I) FRONT_USB (Front USB Connector)

⚠ Be careful with the polarity of the front panel USB connector. Check the pin assignment while you connect the front panel USB cable. Please contact your nearest dealer for optional front panel USB cable.

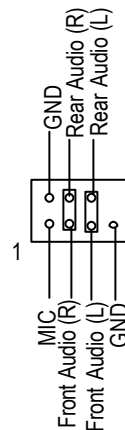
Q) F_AUDIO (F_AUDIO Connector)

There are two types of front audio connector, please refer to the tables below before you install.



Type1

⚠ If you want to use type 1-Front Audio connector, you must remove 11-12, 13-14 Jumper. If you want to use type 2-Front Audio connector, you must remove 3-4, 5-6 Jumper. In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assignment on the cable is the same as the pin assignment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer



Type2

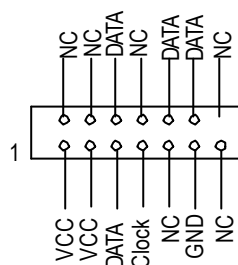
B) STR/DIMM_LED



STR/DIMM_LED

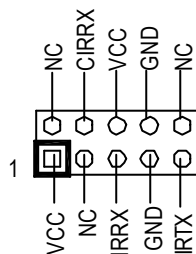
- Do not remove memory modules while DIMM LED is on. It might cause short or other unexpected damages due to the 2.5V stand by voltage. Remove memory modules only when STR function is disabled by jumper and AC Power cord is disconnected.

K) SCR (Smart Card Reader Header)



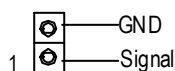
- This MB supports smart card reader. To enable smart card reader function an optional smart card reader box is required. Please contact your authorized distributor.

J) IR/CIR (IR/CIR)



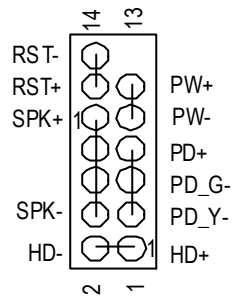
- Make sure the pin 1 on the IR device is aligning with pin one the connector. To enable the IR/CIR function on the board, you are required to purchase an option IR/CIR module. For detail information please contact your authorized Giga-Byte distributor.
- To use IR function only, please connect IR module to Pin1 to Pin5.

M) CI (CASE OPEN)



- This 2 pin connector allows your system to enable or disable the system alarm if the system case begin remove.

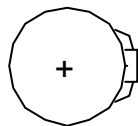
H) F_PANEL (2x7 pins jumper)



HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
SPK (Speaker Connector)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(-)
RST (Reset Switch)	Open: Normal Operation Close: Reset Hardware System
PD+/PD_G-/PD_Y-(Power LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-) Pin 3: LED cathode(-)
PW (Soft Power Connector)	Open: Normal Operation Close: Power On/Off

✍ 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.

N) BAT (Battery)

**CAUTION**

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

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

After power on the computer, pressing immediately during POST (Power On Self Test) it will allow you to enter standard BIOS CMOS 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.

GETTING HELP

Main Menu

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

Status Page Setup Menu / Option Page Setup Menu

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

The Main Menu

Once you enter Award BIOS CMOS Setup Utility, the Main Menu 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.

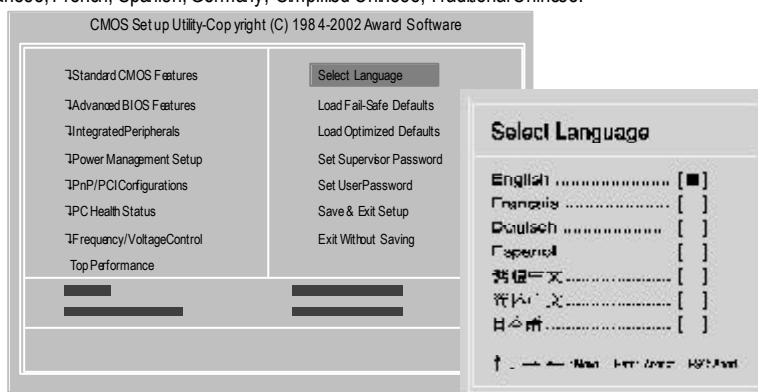
Dual BIOS / Q-Flash Utility

After power on the computer, pressing immediately during POST (Power On Self Test) it will allow you to enter Award BIOS CMOS SETUP, then press <F8> to enter Dual BIOS/Q-Flash utility. ***If you want to detail information for "Dual BIOS/Q-Flash Utility", please download this manual from Gigabyte web***

<http://www.gigabyte.com.tw>

Select Language

You can press <F3> to select multi language. There are 7 languages available, including English, Japanese, French, Spanish, Germany, Simplified Chinese, Traditional Chinese.





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.



Advanced Chips et Features

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

We would not suggest you change the chipset default setting unless you really need it.



Integrated Peripherals

This setup page includes all onboard peripherals.

*We would not suggest you change the default setting unless you really need it.
For power End-User use only.*



Power Management Setup

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

*We would not suggest you change the default setting unless you really need it.
For power End-User use only.*



PnP/PCI Configurations

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

*We would not suggest you change the default setting unless you really need it.
For power End-User use only.*



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.

For power End-User use only.



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

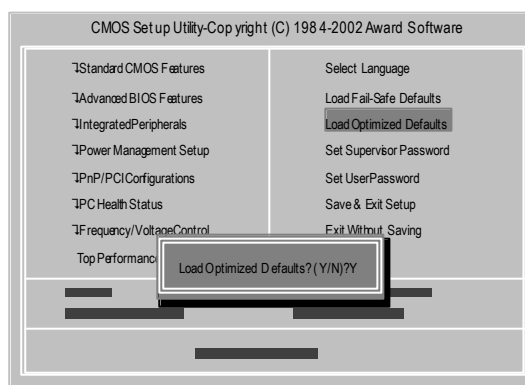
Save CMOS value settings to CMOS and exit setup.



Exit Without Saving

Abandon all CMOS value changes and exit setup.

Load Optimized Default

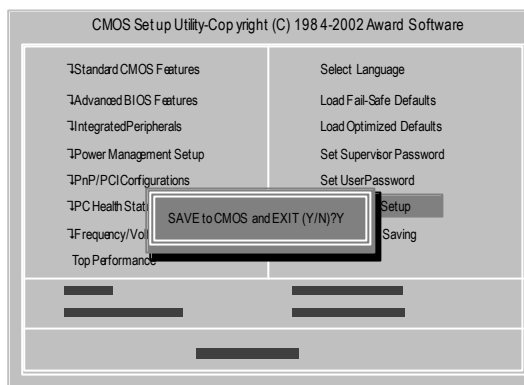


Load Optimized Defaults

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

To Load Optimized, move cursor, by pressing the arrow keys on the keyboard, to highlight the optimized default and press enter key then press "Y" if you decide to load this option.

Save & Exit Setup



✍ To save exit the BIOS setting screen press F10, and press "Y" if you want to save setting. By typing "N" or "ESC" will take you back to setup screen.



If you want to realize the BIOS setup information in detail, please download this manual from Gigabyte web <http://www.gigabyte.com.tw>.

Chapter 4 Driver Installation

Picture below are shown in Windows ME (IUCD driver version 1.9)

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, 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.

A. Installing Intel 845 Chipset Driver

Please install this driver as the first priority. this item installs the chipset driver utility that enables Plug-n-Play INF support for Intel chipset component.

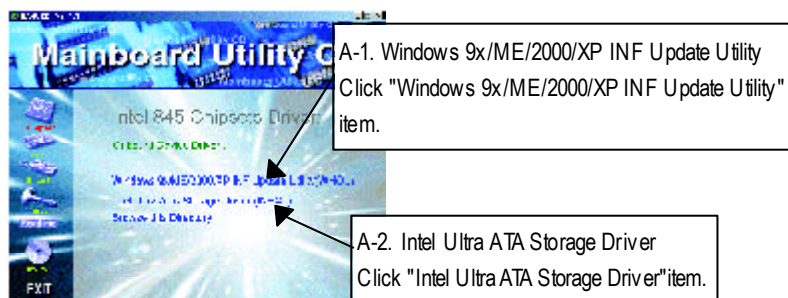
B. Installing Sound Driver

Click this item to install sound driver.



A: Intel 845 Chipset Driver Installation

Follow the setup that showing on the screen to install the Utility.



B: Sound Driver Installation

