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® 850 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-8ITML (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-8ITML (or any AGP 4X only) motherboards, it will burn the motherboard.

- The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to up date 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- Due to rapid change in technology, some of the specifications might be out of date before pwblicution of this booklet.

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)

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

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

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

hereby declares that the product

Product Name: Motherboard

Model Number: GA-8ITML

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: August 15,2001

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-8ITML
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**	
☐ **EN 60335**	Safety of household and similar electrical appliances	☐ **EN 50091-1**	

Manufacturer/Importer

(Stamp)

Date : August 15, 2001

Signature: Rex Lin
Name: Rex Lin

GA-8ITML

P4 Titan-RDRAM Motherboard

USER'S MANUAL

Pentium®4 Processor Motherboard

Rev. 1.01 Third Edition

12ME-8ITML-1013

Table of Content

Revision History

Revision	Revision Note	Date
1.01	Initial release of the GA-8ITML motherboard user's manual.	Sep.2001
1.01	Second release of the GA-8ITML motherboard user's manual.	Sep.2001
1.01	Third release of the GA-8ITML motherboard user's manual.	Oct.2001

Item Checklist

- ☑ The GA-8ITML motherboard
- ☑ IDE cable x 1/ Floppy cable x 1
- ☑ CD for motherboard driver & utility (IUCD)
- ☑ GA-8ITML user's manual
- ☑ I/O Shield
- ☑ CRIMM x 2

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

Summary of Features

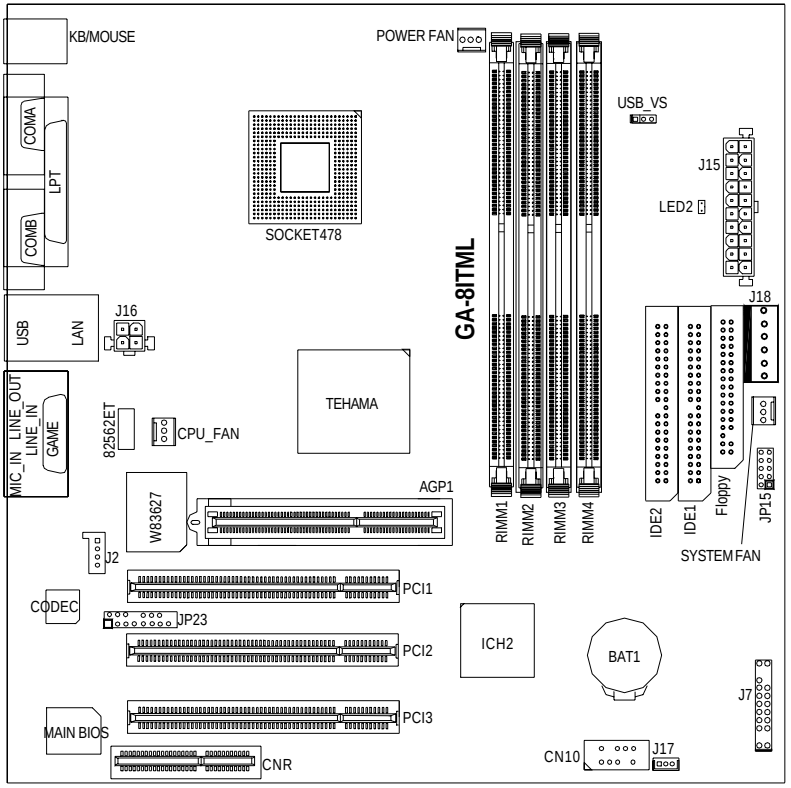
Form Factor	• 24.5cm x 24.3cm Micro ATX size form factor, 6 layers PCB.
CPU	• Socket 478 for Intel® Micro FC-PGA2 Pentium® 4 processor • Intel Pentium®4 400MHz FSB • 2nd Level cache depend on CPU
Chipset	• Chipset 82850 HOST/AGP/Controller • 82801BA(ICH2) I/O Controller Hub
Memory	• 4 184-pin RIMM Sockets • Dual direct RDRAM channel • Supports up to 2GB (Max)
I/O Control	• Winbond W83627HF
Slots	• 1 CNR(Communication and Networking Riser) Slot • 1 AGP support 4X(1.5V) device • 3 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 IrDA connector for IR/CIR
Hardware Monitor	• CPU/Power/System Fan Revolution detect • CPU/Power/System Fan Control • CPU Overheat Warning • System Voltage Detect

to be continued.....

On-Board LAN	• Build in KINNERETH 82562ET
On-Board Sound	• AC'97 CODEC • Line In/Line Out/Mic In/CD In/Game Port
PS/2 Connector	• PS/2 Keyboard interface and PS/2 Mouse interface
BIOS	• Licensed AMI BIOS, 2M bit FWH
Additional Features	• PS/2 Keyboard power on by password • PS/2 Mouse power on • STR(Suspend-To-RAM) • Wake on LAN • AC Recovery • USB KB/Mouse wake up from S3 • Supports @BIOS • Supports EasyTuneIII

💣 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-8ITML Motherboard Layout



Chapter 2 Hardware Installation Process

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

Step 1- Install the Central Processing Unit (CPU)

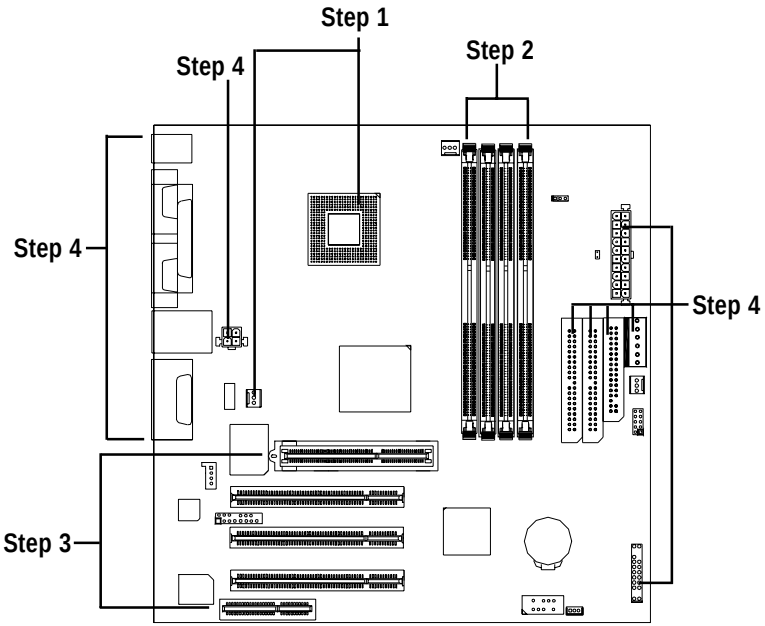
Step 2- Install memory modules

Step 3- Install expansion cards

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

Step 5- Setup BIOS software

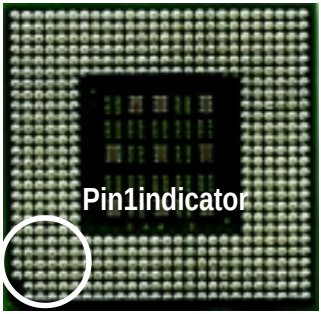
Step 6- Install supporting software tools



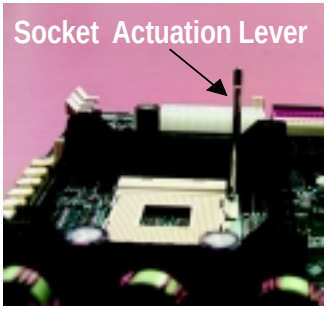
Step 1: Install the Central Processing Unit (CPU)

CPU Installation

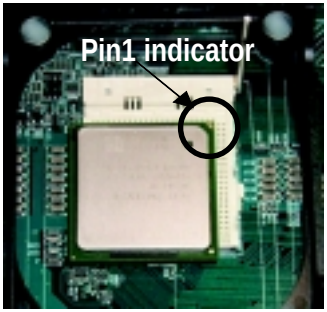
CPU Top View



CPU Bottom View



1. Pull up the CPU socket level and up to 90-degree angle.



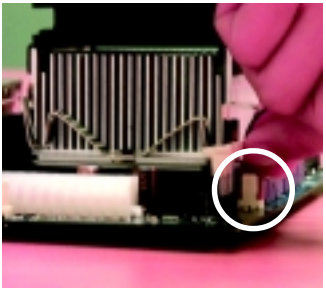
2. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.

3. Press down the CPU socket lever and finish CPU installation.

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

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.**

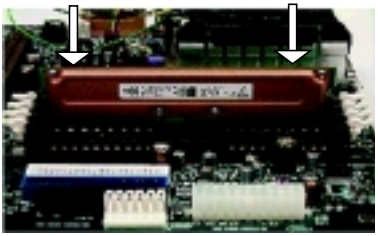
Step 2: Install memory modules

The motherboard has 4 Rambus In-line Memory Module (RIMM) sockets. The BIOS will automatically detect memory type and size. To install the memory module, just push it vertically into the RIMM Slot .The RIMM module can only fit in one direction due to the two notches. Please note; Both RIMM modules inserted on RIMM1 and RIMM2 slots are recommended to have the same size, frequency. If not, the larger sized module will l be automatically re-sized by BIOS to match the smaller sized module. The same rule applies to both RIMM3 and RIMM4 slots.
You can insert two RIMMs or four RIMMs into RIMM slots, but C-RIMM (Continuity RIMM) modules must be inserted into the empty slots.

RIMM

CRIMM

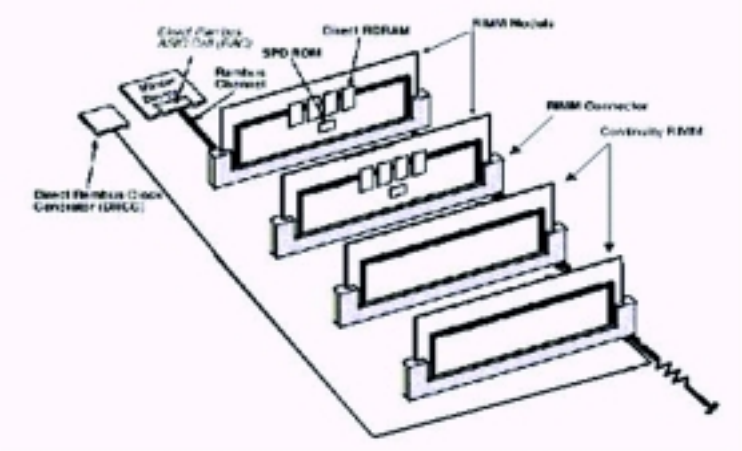
Check RIMM module if it is supported by the M/B.



Insert the RIMM module into the slot.

Push the ejector tab towards the RIMM.

When STR/RIMM LED is ON, you do not install / remove RDRAM from socket.



Introduce RIMM (Rambus In-line Memory Module)

Direct Rambus Memory Controller

⇨Directly support a Dual Direct Rambus * Channel

- Supports 300&400 MHz Direct Rambus * Channel @ 100MHz host bus frequency.
- Maximum memory array size up to 256MB using 64Mb/72Mb, 512MB using 128Mb/144Mb, 1GB using 256Mb/288Mb DRAM technology

⇨Supports up to 32 Direct Rambus devices per channel

⇨Supports a maximum DRAM address decode space of 4GB

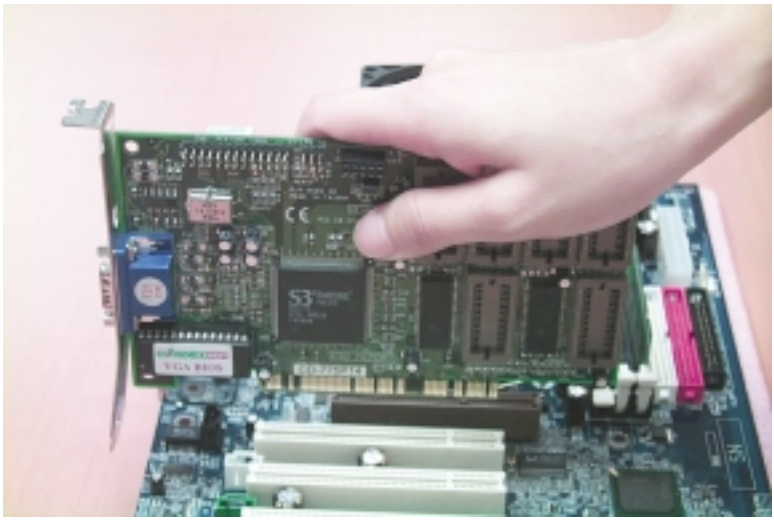
⇨Configurable optional ECC operation

- ECC with single bit Error Correction and multiple bit Error Detection
- Single bit errors corrected and written back to memory (auto-scrubbing)
- Parity mode not supported

APIC memory space in hardware. It is the BIOS or system designer's responsibility to limit DRAM population so that adequate PCI, AGP, High BIOS, and APIC memory space can be allocated.

Step 3: Install expansion cards

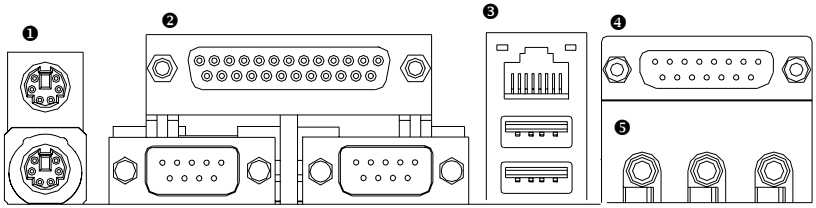
1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your computer's chassis cover, necessary screws and slot bracket from the computer.
3. Press the expansion card firmly into expansion slot in motherboard.
4. Be sure the metal contacts 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.



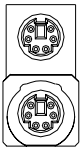
When you try to install VGA Card, please note that the motherboard only support AGP 4X(1.5V) VGA Card.

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

I/O Back Panel Introduction



❶ PS/2 Keyboard and PS/2 Mouse Connector



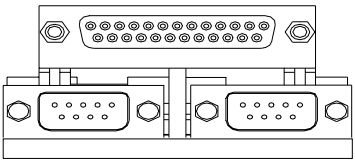
PS/2 Mouse Connector
(6 pin Female)

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)

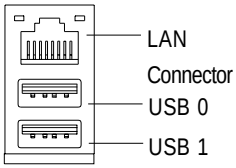
Parallel Port
(25 pin Female)



COMA COMB
Serial Ports (9 pin Male)

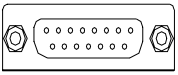
➢This connector supports 2 standard COM ports and 1 Parallel port. Device like printer can be connected to Parallel port ; mouse and modem etc can be connected to Serial ports.

❸ USB/LAN Connector



➢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, Win NT 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.

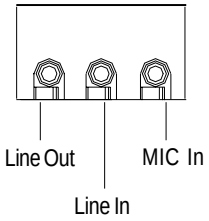
❹ Game /MIDI Ports



Joystick/ MIDI (15 pin Female)

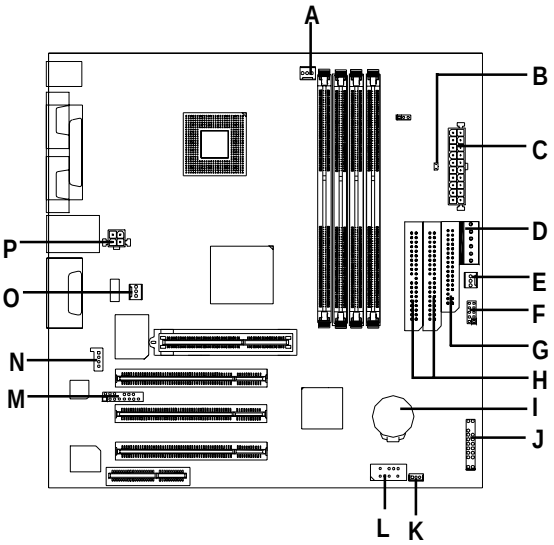
➢This connector supports joystick, MIDI keyboard and other relate audio devices.

❺ Audio Connectors



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

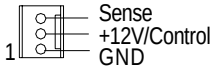
Connectors Introduction



A	POWER FAN	I	BATTERY
B	RIMM LED	J	Front Panel
C	ATX Power	K	Wake On Lan
D	AUX Power	L	Front USB
E	SYSTEM FAN	M	Front Audio
F	IR/CIR	N	CD IN
G	FLOPPY	O	CPU_FAN
H	IDE1/IDE2	P	AUX 12V Power

A / E / O : POWER FAN / SYSTEM FAN / CPU FAN Connector

POWER FAN



SYSTEM FAN

CPU_FAN

➢ The CPU fan connector supports Max. current up to 1A and Max. power up to 10W.

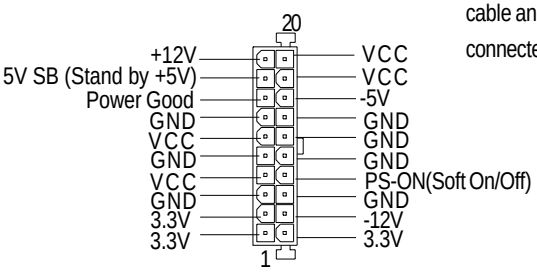
B: RIMM LED

RIMM LED

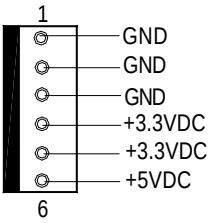
➢ Do not remove memory modules while RIMM LED is on. It might cause short or other unexpected damages due to the 2.5V stand by voltage. Remove memory modules only when STR function is disabled by jumper and AC Power cord is disconnected.

C: ATX Power

➢ 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.

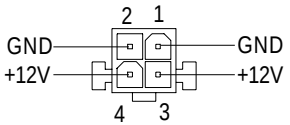


D: AUX Power



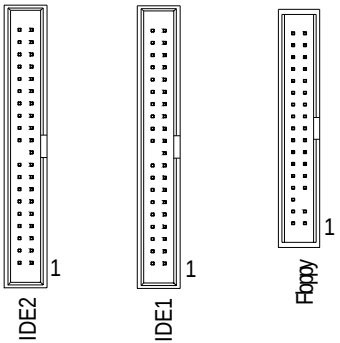
- The 6-pin Aux. Power connector provides additional current to meet the board's +3.3VDC and +5VDC requirments. Please refer to the detail on P.24

P: AUX +12V Power Connector

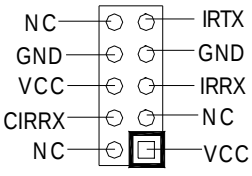


- This connector (ATX +12V) is used only for CPU Core Voltage.

G / H: Floppy / IDE1 / IDE2 Connector(Primary/Secondary)

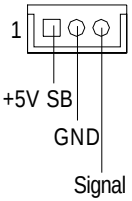


F: IR/CIR

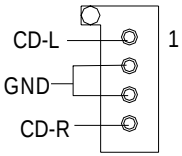


- Make sure the pin 1 on the IR device is aling with pin one the connector. To enable the IR/CIR function on the board, you are required to purchase an option IR/CIR module. For detail information please contact your autherized Giga-Byte distributor.
  To use IR function only, please connect IR module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

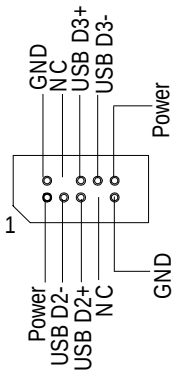
K: Wake On Lan



N: CD IN

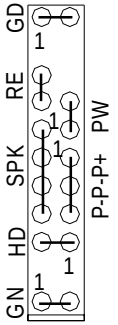


L: Front USB Connector



- 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.

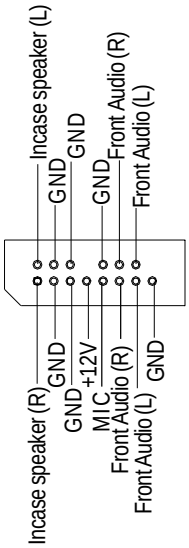
J: 2x11 pins jumper



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

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

M: Front Audio



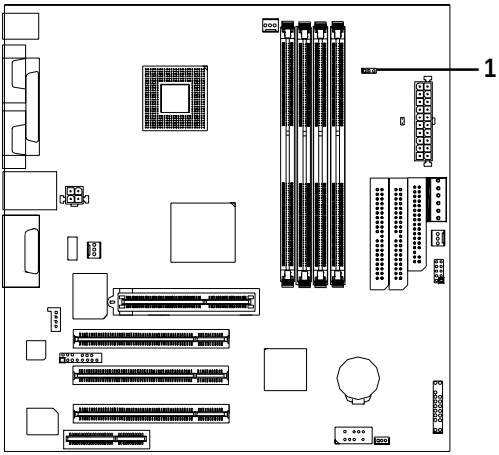
- If you want to use "Front Audio" connector, you must move 11-12,13-14 Jumper.
  In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer.

I: 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.

Jumper Setting



1 USB_VS

1: PS/2 USB Device Wake Up selection

1  1-2 close: Enable

1  2-3 close: Disable(Default)

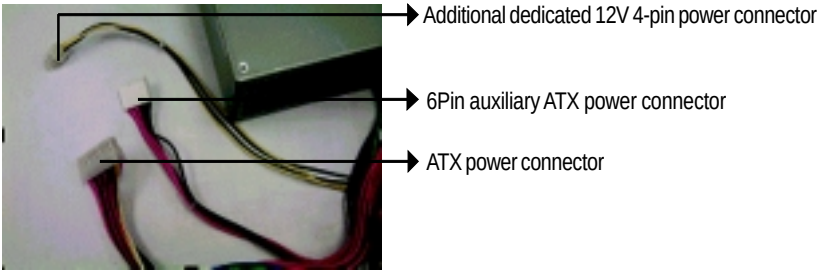
ATX 12V Power Supply Introduction

-Additional 4 pin connector for 12V voltage

-Backward compatibility maintained with load sharing capability

-Support 12V or 5V CPU VRs

Check power supply if it is supported by ATX12V Power Supply.



6 Pin Aux. Power Connector

Step1: In a 45° angle position, align the tooth of aux. Power cable onto the gird of aux. Power socket.

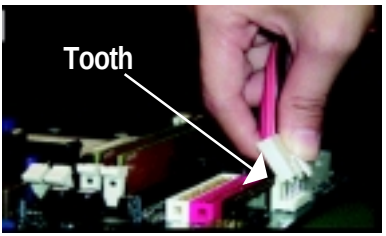


Figure 1

Step2: Insert the aux. Power cable downward.

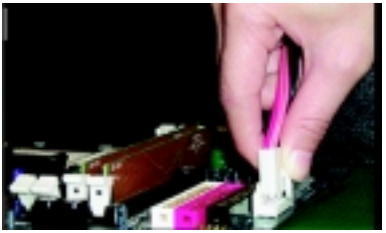


Figure 2

Step3: Properly installed shown below.

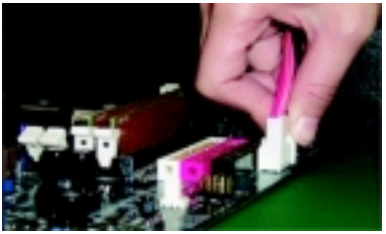


Figure 3

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.

ENTERINGSETUP

Power ON the computer and press <Del> immediately will allow you to enter Setup.

CONTROLKEYS

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

GETTINGHELP

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. :FA2)

Once you enter AMI BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from 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.

AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.24e
(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 CONFIGURATIONIDE	HDD AUTO DETECTION
LOAD FAIL-SAFE DEFAULTS	SAVE & EXIT SETUP
LOAD OPTIMIZED DEFAULTS	EXIT WITHOUT SAVING

ESC: Quit ↑↓→← : Select Item (Shift)F2 : Change Color F5: Old Values
F6: Load Fail-Safe Defaults F7: Load Optimized Defaults F10:Save & Exit

Time, Date , Hard Disk Type...

Figure 1: Main Menu

- **Standard CMOS Features**

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

- **BIOS Features Setup**

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

- **Chipset Features Setup**

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

- **Power Management Setup**

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

- **PNP/PCI Configurations**

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

- **Load Fail-Safe Defaults**

  Load Fail-Safe Defaults option loads preset system parameter values to set the system in its most stable configurations.

- **Load Optimized Defaults**

  Load Optimized Defaults option loads preset system parameter values to set the system in its highest performance configurations.

- **Integrated Peripherals**

  This setup page includes all onboard peripherals.

- **Hardware Monitor & MISC Setup**

  This setup page is auto detect fan and temperature status.

- **Set Supervisor password**

  Set Change or disable password. It allows you to limit access to the system and/or BIOS setup.

- **Set User password**

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

- **IDE HDD Auto Detection**

  Automatically configure hard disk parameters.

- **Save & Exit Setup**

  Save CMOS value settings to CMOS and exit setup.

- **Exit Without Saving**

  Abandon all CMOS value changes and exit setup.

Standard CMOS Features

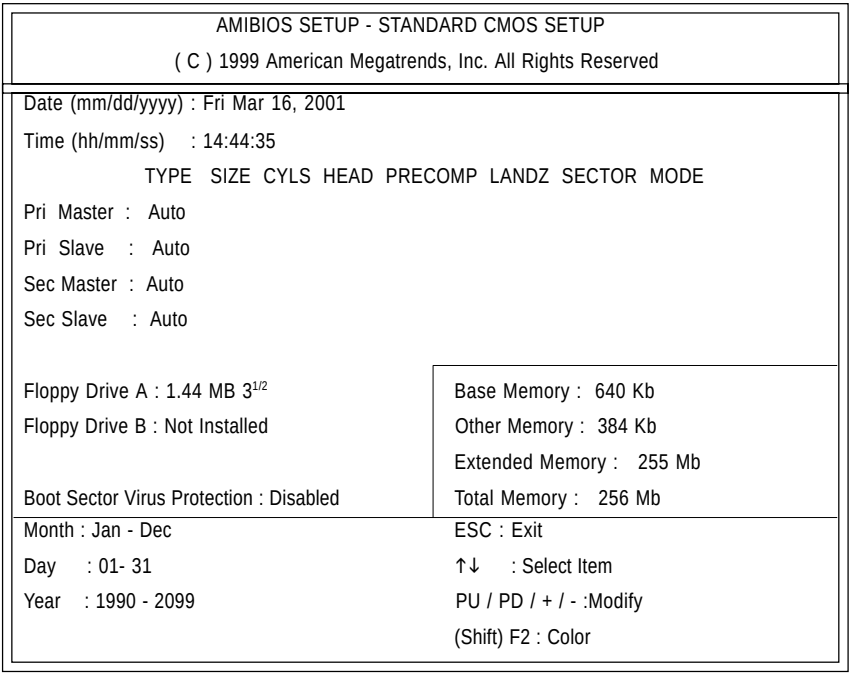


Figure 2: Standard CMOS Setup

☞Date

The date format is <week>, <month>, <day>, <year>.

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

☞Time

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

☞Primary Master, Slave / Secondary Master, Slave

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and 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.

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

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

☞Floppy Drive A / Drive B

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

⏩ None	No floppy drive installed
⏩ 360K, 5.25 in.	5.25 inch PC-type standard drive; 360K byte capacity.
⏩ 1.2M, 5.25 in.	5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled).
⏩ 720K, 3.5 in.	3.5 inch double-sided drive; 720K byte capacity
⏩ 1.44M, 3.5 in.	3.5 inch double-sided drive; 1.44M byte capacity.
⏩ 2.88M, 3.5 in.	3.5 inch double-sided drive; 2.88M byte capacity.

☞Boot Sector Virus Protection

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

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

☞Memory

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

Base Memory

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

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

Other Memory

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

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

Extended Memory

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1 MB in the CPU's memory address map.

BIOS Features Setup

AMIBIOS SETUP - BIOS FEATURES SETUP (C) 1999 American Megatrends, Inc. All Rights Reserved		
BIOS Flash Protection	: Auto	
1st Boot Device	: Floppy	
2nd Boot Device	: IDE-0	
3rd Boot Device	: CDROM	
Floppy Drive Seek	: Disabled	
BootUp Num-Lock	: On	
Password Check	: Setup	ESC: Quit ↑↓→←: Select Item
S.M.A.R.T. for Hard Disks	: Disabled	F1 : Help PU/PD+/-/ : Modify
		F5 : Old Values (Shift)F2: Color
		F6 : Load Fail-Safe Defaults
		F7 : Load Optimized Defaults

Figure 3: BIOS Features Setup

☞BIOS Flash Protection

- ⏩Auto — Will be automatically detected by BIOS. (Default value)
- ⏩Enabled — Enable BIOS Flash Protection. This will prevent BIOS Flash write after POST.

☞1st / 2nd / 3rd Boot device

- ⏩Floppy — Select your boot device priority by Floppy.
- ⏩ZIP A:/LS120 — Select your boot device priority by ZIP A:/LS120.
- ⏩ATAPI ZIP C: — Select your boot device priority by ATAPI ZIP C:.
- ⏩CDROM — Select your boot device priority by CDROM.
- ⏩SCSI — Select your boot device priority by SCSI.
- ⏩NETWORK — Select your boot device priority by NETWORK.
- ⏩Disabled — Disable this function.
- ⏩IDE-0~3 — Select your boot device priority by IDE-0~3.

☞Floppy Drive Seek

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

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

☞Boot Up NumLock

- ⏩On Keypad is number keys. (Default value)
- ⏩Off Keypad is arrow keys.

☞Password Check

Please refer to the detail on P.52

- ⏩Always The user must enter correct password in order to access the system and/or BIOS Setup.
- ⏩Setup The user must enter correct password in order to access BIOS setup utility. (Default Value)

☞HDD S.M.A.R.T Capability

- ⏩Enabled Enable HDD S.M.A.R.T. Capability.
- ⏩Disabled Disable HDD S.M.A.R.T. Capability. (Default value)

Chipset Features Setup

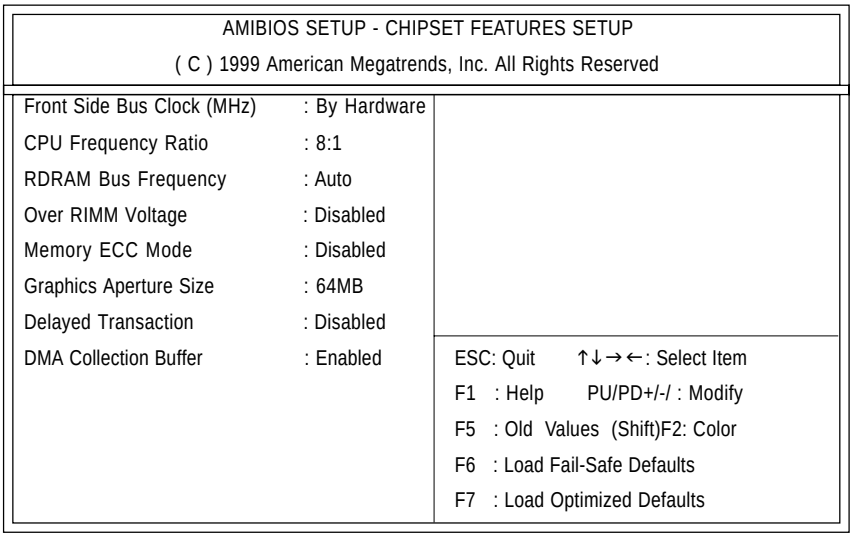


Figure 4: Chipset Features Setup

☞Front Side Bus Clock (MHz)

When set to "By Hardware", the FSB clock frequency will be set to 100MHz. You may also set FSB clock by BIOS. For power End-User use only.

- ⏩ By Hardware — Set Front Side Bus Clock (MHz) to By Hardware. (Default Value)
- ⏩ 100.00 — Set Front Side Bus Clock (MHz) to 100.00.
- ⏩ 103.00 — Set Front Side Bus Clock (MHz) to 103.00.
- ⏩ 105.00 — Set Front Side Bus Clock (MHz) to 105.00.
- ⏩ 108.00 — Set Front Side Bus Clock (MHz) to 108.00.
- ⏩ 110.00 — Set Front Side Bus Clock (MHz) to 110.00.
- ⏩ 112.00 — Set Front Side Bus Clock (MHz) to 112.00.
- ⏩ 115.00 — Set Front Side Bus Clock (MHz) to 115.00.
- ⏩ 118.00 — Set Front Side Bus Clock (MHz) to 118.00.
- ⏩ 120.00 — Set Front Side Bus Clock (MHz) to 120.00.
- ⏩ 133.33 — Set Front Side Bus Clock (MHz) to 133.33.

☞CPU Frequency Ratio

⏩8:1, 10:1~24:1 (Default Value: 8:1)

☞RDRAM Bus Frequency

⏩Auto Set RDRAM Bus Frequency automatically. (Default Value)
⏩400MHz Set RDRAM Bus Frequency to 400MHz. (If the current RDRAM is supported)
⏩300MHz Set RDRAM Bus Frequency to 300MHz. (If the current RDRAM is supported)

☞Over RIMM Voltage

⏩Disabled Disable this funciton. (Default Value)
⏩Enabled Enable Over RIMM Voltage function.

☞Memory ECC Mode

⏩Enabled Enable Memory Data Check ECC Mode.
⏩Disabled Disable this function. (Default Value)

☞Graphics Aperture

⏩4 MB Display Graphics Aperture Size is 4MB.
⏩8 MB Display Graphics Aperture Size is 8MB.
⏩16 MB Display Graphics Aperture Size is 16MB.
⏩32 MB Display Graphics Aperture Size is 32MB.
⏩64 MB Display Graphics Aperture Size is 64MB. (Default Value)
⏩128 MB Display Graphics Aperture Size is 128MB.
⏩256 MB Display Graphics Aperture Size is 256MB.

☞Delayed Transaction

- ⏩Enabled Enable PCI 2.1 features including release and delayed transaction for the chipset.
- ⏩Disabled Disable this function. (Default Value)

☞DMA Collection Buffer

- ⏩Enabled Enable DMA collection buffer for LPC I/F and PC/PCI DMA.(Default Value)
- ⏩Disabled Disable this function.

Power Management Setup

AMIBIOS SETUP - POWER MANAGEMENT SETUP (C) 1999 American Megatrends, Inc. All Rights Reserved			
ACPI Sleep Type	: S1/POS	PIRQ[B] IRQ Active	: Ignore
USB Dev Wakeup From S3	: Disabled	PIRQ[C] IRQ Active	: Ignore
Suspend Time Out (Minute)	: Disabled	PIRQ[D] IRQ Active	: Ignore
Throttle Slow Clock Ratio	: 50.0%		
Soft-Off by Power Button	: Instant Off		
System After AC Back	: Off		
ModemRingOn/WakeOnLan	: Enabled		
PME Event Wake Up	: Enabled		
Resume by RTC Alarm	: Disabled		
RTC Alarm Date	: Event Day		
RTC Alarm Hour	: 00		
RTC Alarm Minute	: 00		
RTC Alarm Second	: 00		
KB & PS/2 Mouse Access	: Monitor		
FDC/LPT/COM Ports Access	: Monitor		
Pri. Master IDE Access	: Monitor	ESC: Quit	↑↓→←: Select Item
Pri. Slave IDE Access	: Ignore	F1	: Help PU/PD+/-/ : Modify
Sec. Master IDE Access	: Monitor	F5	: Old Values (Shift)F2: Color
Sec. Slave IDE Access	: Ignore	F6	: Load Fail-Safe Defaults
PIRQ[A] IRQ Active	: Ignore	F7	: Load Optimized Defaults

Figure 5: Power Management Setup

☞ACPI Sleep Type

- ⏩S1/POS Set ACPI Sleep Type to S1/POS (Power On Suspend). (Default value)
- ⏩S3/STR Set ACPI Sleep Type to S3/STR (Suspend To RAM).

☞USB Dev Wakeup From S3

- ⏩Enabled Enable USB Device Wakeup From S3.
- ⏩Disabled Disable USB Device Wakeup From S3. (Default value)

☞Suspend Time Out

- ⏩Disabled Disable the timer to enter suspend mode. (Default Value)
- ⏩1Minute ~ 60 Minute Set the timer to enter suspend mode.

☞Throttle Slow Clock Ratio

- ⏩12.5%/25.0%/37.5%/50.0% (Default Value)/62.5%/75.0%/87.5%

☞Soft-off by Power Button

- ⏩Instant off The user press the power button once, he can turn off the system. (Default Value)
- ⏩Suspend The user press the power button once, then he can enter suspend mode.

☞System after AC Back

- ⏩Off When AC-power back to the system, the system will be in "Off" state. (Default Value)
- ⏩On When AC-power back to the system, the system will be in "On" state.
- ⏩Last State When AC-power back to the system, the system will return to the Last state before AC-power off.

☞ModemRingOn/WakeOnLan

- ⏩Disabled Disable Modem Ring On / Wake On LAN function.
- ⏩Enabled The modem ring / LAN wake up will bring the system out of soft-off or suspend state if this option is set "Enabled". (Default Value)

☞PME Event Wake up

- ⏩Disabled Disable PME event wake up function.
- ⏩Enabled The PME event wake up will bring the system out of soft-off or suspend state if this option is set "Enabled". (Default Value)

☞Resume by RTC Alarm

You can set "Resume by RTC 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 Resume by RTC Alarm is Enabled.

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

☞KB & PS/2 Mouse Access

- ⏩Monitor Monitor Keyboard & PS/2 Mouse Access. (Default Value)
- ⏩Ignore Ignore Keyboard & PS/2 Mouse Access.

☞FDC/LPT/COM Ports Access

- ⏩Monitor Monitor FDC/LPT/COM Ports Access. (Default Value)
- ⏩Ignore Ignore FDC/LPT/COM Ports Access.

☞Pri. Master IDE Access

- ⏩Monitor Monitor Primary Master IDE Access. (Default Value)
- ⏩Ignore Ignore Primary Master IDE Access.

☞Pri. slave IDE Access

- ⏩Monitor Monitor Primary slaveIDE Access.
- ⏩Ignore Ignore Primary slave IDE Access. (Default Value)

☞Sec. Master IDE Access

- ⏩Monitor — Monitor Secondary Master IDE Access. (Default Value)
- ⏩Ignore — Ignore Secondary Master IDE Access.

☞Sec. slave IDE Access

- ⏩Monitor — Monitor Secondary slave IDE Access.
- ⏩Ignore — Ignore Secondary slave IDE Access.(Default Value)

☞PIRQ[A] IRQ Active

- ⏩Monitor — Monitor PIRQ[A] IRQ Active.
- ⏩Ignore — Ignore PIRQ[A] IRQ Active. (Default Value)

☞PIRQ[B] IRQ Active

- ⏩Monitor — Monitor PIRQ[B] IRQ Active.
- ⏩Ignore — Ignore PIRQ[B] IRQ Active. (Default Value)

☞PIRQ[C] IRQ Active

- ⏩Monitor — Monitor PIRQ[C] IRQ Active.
- ⏩Ignore — Ignore PIRQ[C] IRQ Active. (Default Value)

☞PIRQ[D] IRQ Active

- ⏩Monitor — Monitor PIRQ[D] IRQ Active.
- ⏩Ignore — Ignore PIRQ[D] IRQ Active. (Default Value)

PNP/PCI Configuration

AMIBIOS SETUP - PNP/PCI CONFIGURATION (C) 1999 American Megatrends, Inc. All Rights Reserved		
Reset Configuration Data	: Disabled	
VGA Boot From	: AGP	
PCI Slot 1 IRQ Priority	: Auto	
PCI Slot 2 IRQ Priority	: Auto	
PCI Slot 3 IRQ Priority	: Auto	
IRQ3	: PCI/PnP	
IRQ4	: PCI/PnP	
IRQ5	: PCI/PnP	
IRQ7	: PCI/PnP	
IRQ9	: PCI/PnP	
IRQ10	: PCI/PnP	ESC: Quit ↑↓→←: Select Item
IRQ11	: PCI/PnP	F1 : Help PU/PD+/-/ : Modify
IRQ14	: PCI/PnP	F5 : Old Values (Shift)F2: Color
IRQ15	: PCI/PnP	F6 : Load Fail-Safe Defaults
		F7 : Load Optimized Defaults

Figure 6: PNP/PCI Configuration

☞Reset Configuration Data

Advising BIOS clear PnP configuration data for usable value.

- ⏩Disabled Disable this function. (Default Value)
- ⏩Enabled Reset PnP configuration data in order to re-initialize ESCD for PnP device.

☞VGA Boot From

- ⏩AGP Set VGA Boot from AGP VGA Card. (Default Value)
- ⏩PCI Set VGA Boot from PCI VGA Card.

☞PCI Slot1, 2, 3 IRQ Priority

- ⏩Auto — The system will reserved a free IRQ for PCI slot 1, 2, 3 device. (Default Value)
- ⏩3 — The system will reserved IRQ3 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ3.
- ⏩4 — The system will reserved IRQ for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ4.
- ⏩5 — The system will reserved IRQ5 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ5.
- ⏩7 — The system will reserved IRQ7 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ7.
- ⏩9 — The system will reserved IRQ9 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ9.
- ⏩10 — The system will reserved IRQ10 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ10.
- ⏩11 — The system will reserved IRQ11 for PCI slot 1, 2, 3 device if no legacy ISA device using IRQ11.

☞IRQ (3,4,5,7,9,10,11,14,15)

- ⏩ISA — The resource reserved for Legacy ISA device.
- ⏩PCI / PnP — The resource can be assigned to PCI/ PnP device.

Load Fail-Safe Defaults

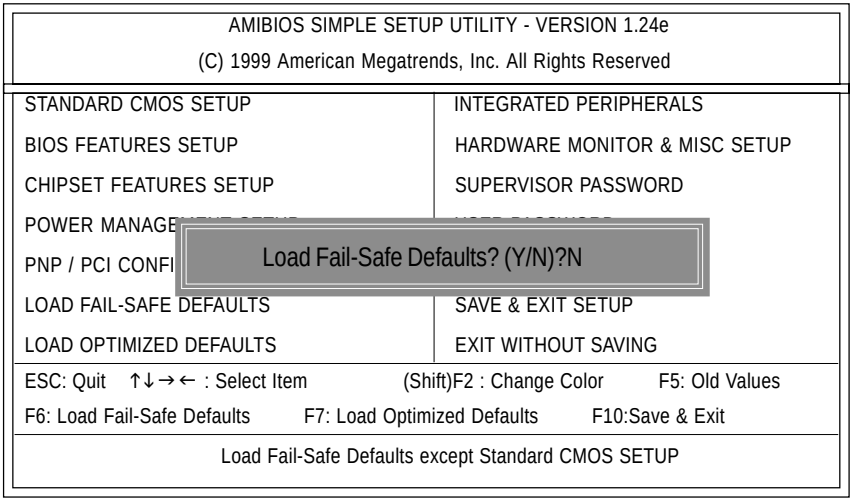


Figure 7: Load Fail-Safe Defaults

☞Load Fail-Safe Defaults

Fail-Safe defaults contain the most appropriate system parameter values of to configure the system to achieve maximum stability.

Load Optimized Defaults

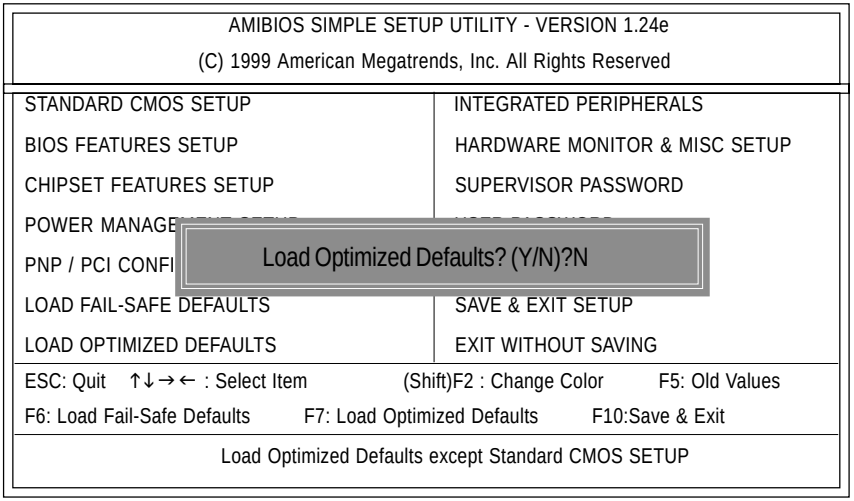


Figure 8: Load Optimized Defaults

☞Load Optimized Defaults

Optimized defaults contain the most appropriate system parameter values to configure the system to achieve maximum performance.

Integrated Peripherals

AMIBIOS SETUP - INTEGRATED PERIPHERALS

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

OnBoard IDE	: Both	Specific Key for PowerOn	: N/A
IDE1 Conductor Cable	: Auto	USB Controller	: Enabled
IDE2 Conductoe Cable	: Auto	USB Legacy Support	: Disabled
OnBoard FDC	: Auto	AC97 Audio	: Auto
OnBoard Serial Port A	: Auto	AC97 Modem	: Auto
OnBoard Serial Port B	: Auto	Onboard Lan Chip	: Enabled
Serial Port B Mode	: Normal		
IR Duplex Mode	: Half Duplex		
OnBoard CIR Port	: Disabled		
CIR IRQ Select	: 10		
OnBoard Parallel Port	: Auto		
Parallel Port Mode	: ECP		
EPP Version	: N/A		
Parallel Port IRQ	: Auto		
Parallel Port DMA	: Auto		
OnBoard Midi Port	: Disabled	ESC: Quit ↑↓→←: Select Item	
Midi IRQ Select	: 10	F1 : Help PU/PD+/-/ : Modify	
OnBoard Game Port	: 200	F5 : Old Values (Shift)F2: Color	
Mouse PowerOn Function	: Disabled	F6 : Load Fail-Safe Defaults	
Keyboard PowerOn Function	: Disabled	F7 : Load Optimized Defaults	

Figure 9: Integrated Peripherals

☞OnBoard IDE

- ⏩Disabled — Disable OnBoard IDE.
- ⏩Both — Both Primary & Secondary IDE channel will be enabled. (Default Value)
- ⏩Primary — Only Primary IDE channel is enabled.
- ⏩Secondary — Only Secondary IDE channel is enabled.

☞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).

☞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).

☞OnBoard FDC

- ⏩Disabled — Disable this function.
- ⏩Enabled — Enable on board floppy disk controller.
- ⏩Auto — Set the floppy disk controller automatically. (Default Value)

☞Onboard Serial Port A

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

☞Onboard Serial Port B

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

☞Serial Port B Mode

(This item allows you to determine which Infra Red(IR) function of Onboard I/O chip)

- ⏩ASKIR Set onboard I/O chip UART to ASKIR Mode.
- ⏩IrDa Set onboard I/O chip UART to IrDa Mode.
- ⏩Normal Set onboard I/O chip UART to Normal Mode. (Default Value)

☞IR Duplex Mode

- ⏩Half Duplex IR Function Duplex Half. (Default Value)
- ⏩Full Duplex IR Function Duplex Full.

☞OnBoard CIR Port

- ⏩Disabled Disable this function. (Default Value)
- ⏩Enabled Enable Onboard CIR port.

☞CIR IRQ Select

- ⏩IRQ 3 / 4 / 9 / 10 (Default Value) / 11

☞Onboard Parallel Port

- ⏩378 Set On Board LPT port and address to 378.
- ⏩278 Set On Board LPT port and address to 278.
- ⏩3BC Set On Board LPT port and address to 3BC.
- ⏩Auto Set On Board LPT port Automatically. (Default Value)
- ⏩Disabled Disable onboard Serial port A.

☞Parallel Port Mode

- ⏩EPP Using Parallel port as Enhanced Parallel Port.
- ⏩ECP Using Parallel port as Extended Capabilities Port. (Default Value)
- ⏩Normal Normal Operation.

☞EPP Version

- ⏩N/A Disable this function. (Default Value)
- ⏩1.9 Compliant with EPP 1.9 version.
- ⏩1.7 Compliant with EPP 1.7 version.

☞Parallel Port IRQ

- ⏩7 Set Parallel Port IRQ to 7.
- ⏩5 Set Parallel Port IRQ to 5.
- ⏩Auto Set Parallel Port IRQ automatically. (Default Value)

☞Parallel Port DMA

- ⏩3 Set Parallel Port DMA to 3.
- ⏩1 Set Parallel Port DMA to 1.
- ⏩0 Set Parallel Port DMA to 0.
- ⏩Auto Set Parallel Port DMA automatically. (Default Value)

☞OnBoard Midi Port

- ⏩Disabled Disable onboard Midi Port. (Default Value)
- ⏩300 Set onboard Midi Port to 300.
- ⏩330 Set onboard Midi Port to 330.
- ⏩292 Set onboard Midi Port to 292.
- ⏩290 Set onboard Midi Port to 290.

☞Midi IRQ Select

- ⏩IRQ 5 / 7 / 9 / 10 (Default Value)

☞OnBoard Game Port

- ⏩Disabled Disable OnBoard Game Port.
- ⏩200 Set OnBoard Game Port to 200. (Default Value)
- ⏩208 Set OnBoard Game Port to 208.

☞Mouse PowerOn Function

- ⏩Disabled Disable this function. (Default Value)
- ⏩Right -button Click right-button to power on the system.
- ⏩Left-button Click Left-button to power on the system.

☞Keyboard PowerOn Function

- ⏩Disabled Disable this function. (Default Value)
- ⏩Specific key Set password key to power on by keyboard.
- ⏩Power Key Set "Power key" to power on the system.

☞Specific Key for PowerOn

- ⏩N/A Disable this function. (Default Value)
- ⏩Password ↵ Input password (from 1 to 5 characters) and press Enter to set the Key board Power On Password.

☞USB Controller

- ⏩Enabled Enable USB Controller. (Default Value)
- ⏩Disabled Disable this function.

☞USB Legacy Support

- ⏩Enabled Enable USB Legacy Support.
- ⏩Disabled Disable this function.(Default Value)

☞AC97 Audio

- ⏩Auto — Enable onboard AC'97 audio function. (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 this function.

☞Onboard Lan Chip

- ⏩Disabled — Disable this function.
- ⏩Enabled — Enable Onboard Lan Chip function. (Default Value)

Hardware Monitor & MISC Setup

AMIBIOS SETUP - HARDWARE MONITOR & MISC SETUP

CPU Temp. Alarm	:Disabled
CPU Fan Fail Alarm	:No
Power Fan Fail Alarm	:No
System Fan Fail Alarm	:No
Current CPU Temp.	: 35°C/ 95°F
Current System Temp.	: 33°C/ 91°F
Current CPU Fan Speed	: 5273 RPM
Current System Fan Speed	: 0 RPM
Current Power Fan Speed	: 0 RPM
CPU VID	: 1.700 V
Vcore	: +1.632V
Vcc18	: +1.840V
Vio	: +3.344V
+5.000V	: +5.080V
+12.000V	: +11.840V
Battery	: +3.020V
+5V SB	: +4.972V

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

Figure 10: Hardware Monitor & MISC Setup

☞CPU Temp. Alarm

- 60°C / 140°F — Monitor CPU Temp. at 60°C / 140°F.
- 70°C / 158°F — Monitor CPU Temp. at 70°C / 158°F.
- 80°C / 176°F — Monitor CPU Temp. at 80°C / 176°F.
- 90°C / 194°F — Monitor CPU Temp. at 90°C / 194°F.
- Disabled — Disable this function. (Default Value)

☞Fan Fail Alarm

CPU / Power / System

- ⏩No Fan Fail Alarm Function Disable. (Default Value)
- ⏩Yes Fan Fail Alarm Function Enable.

☞Current CPU Temp.

- ⏩Detect CPU Temp. automatically.

☞Current System Temp.

- ⏩Detect System Temp. automatically.

☞Current CPU Fan / System Fan / Power Fan Speed (RPM)

- ⏩Detect Fan speed status automatically.

☞Current CPU VID / Vcore / Vcc18 / Vio /+12 / +5V / Battery / +5VSB

- ⏩Detect system's voltage status automatically.

Set Supervisor / User Password

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

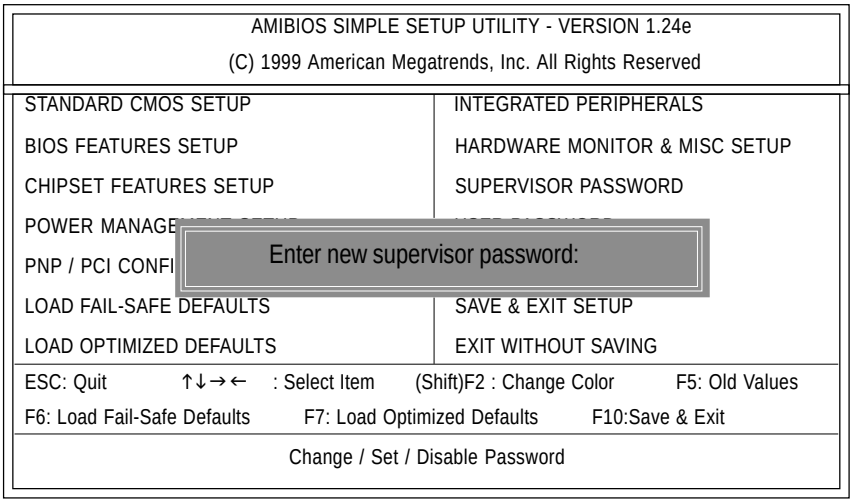


Figure 11: Password Setting

Type the password, up to six 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: a SUPERVISOR PASS WORD 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 "Always" at "Password Check" in BIOS Features Setup Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu.

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

IDE HDD Auto Detection

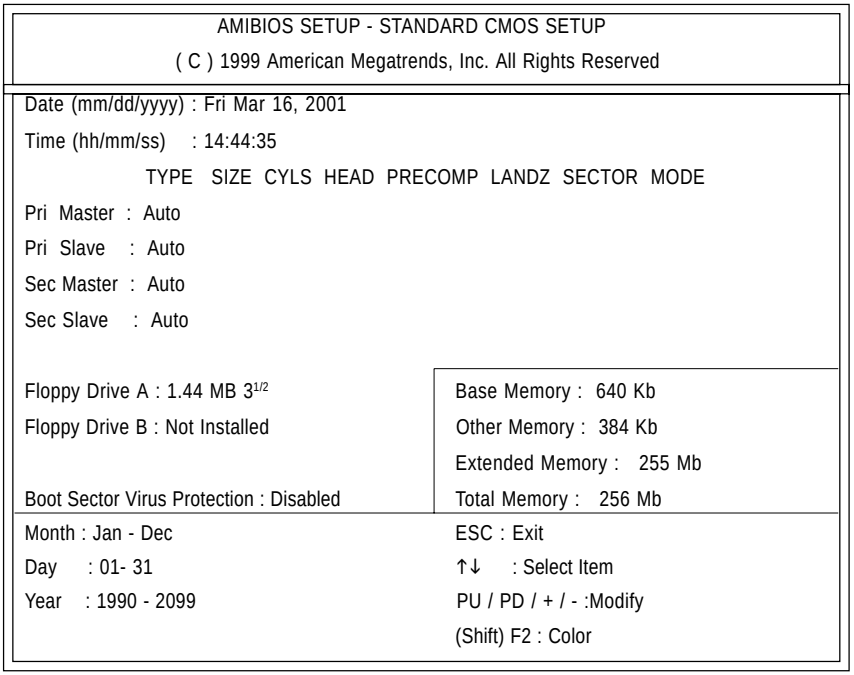


Figure 12: IDE HDD Auto Detection

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

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

Save & Exit Setup

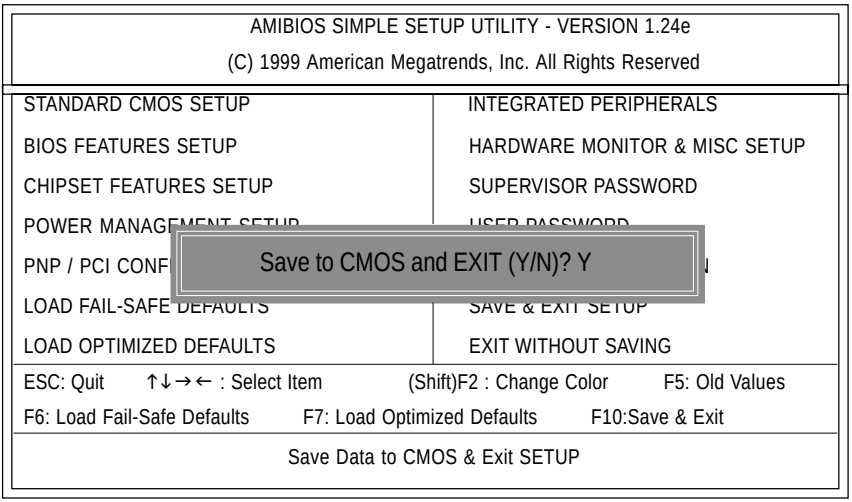


Figure 13: Save & Exit Setup

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

Type “N” will return to Setup Utility.

Exit Without Saving

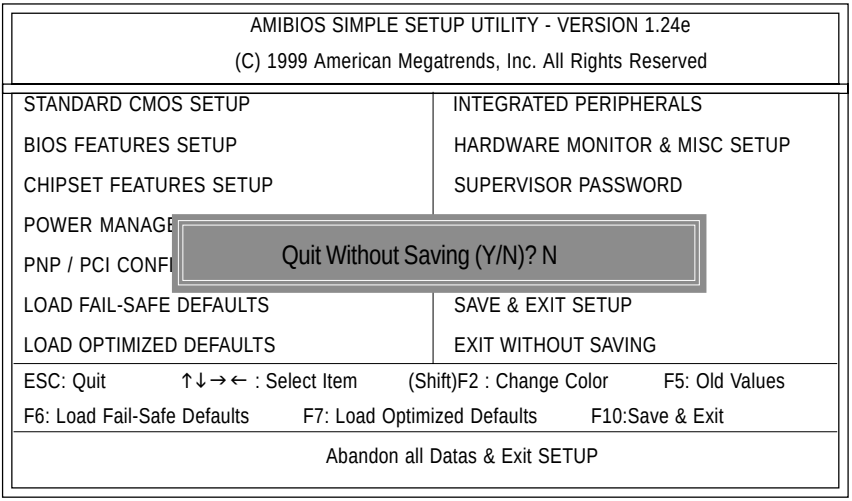


Figure 14: Exit Without Saving

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

Type “N” will return to Setup Utility.

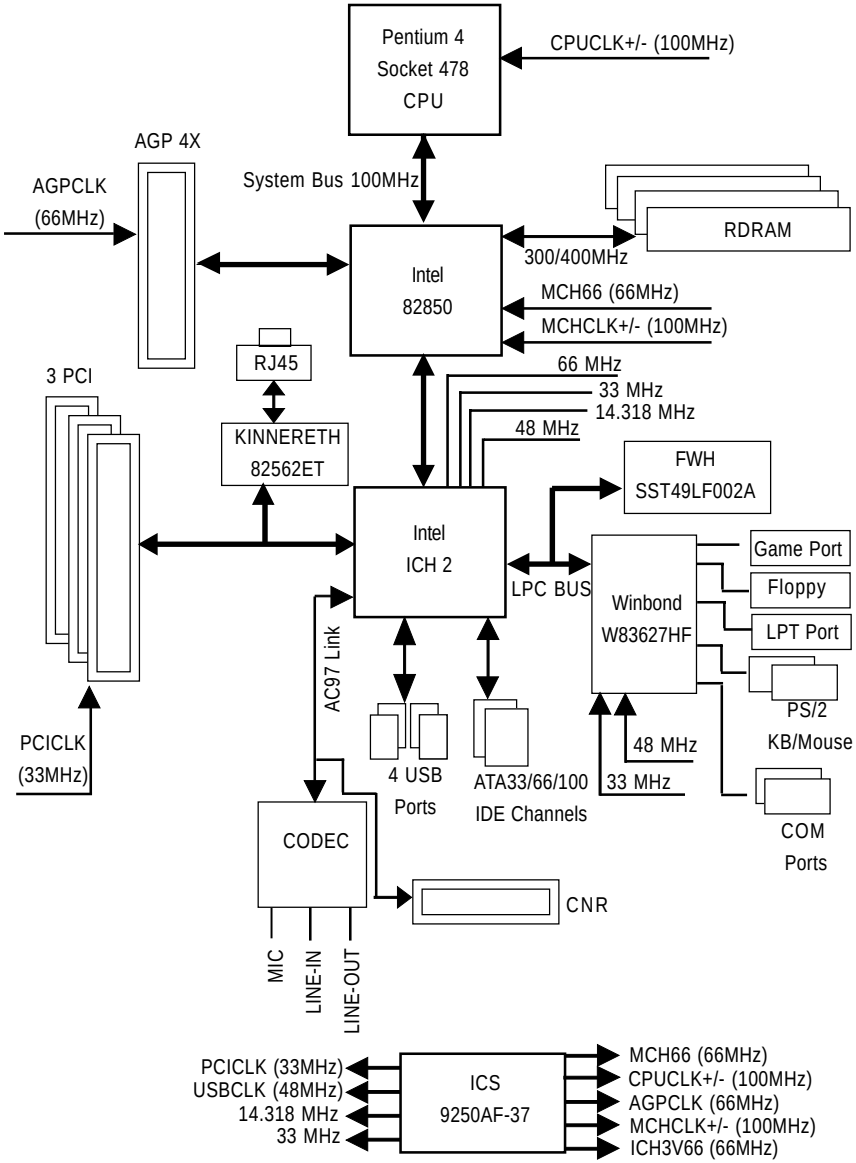
Chapter 4 Technical Reference

Performance List

The following performance data list is the testing results of some popular benchmark testing programs. These data are just referred by users, and there is no responsibility for different testing data values gotten by users. (The different Hardware & Software configuration will result in different benchmark testing results.)

CPU	Intel Pentuim® 4 2GHz processor
DRAM	(128 x 2) MB RAM
	(SAMSUNG MR16R0828AN1-CK7)
CACHE SIZE	256KB included in CPU
DISPLAY	Gigabyte GV-GF3000D
STORAGE	Onboard IDE (Quantum AS30000AT 30GB)
O.S	Windows 2000+ SP2
DRIVER	Display Driver at 1024 x 768 x 64K colors x 75Hz.
	IUCD ver. 1.8 For Intel chipset M.B.
Processor	Intel Pentium® 4
	2GHz (100x20)
WCPUID 2.8 Clock Frequency	
Internal MHz	1992.60
SiSoft Sandra 2001	
CPU/FPU Benchmark	3791/(1038/2433)
CPU Multi-Media Benchmark	7893/9630
Drives Benchmark	22594
Memory Benchmark	1159/1192
SPECviewperf 6.12	
Pro CDRS-03	14.91
MedMCAD-01	21.78
Light-04	5.978
DX-06	15.48
DRV-07	17.93
Awadvs-04	41.56
QUAKE III Arena (without sound)	
640*480*16 Demo1	200.6
1024*768*32 Demo2	138.9

Block Diagram



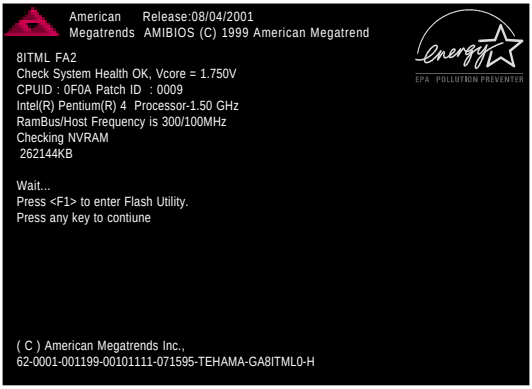
Q-Flash Utility Introduction

A. What is Q-Flash Utility?

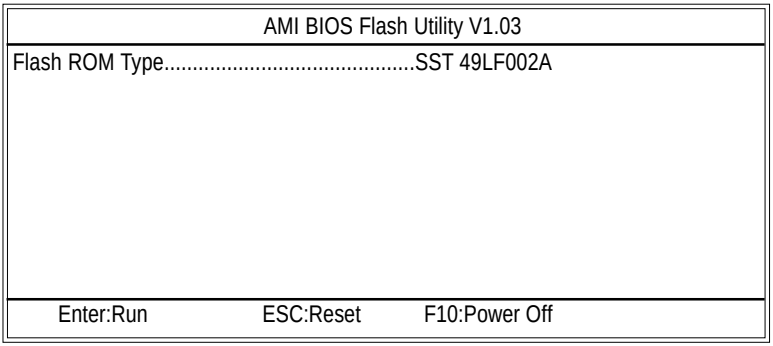
Q-Flash utility is a pre-O.S. BIOS flash utility enables users to update its BIOS within BIOS mode, no more fooling around any OS.

B. How to use Q-Flash Flash?

a. Boot Screen

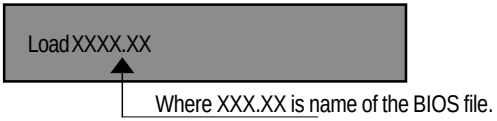


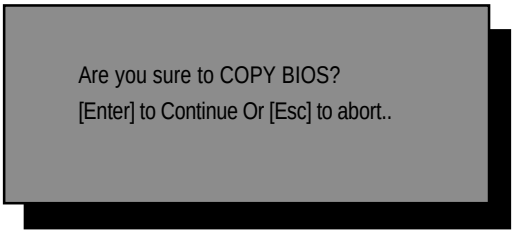
b. AMI BIOS Flash Utility

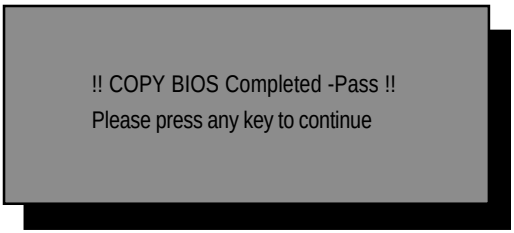


Load BIOS From Floppy

- In the A:drive, insert the "BIOS" diskette, then Press Enter to Run.
- Input BIOS file name in the text box. Press "Enter".







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

@ 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 mainboard 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.

Easy TuneIII™ Introduction

Gigabyte announces *EasyTune*III Windows overdrive utility

"Overdrive" might be one of the most common issues in computer field. But have many users ever tried it? The answer is probably "no". Because "overdrive" is thought to be very difficult and includes a lot of technical know-how, sometimes "overdrive" is even considered as special skills found only in some enthusiasts.

But as to the experts in "overdrive", what's the truth? They may spend quite a lot of time and money to study, try and use many different hardware and software tools to do "overdrive". And even with these technologies, they still learn that it's quite a risk because the safety and stability of an "overdrive" system is unknown.

Now everything is different because of a Windows overdrive utility EasyTuneIII—announced by Gigabyte. This utility has totally changed the gaming rule of "overdrive". This is the first overdrive utility suitable for both normal and power users. Users can choose either "Easy Mode" or "Advanced Mode" to run "overdrive" at their convenience. For users who choose "Easy Mode", they just need to click "Auto Optimize" to have auto and immediate CPU overclocking. This software will then overdrive CPU speed automatically with the result being shown in the control panel. If someone prefers to "overdrive" by oneself, there is also another choice. Click "Advanced Mode" to enjoy "sport drive" class overclocking. In "Advanced Mode", one can change the system bus speed in small increments to get ultimate system performance. And no matter which mainboard is used, if it's a Gigabyte's product*, EasyTuneIII helps to perform the best of system.

Besides, different from other traditional over-clocking methods, EasyTuneIII doesn't require users to change neither BIOS nor hardware switch/ jumper setting; on the other hand, they can do "overdrive" at only one click. Therefore, this is a safer way for "overdrive" as nothing is changed on software or hardware. If user runs EasyTuneIII 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 been tested in EasyTuneIII, user can "Save" this bus speed and "Load" it in next time. Obviously, Gigabyte EasyTuneIII has already turned the "overdrive" technology toward to a newer generation.

This wonderful software is now free bundled in Gigabyte motherboard attached driver CD. Users may make a test drive of "EasyTuneIII" to find out more amazing features by themselves.

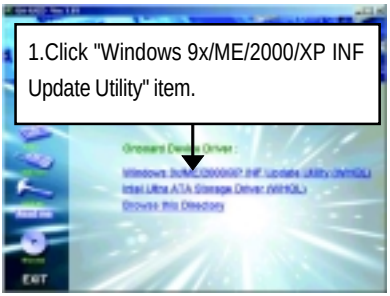
Chapter 5 Appendix

Picture below are shown in Windows ME (IUCD driver version 1.81)

Appendix A: Intel 850 Chipset Driver Installation

A. Windows 9x/ME/2000/XP INF Update Utility:

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.



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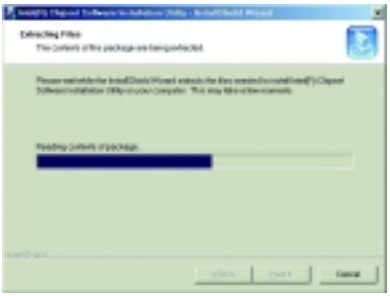

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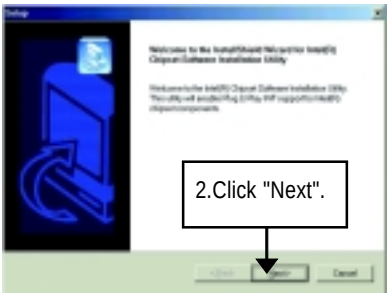

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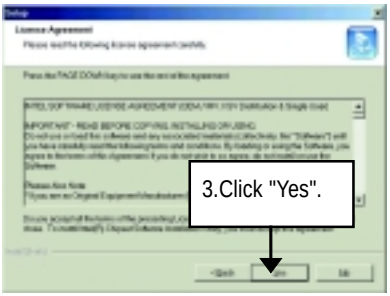

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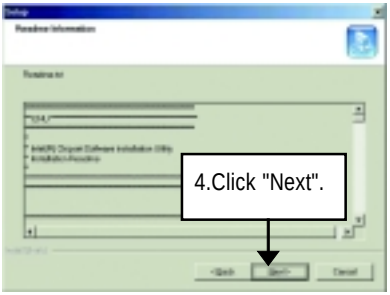

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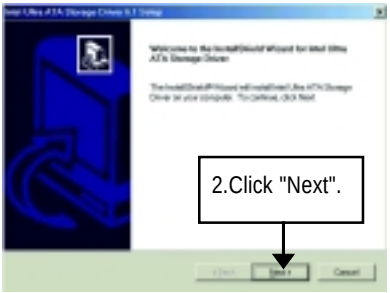
B. Intel Ultra ATA Storage Driver:

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.

(1)

(2)



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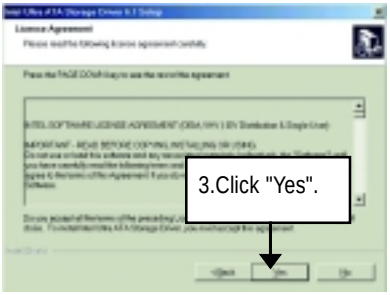

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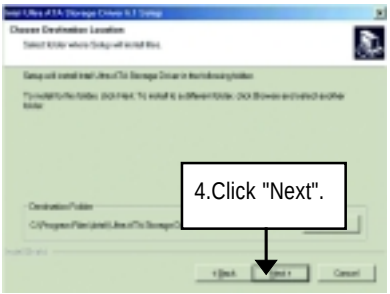

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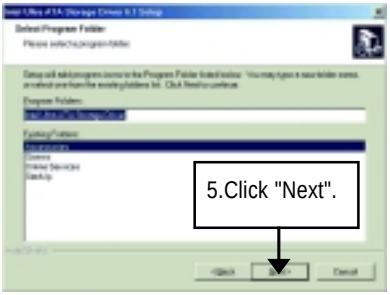

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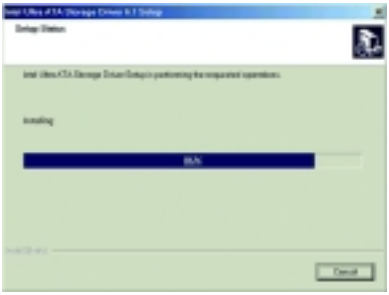

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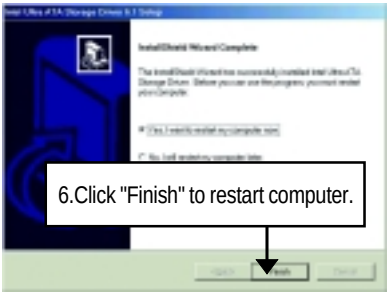


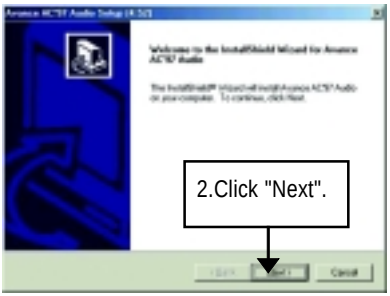
(8)

Appendix B: RealTek AC'97 Audio Driver

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.

(1)

(2)



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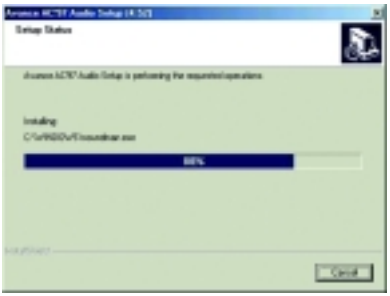

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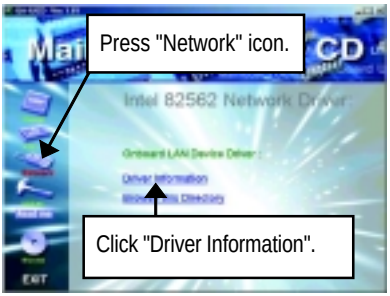
Appendix C: Intel 82562 Network Driver

"Intel 82562 Network Driver" under Windows ME will auto install. If you would like to install LAN driver, please refer to attached README.txt file for detail instruction. Please install the driver through CD-ROM by the path D:\Network\Rtl (This manual assumes that your CD-ROM device drive letter is D:).



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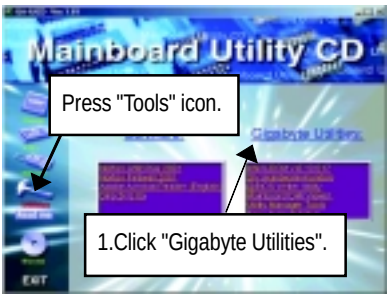
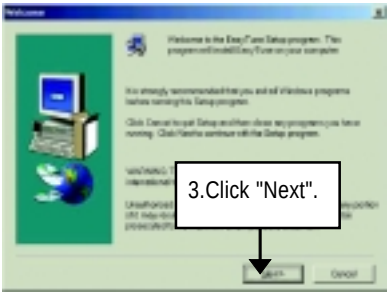
Appendix D: EasyTuneIII Utilities Installation

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.

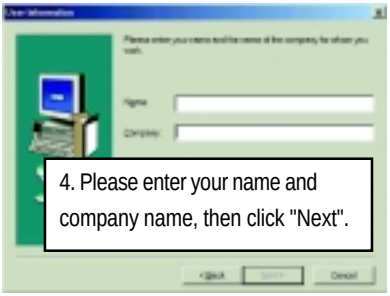


(1)

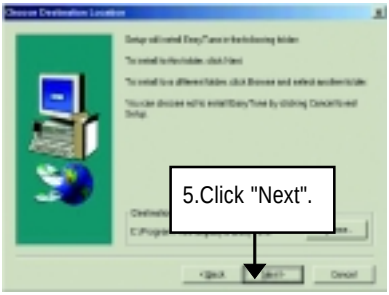
(2)



(3)



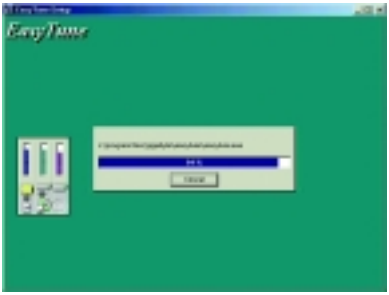
(4)


5.Click "Next".

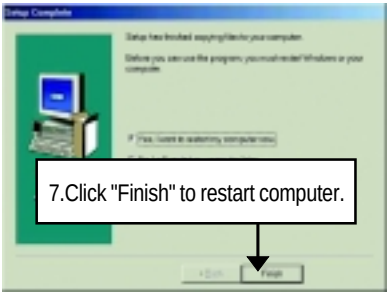
(5)


6.Click "Next".

(6)


EasyTune

(7)


7.Click "Finish" to restart computer.

(8)

Appendix E: Issues To Beware Of When Installing CNR

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

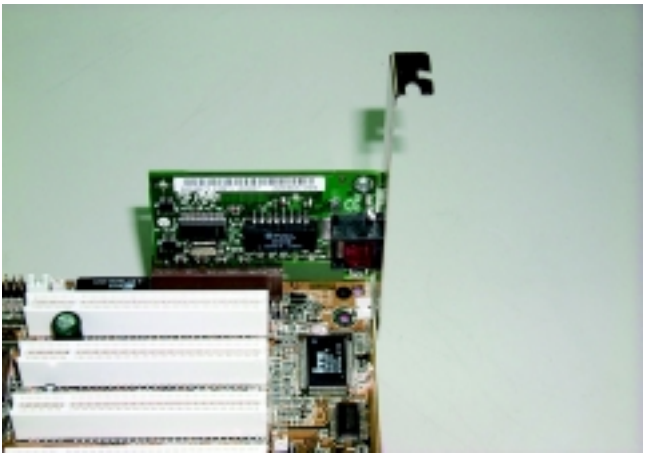


Figure A: Standard CNR Card

Appendix F: 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
I/O	Input / Output
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture
LAN	Local Area Network

to be continued.....

Acronyms	Meaning
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

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: