

- 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- **▶** Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.
- Before you install PCI cards, please remove the Dual BIOS label from PCI slots if there is one.



WARNING: Never run the processor without the heatsink properly and firmly attached.

PERMANENT DAMAGE WILL RESULT!

 $\textbf{\textit{Mise en garde}: } \textit{Ne faites jamais tourner le processeur sans que le dissipateur de chaleur soit fix}$

correctement et fermement. UN DOMMAGE PERMANENT EN RÉSULTERA!

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

SCHADEN ZUR FOLGE!

Advertencia: Nunca haga funcionar el procesador sin el disipador de calor instalado correcta y

firmemente. ¡SE PRODUCIRÁ UN DAÑO PERMANENTE!

Aviso: Nunca execute o processador sem o dissipador de calor estar adequado e firmemente

conectado. O RESULTADO SERÁ UM DANO PERMANENTE!

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

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

경고: 히트싱크를 제대로 또 단단히 부착시키지 않은 채 프로세서를 구동시키지 마십시오.

영구적 고장이 발생합니다!

警告: 永久的な損傷を防ぐため、ヒートシンクを正しくしっかりと取り付けるまでは、プロセ

ッサを動作させないようにしてください。

Declaration of Conformity

We, Manufacturer/Importer (full address)

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

declare that the product

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

Mother Board

GA-7VRX/GA-7VRXP 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	⊠ EN 50081-1 ⊠ EN 50082-1	Generic emission standard Part 1: Residual commercial and light industry Generic immunity standard Part 1:
	apparatus		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		(EC conformit	y marking)
		declares the conformity of all I safety standards in accorda	
□ 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	
			Signature: Timmy Huang
	(Storm)	Date : Feb. 08, 2002	Name: Timmy Huang

(Stamp)

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)



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

Address: 17358 Railroad Street

City of Industry, CA 91748

Phone/FaxNo: (818) 854-9338/ (818) 854-9339

hereby declares that the product

Product Name: Motherboard

ModelNumber: GA-7VRX/GA-7VRXP

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 <u>ERIC LU</u>

Name: Signature: <u>Eric Lu</u>

Date: Feb. 08, 2002

GA-7VRX/GA-7VRXP AMD Socket A Processor Motherboard

USER'S MANUAL

AMD Athlon[™]/ Athlon[™]XP / Duron[™]Socket A Processor Motherboard Rev. 1101 12ME-7VRX-1101

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Item Checklist

☑ The GA-7VRX/GA-7VRXP motherboard

☑ IDE cable x 1/ Floppy cable x 1(7VRX)

☑ IDE cable x 3/ Floppy cable x 1(7VRXP)

CD for motherboard driver & utility

☑ GA-7VRX/GA-7VRXP user's manual

☑ USB Cable (only for GA-7VRXP)

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.

- Unplug your computer when working on the inside.
- 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.
- 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	• 30.5cm x 23.5cm ATX size form factor, 4 layers PCB.
Motherboard	GA-7VRX/GA-7VRXP Motherboard
CPU	 Socket A processor
	AMD Athlon™/Athlon™ XP/ Duron™ (K7)
	128K L1 & 256K/64K L2 cache on die
	200/266MHz FSB and DDR bus speeds
	 Supports 1.4GHz and faster
Chipset	VIA KT333 Memory/AGP/PCI Controller (PAC)
	 VIA VT8233A(CE) Integrated Peripheral Controller (PSIPC)
Memory	3 184-pin DDR sockets
	 Supports DDR DRAM PC1600/PC2100/PC2700<nole 1=""></nole>
	 Supports up to 3.0GB DDR (Max)
	 Supports only 2.5V DDR DIMM
I/O Control	• IT8705
Slots	1 AGP slot supports 4X/2X mode & AGP 2.0 Compliant
	 5 PCI slots supports 33MHz & PCI 2.2 compliant
On-Board IDE	• 2 IDE controllers provides IDE HDD/CD-ROM (IDE1, IDE2) with
	PIO, Bus Master (Ultra DMA33/ATA66/ATA100/ATA133)
	operation modes.
	 IDE3 and IDE4 Compatible with RAID, Ultra ATA133/100, EIDE
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 port (COMA & COMB)
	• 4 x USB 2.0 by cable , 2 x USB 1.1 by cable and 2 x USB 1.1
	onboard
	• 1 IrDA connector for IR

<**Note 1>** Because the quality of PC2700 module is varied, we don't recommend you to use 3pcs of PC2700 module at the same time.

"*" Only for GA-7VRXP.

to be continued.....

Hardware Monitor	CPU/System Fan Revolution detect
	CPU/System temperature detect
	System Voltage Detect
On-Board Sound	Creative CT5880 Sound Chipset*
	Sigmatel 9721T CODEC
	Line In/Line Out/Mic In/CD In/Game Port
On-Board RAID*	Onbard Promise PDC20276
	 Supports data striping (RAID 0) or mirroring (RAID 1)
	Supports concurrent dual IDE controller operation
	Supports IDE bus master operation
	Displays status and error checking messages during boot-up
	Mirroring supports automatic background rebuilds
	Features LBA and Extended Interrupt 13 drive translation in
	controller onboard BIOS
On-Board LAN*	RealTek TRL8100BL
On-Board USB 2.0	• VIA VT6202
On-Board MS,SD,SC*	Winbond SMART @I/O Chipset (Memory Stick , Security Digital and
	SC header)
PS/2 Connector	PS/2 Keyboard interface and PS/2 Mouse interace
BIOS	Licensed AMI BIOS, 2M bit flash ROM
	Supports Dual BIOS
	Supports Q-Flash
Additional Features	Wake on LAN (WOL)
	 Supports @BIOS™
	Supports EasyTuneIII™

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

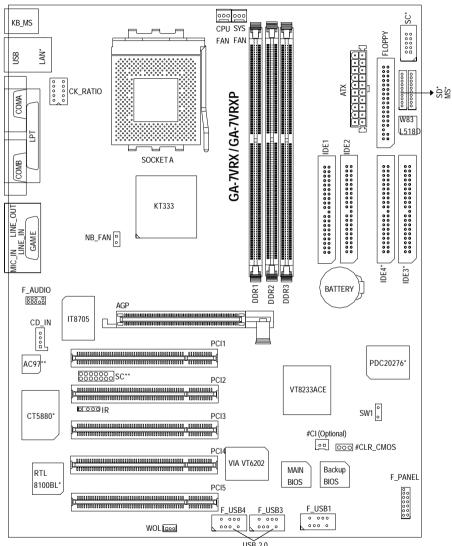
We don't recommend you to set the system bus frequency over the CPU's specification because these specific bus frequencies are not the standard specifications for CPU,

chipset and most of the peripherals. Whether your system can run under these bus frequencies properly will depend on your hardware configurations, including CPU, Chipsets, SDRAM, Cards....etc.

"*" Only for GA-7VRXP.

specific

GA-7VRX/GA-7VRXP Motherboard Layout



[&]quot;*" Only for GA-7VRXP.

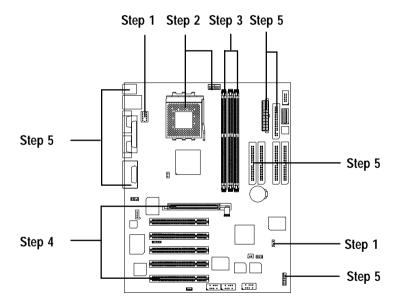
[&]quot;**" Only for GA-7VRX.

[&]quot;#" Only for GA-7VRX/GA-7VRXP PCB Ver.1.1 use.

Chapter 2 Hardware Installation Process

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

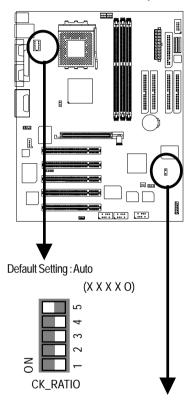
- Step 1- Set Dip Switch (CK_RATIO) and system Switch (SW1)
- Step 2- Install the Central Processing Unit (CPU)
- Step 3- Install memory modules
- Step 4- Install expansion cards
- Step 5- Connect ribbon cables, cabinet wires, and power supply
- Step 6- Setup BIOS software
- Step 7- Install supporting software tools



Step 1: Install the Central Processing Unit (CPU)

Step1-1: CPU Speed Setup

The clock ratio can be switched by CK_RATIO and refer to below table.



CLK_RATIO 0:			0: 0	N / X	:OFF
RATIO	1	2	3	4	5
AUTO(Default)	Χ	Х	Χ	Х	0
5x	0	0	Χ	0	Х
5.5x	Χ	0	Χ	0	Х
6x	0	Х	Χ	0	Х
6.5x	Χ	Х	Χ	0	Χ
7x	0	0	0	Х	Х
7.5x	Χ	0	0	Χ	Х
8x	0	Х	0	Х	Х
8.5x	Χ	Х	0	Х	Х
9х	0	0	Χ	Х	Х
9.5x	Χ	0	Χ	Х	Х
10x	0	Х	Χ	Х	Х
10.5x	Χ	Х	Χ	Х	Х
11x	0	0	0	0	Х
11.5x	Χ	0	0	0	Х
12x	0	Х	0	0	Х
>=12.5x	Χ	Χ	0	0	Х

O: ON / X:OFF



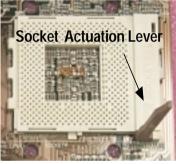
SW1	1:CPU CLOCK
1:ON	100MHz (Default)
1:OFF	133MHz

The system bus frequency can be switched at 100/ 133MHz by adjusting system switch (SW1). (The internal frequency depend on CPU.)

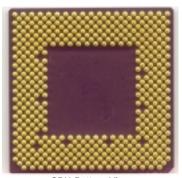
Step1-2: CPU Installation



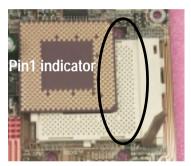
CPU Top View



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



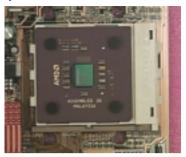
CPU Bottom View



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.

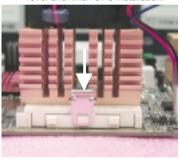
Step1-3:CPU Heat Sink Installation



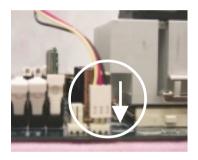
 Press down the CPU socket lever and finish CPU installation.



2. Use qualified fan approved by AMD.



 Fasten the heatsink supporting-base onto the CPU socket on the mainhoard



Make sure the CPU fan is plugged to the CPU fan connector, than install complete.

- **♦™ Please use AMD approved cooling fan.**
- We recommend you to apply the thermal paste to provide better heat conduction between your CPU and heatsink.
- 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. 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 Registered DDR DIMM				
Devices used on DIMM	1 DIMMx64/x72	2 DIMMsx64/x72	3 DIMMsx64/x72	
64 Mbit (4Mx4x4 banks)	256 MBytes	512 MBytes	768 MBytes	
64 Mbit (2Mx8x4 banks)	128 MBytes	256 MBytes	384 MBytes	
64 Mbit (1Mx16x4 banks)	64 MBytes	128 MBytes	192 MBytes	
128 Mbit(8Mx4x4 banks)	512 MBytes	1 GBytes	1.5 GBytes	
128 Mbit(4Mx8x4 banks)	256 MBytes	512 MBytes	768 MBytes	
128 Mbit(2Mx16x4 banks)	128 MBytes	256 MBytes	384 MBytes	
256 Mbit(16Mx4x4 banks)	1 GBytes	2 GBytes	3 GBytes	
256 Mbit(8Mx8x4 banks)	512 MBytes	1 GBytes	1.5 GBytes	
256 Mbit(4Mx16x4 banks)	256 MBytes	512 MBytes	768 MBytes	
512 Mbit(16Mx8x4 banks)	1 GBytes	2 GBytes	3 GBytes	
512 Mbit(8Mx16x4 banks)	512 MBytes	1 GBytes	1.5 GBytes	
Total Memory Sizes With Unbuffered DDR DIMM				
Devices used on DIMM	1 DIMMx64/x72	2 DIMMsx64/x72	3 DIMMsx64/x72	
64 Mbit (2Mx8x4 banks)	128 MBytes	256 MBytes	384 MBytes	
64 Mbit (1Mx16x4 banks)	64 MBytes	128 MBytes	192 MBytes	
128 Mbit(4Mx8x4 banks)	256 MBytes	512 MBytes	768 MBytes	
128 Mbit(2Mx16x4 banks)	128 MBytes	256 MBytes	384 MBytes	
256 Mbit(8Mx8x4 banks)	512 MBytes	1 GBytes	1.5 GBytes	
256 Mbit(4Mx16x4 banks)	256 MBytes	512 MBytes	768 MBytes	
512 Mbit(16Mx8x4 banks)	1 GBytes	2 GBytes	3 GBytes	
512 Mbit(8Mx16x4 banks)	512 MBytes	1 GBytes	1.5 GBytes	



DDR



- The DIMM slot has a notch, so the DIMM memory module can only fit in one direction.
- Insert the DIMM memory module vertically into the DIMM slot. Then push it down.
- 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.

DDR Introduction

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

DDR memory is a sensible evolutionary solution for the PC industry that builds on the existing SDRAM infrastructure, yet makes awesome advances in solving the system performance bottleneck by doubling the memory bandwidth. DDR SDRAM will offer a superior solution and migration path from existing SDRAM designs due to its availability, pricing and overall market support. PC2100 DDR memory (DDR266) doubles the data rate through reading and writing at both the rising and falling edge of the clock, achieving data bandwidth 2X greater than PC133 when running with the same DRAM clock frequency. With peak bandwidth of 2.1GB per second, DDR memory enables system OEMs to build high performance and low latency DRAM subsystems that are suitable for servers, workstations, highend PC's and value desktop SMA systems. With a core voltage of only 2.5 Volts compared to conventional SDRAM's 3.3 volts, DDR memory is a compelling solution for small form factor desktops and notebook applications.

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

Step 3: Install expansion cards

- 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.



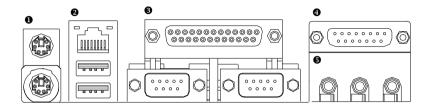
AGP Card



Please carefully pull out the small whitedrawable 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.

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

Step4-1:I/O Back Panel Introduction



PS/2 Keyboard and PS/2 Mouse Connector



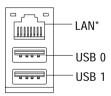
PS/2 Mouse Connector (6 pin Female)



PS/2 Keyboard Connector (6 pin Female)

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

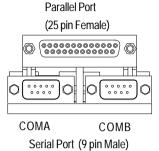
USB & LAN Connector



➤ 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.

"*" Only for GA-7VRXP.

Parallel Port , Serial Ports (COMA / COMB)



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

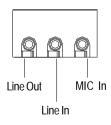
Game /MIDI Ports



Joystick/ MIDI (15 pin Female)

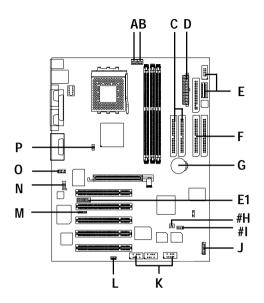
➤ This connector supports joystick, MIDI keyboard and other relate audio devices.

Audio Connectors



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

Step4-2: Connectors Introduction



A) CPU FAN	I) CLR_CMOS#
B) SYS FAN	J) F_Panel
C) Floppy/IDE1/IDE2	K) F_USB1,3,4
D) ATX	L) WOL
E/E1)SC/SD/MS* / SC**	M) IR
F) IDE3/IDE4*	N) CD_IN
G) Battery	O) F_AUDIO
H) CI#	P) NB_FAN

"*" Only for GA-7VRXP.

"**" Only for GA-7VRX.

"#" Only for GA-7VRX/GA-7VRXP PCB Ver.1.1 use.

A) CPU_FAN (CPU_FAN Connector)

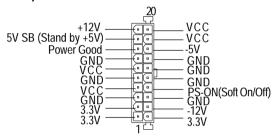
B) SYS_FAN (SYS_FAN Connector)





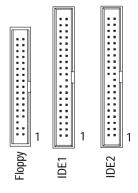
➤ The CPU fan connector supports Max. current up to 600 mA.

D) ATX (ATX Power)



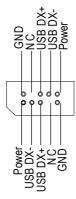
> AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.

C) Floppy / IDE1 / IDE2

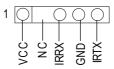


Important Notice: Please connect first harddisk to IDE1 and connect CDROM to IDE2.

K) F_USB1 / F_USB3 / F_USB4 (F_USB3 & F_USB4 connectors in orange are for USB 2.0)



M) IR



Be careful with the polarity of the IR connector while you connect the IR. Please contact you nearest dealer for optional IR device.

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.

F) IDE3/IDE4 Connector (RAID/ATA133)*



L) WOL (Wake On LAN)

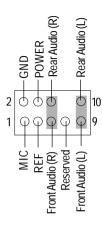


N) CD_IN



"*" Only for GA-7VRXP.

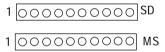
D) F_AUDIO (Front_AUDIO Connector)

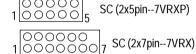


➤ If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper. In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer.

E/E1) SC(Smart Card Interface), SD (Secure Digital Memory Card Interface), MS (Memory Stick Interface)

(There is either function of SD and MS can be used.)

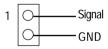




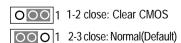
H) CI (Case Open)
Only for GA-7VRX/GA-7VRXP
PCB Ver. 1.1 use.



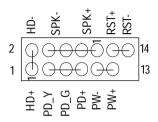
P) NB_FAN



CLR_CMOS: Clear CMOS
 Only for GA-7VRX/GA-7VRXP
 PCB Ver. 1.1 use.



J) 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 front panel jumper according to the pin assignment above.

G) 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

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

CONTROL KEYS

< <u>%</u> >	Move to previous item	
< <u>%</u> >	Move to next item	
< <u>«</u> >	Move to the item in the left hand	
< <u>«</u> >	Move to the item in the right hand	
<esc> Main Menu - Quit and not save changes into CMOS Status Page Setup</esc>		
	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></f1>	General help, only for Status Page Setup Menu and Option Page Setup Menu	
<f2></f2>	Reserved	
<f3></f3>	Reserved	
<f4></f4>	Reserved	
<f5></f5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu	
<f6></f6>	Load the default CMOS value from BIOS default table, only for Option Page Setup	
	Menu	
<f7></f7>	Load the Setup Defaults	
<f8></f8>	Reserved	
<f9></f9>	Reserved	
<f10></f10>	Save all the CMOS changes, only for Main Menu	

GETTING HELP

Main Menu

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

Status Page Setup Menu / Option Page Setup Menu

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

The Main Menu (For example: BIOS Ver. :F4)

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 1.24k		
(C) 1999 American Megatreno	ds, Inc. All Rights Reserved	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS	
BIOS FEATURES SETUP	HARDWARE MONITOR & MISC SETUP	
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD	
POWER MANAGEMENT SETUP	USER PASSWORD	
PNP / PCI CONFIGURATION	IDE HDD AUTO DETECTION	
LOAD FAIL-SAFE DEFAULTS	SAVE & EXIT SETUP	
LOAD OPTIMIZED DEFAULTS	EXIT WITHOUT SAVING	
ESC: Quit	t)F2 : Change Color F5: Old Values	
F6: Fail-Safe Values F7: Optimized Values	F8:Dual BIOS/Q-Flash 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.

Example 2 Chipset Features Setup

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

Z Power Management Setup

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

EXECUTE 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.

Mardware Monitor & MIS C Setup Mardware Monitor & MIS C S

This setup page is auto detect fan and temperature status.

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

AMIBIOS SETUP - STANDARD CMOS SETUP (C) 1999 American Megatrends, Inc. All Rights Reserved Date (mm/dd/yyyy): Fri Mar 16, 2001 Time (hh/mm/ss) : 14:44:35 TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE Pri Master : Auto Pri Slave : Auto Sec Master: Auto Sec Slave : Auto Floppy Drive A : 1.44 MB $3^{1/2}$ Base Memory: 640 Kb Floppy Drive B: Not Installed Other Memory: 384 Kb Extended Memory: 127 Mb Total Memory: 128 Mb Boot Sector Virus Protection : Disabled Month: Jan - Dec ESC : Exit Day : 01- 31 기: Select Item Year : 1990 - 2099 PU / PD / + / - : Modify (Shift) F2: Color

Figure 2: Standard CMOS Setup

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

♣Week The week, from Sun to Sat, determined by the BIOS and is display only

♣Day The day, from 1 to 31 (or the maximum allowed in the month)

♣Year The year, from 1990 through 2099

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

Z 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.

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

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).
	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 any thing 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						
1st Boot Device	: Floppy					
2nd Boot Device	: IDE-0					
3rd Boot Device	: CDROM					
S.M.A.R.T. for Hard Disks	: Disabled					
Interrupt Mode	: APIC					
BootUp Num-Lock	: On					
Floppy Drive Seek	: Disabled	ESC: Quit 1111	ココココ: Select Item			
Password Check	: Setup	F1 : Help	PU/PD+/-/: Modify			
BIOS Flash Protection	: Auto	F5 : Old Values	(Shift)F2: Color			
		F6 : Fail-Safe	F7: Optimized			
	F8 :Dual BIOS/Q-Flash					

Figure 3: BIOS Features Setup

≥ 1st/2nd/3rd Boot device

 ♣Floppy
 Select y our boot device priority by Floppy.

 ♣ZIP A:/LS120
 Select y our boot device priority by ZIP A:/LS120.

 ♣ATAPI ZIP C:
 Select y our boot device priority by ATAPI ZIP C:.

 ♣CDROM
 Select y our boot device priority by CDROM.

 ♣SCSI
 Select y our boot device priority by SCSI.

 ♣NETWORK
 Select y our boot device priority by NETWORK.

 ♣Disabled
 Disable this function.

♣IDE-0~3 Select your boot device priority by IDE-0~3.
 ♣USB FDD Select your boot device priority by USB FDD.

⊕Enabled Enable HDD S.M.A.R.T. Capability.

♣Disabled Disable HDD S.M.A.R.T. Capability. (Default value)

≤ Interrupt Mode

♣APIC Through IOAPIC generate more IRQ for system use.(Default value)

♣PIC Use AT stantard IRQ controlles to generate IRQ.

When you already have IOAPIC enable system and want to upgrade the system please note, since running an IOAPIC enabled OS (like Windows NT, Windows 2000, Windows XP...) system with none IOAPIC HW support will cause the system to hang. Following are some situations users might run into: 1.An IOAPIC enabled OS and change the BIOS setting from IOAPIC to PIC, this will cause your system to hang.

■ Boot Up Num-Lock

♣On Key pad is number key s. (Default value)

Off Key pad is arrow keys.

During POST, BIOS will determine the floppy disk drive installed is 40or 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)

∠ Password Check

Please refer to the detail on P.53

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)

This field lets you determine the states that flash BIOS.

♣Auto BIOS enables flash write access automatically when updating BIOS data/

DMI/ESCD. (Default Value)

♣Enabled During POST, DMI/ESCD would not be updated. But flash tools can update

BIOS always.

Chipset Features Setup

AMIBIOS SETUP - CHIPSET FEATURES SETUP						
(C) 1999 American Megatrends, Inc. All Rights Reserved						
Top Performance	:Disabled					
Fast Command	:Ultra					
Configure SDRAM by SPD	:Enabled					
SDRAM Frequency	:Auto					
SDRAM CAS# Latency	:2					
SDRAM Command Rate	:1T Command					
AGP Mode	:4X					
AGP Comp. Driving	:Auto					
Manual AGP Comp. Driving	:DA					
AGP Fast Write	:Enabled					
AGP Aperture Size	:128MB					
AGP Read Synchronization	:Enabled					
PCI Delay Transaction	:Enabled	ESC: Quit	コココココ: Select Item			
USB Controller	:All USB Port	F1 : Help	PU/PD+/-/: Modify			
USB Legacy Support	:Disabled	F5 : Old Values	(Shift)F2: Color			
USB Port 64/60 Emulation	:Disabled	F6 : Fail-Safe	F7 : Optimized			
		F8 :Dual BIOS/Q-I	Flash			

Figure 4: Chipset Features Setup

If you require more advanced BIOS settings please go to "Advanced BIOS" setting menu. To enter Advanced BIOS setting menu, press "Ctrl+F1" instead of "DEL" key during POST.

♣ Disabled Top Performance Disabled. (Default Value)

♣ Enabled Top Performance Enabled.

♣Ultra Set Fast Command to Ultra. (Default Value)

Fast Set Fast Command to Fast.♠Normal Set Fast Command to Normal.

∠ Configure S DRAM by SPD

♣Disabled Disabled Configure SDRAM Timing by SPD.

♣Enabled Enabled Configure SDRAM Timing by SPD. (Default Value)

■ DRAM Frequency

♣266MHz Set DRAM Frequency is 266MHz.♣333MHz Set DRAM Frequency is 333MHz.

♣Auto Set DRAM Frequency is Auto. (Default Value).

≤SDRAM CAS# Latency

For Fastest SDRAM DIMM module. (Default Value).

2.5 For Slower SDRAM DIMM module. **3.5 3.5 3.5 3.5 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6**

♣2T Command Set SDRAM Command Rate to 2T Command.

♣1T Command Set SDRAM Command Rate to 1T Command.(Default Value)

♣1X Set AGP Mode is 1X.♣2X Set AGP Mode is 2X.

∠ AGP Comp. Driving

♣Auto Set AGP Comp. Driving is Auto. (Default Value)

If AGP Comp. Driving is Manual.

Manual AGP Comp. Driving :00~FF

♣ Enabled Enabled AGP Fast Write (Default Value)

∡AGPA perture Size

♣ 128MB Set AGP Aperture Size to 128 MB. (Default Value)

AGP Read Synchronization

♣ Enabled Enable AGP Read Synchronization. (Default Value)

Disabled Disable AGP Read Synchronization.

∠ PCI Delay Transaction

♣ Enabled Enabled PCI Delay Transaction. (Default Value)

◆Disabled Disabled PCI Delay Transaction.

∠ USB Controller

♣ Disabled Disable USB Controller function.

USB Port 1&2 Enabled USB Port 1&2.

USB Port 2&3 Enabled USB Port 2&3.

USB Port 1&3 Enabled USB Port 1&3.

USB1 Enabled USB Port 1.

USB2 Enabled USB Port 2.

USB3 Enabled USB Port 3.

#All USB Port Enabled All USB Port . (Default Value)

∠ USB Legacy Support

♣Keyboard/FDD Set USB Legacy Support Keyboard / Floppy.

♣ Disabled USB Legacy Support Function. (Default Value)

ቆEnabled To useUSB mouse under Win NT environment, set USB Legacy Support to

KB/Mouse/FDD and USB Port 64/60 Emulation to enabled.

Disabled Disable this Function. (Default Value)

Power Management Setup

ſ <u></u>				
AMIBIOS SETUP - POWER MANAGEMENT SETUP (C) 1999 American Megatrends, Inc. All Rights Reserved				
ACPI Standby State	:S1/POS	RTC Alarm Date	:15	
USB Dev Wakeup From S3-S5		RTC Alarm Hour	:12	
Suspend Time Out(Minute)	:Disabled	RTC Alarm Minute		
IRQ3	:Monitor	RTC Alarm Second	1	
IRQ 4	:Monitor	10 Alaim occord	.00	
IRQ 5	:lgnore			
IRQ 7	:Monitor			
IRQ 9				
IRQ 10	:lgnore			
	:lgnore			
IRQ 11	:lgnore			
IRQ 13	:lgnore			
IRQ 14	:Monitor			
IRQ 15	:lgnore			
Soft-off by Power Button	:Instant off			
AC Back Function	:Soft-Off			
Modem Ring On/Wake On Lan	:Enabled	ESC: Quit 111	ヿヿヿヿヿ: Select Item │	
PME Event Wake Up	:Enabled	F1 : Help	PU/PD+/-/: Modify	
Key board Wakeup From	:S1(Suspend)	F5 : Old Values	(Shift)F2: Color	
PS/2 Mouse Wakeup From	:S1(Suspend)	F6 : Fail-Safe	F7 : Optimized	
Resume On RTC Alarm	:Disabled	F8 : Dual BIOS/Q-F	Flash	

Figure 5: Power Management Setup

∠ ACPI Standby State

S1/POS Set ACPI standby state is S1. (Default Value)

Set ACPI standby state is S3.

∠ USB Dev Wakeup From S3~S5(for USB 1.1 device only)

USB Dev Wakeup From S3~S5 can be set when ACPI standby state set to S3/STR.

€Enabled Enable USB Dev Wakeup From S3~S5.

♣ Disabled Disable USB Dev Wakeup From S3~S5. (Default Value).

∠ Suspend Time Out (Minute.)

Disabled	Disabled Suspend Time Out Function. (Default Value)
# 1	Enabled Suspend Time Out after 1min.
2	Enabled Suspend Time Out after 2min.
4 4	Enabled Suspend Time Out after 4min.
₽ 8	Enabled Suspend Time Out after 8min.
4 10	Enabled Suspend Time Out after 10min.
2 0	Enabled Suspend Time Out after 20min.
3 0	Enabled Suspend Time Out after 30min.
4 40	Enabled Suspend Time Out after 40min.
\$ 50	Enabled Suspend Time Out after 50min.
4 60	Enabled Suspend Time Out after 60min.

∠ IRQ 3~IRQ15

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

♣ Instant-off Soft switch ON/OFF for POWER ON/OFF. (Default Value)

Delay 4 sec Soft switch on 4sec for power OFF.

Soft-Off When AC-power back to the system, the system will be in "Soft-Off" state.

(Default Value)

Full-On When AC-power back to the system, the system will be in "Full-On" state.

♠Memory When AC-power back to the system, the system will return to the Last state

before AC-power off.

Disabled Disabled Resume On Ring / LAN.

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

∠ PME Event Wake Up

◆Disabled Disable PME Event Wake Up.

Enabled Enabled PME Event Wake Up. (Default Value)

\$S1(Suspend) Key board is able to Wakeup the system from S1(Suspend) state.

(Default value)

♣S1/S3 Key board is able to Wakeup the system from S1/S3 state.

\$S1/S3/S4/S5 Key board is able to Wakeup the system from S1/S3/S4/S5 state.

∠ PS/2 Mouse Wakeup From

\$\rightarrow\$\$1(Suspend) PS/2 Mouse is able to Wakeup the system from \$1(Suspend) state.

(Default value)

♣S1/S3 PS/2 Mouse is able to Wakeup the system from S1/S3 state.

\$\$1/\$3/\$4/\$5 PS/2 Mouse is able to Wakeup the system from \$1/\$3/\$4/\$5 state.

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

Disable this function. (Default Value)

Enable Enable alarm function to POWER ON system.

If RTC Alarm Lead To Power On is Enabled.

RTC Alarm Date: Everyday, 1~31

RTC Alarm Hour:0~23 RTC Alarm Minute : 0~59

RTC Alarm Second:0~59

PNP/PCI Configuration

AMIBIOS SETUP - PNP/PCI CONFIGURATION			
(C) 1999 American Megatrends, Inc. All Rights Reserved			
VGA Boot From	: AGP		
PCI Slot 1/5 IRQ Priority	: Auto		
PCI Slot 2 IRQ Priority	: Auto		
PCI Slot 3 IRQ Priority	: Auto		
PCI Slot 4 IRQ Priority	: Auto		
		ESC: Quit 1111	☐ ☐☐☐☐ : Select Item
		F1 : Help	PU/PD+/-/: Modify
		F5 : Old Values	(Shift)F2: Color
		F6 : Fail-Safe	F7 : Optimized
F8 :Dual BIOS/Q-Flash			

Figure 6: PNP/PCI Configuration

∠VGA Boot From

♣AGP Set VGA Boot from AGP VGA Card. (Default Value)

♣PCI Set VGA Boot from PCI VGA Card.

∠ PCI Slot1/5, 2, 3, 4 IRQ Priority

♣Auto The system will reserved a free IRQ for PCI slot 1/5, 2, 3, 4 device.

(Default Value)

The system will reserved IRQ3 for PCI slot 1/5, 2, 3, 4device if no legacy

ISA device using IRQ3.

The system will reserved IRQ for PCI slot 1/5, 2, 3, 4 device if no legacy

ISA device using IRQ4.

The system will reserved IRQ5 for PCI slot 1/5, 2, 3, 4device if no legacy

ISA device using IRQ5.

The system will reserved IRQ7 for PCI slot 1/5, 2, 3, 4 device if no legacy ISA device using IRQ7.

The system will reserved IRQ9 for PCI slot 1/5, 2, 3, 4 device if no legacy ISA device using IRQ9.

The system will reserved IRQ10 for PCI slot 1/5, 2, 3, 4 device if no legacy ISA device using IRQ10.

The system will reserved IRQ11 for PCI slot 1/5, 2, 3, 4 device if no legacy ISA device using IRQ10.

In system will reserved IRQ11 for PCI slot 1/5, 2, 3, 4 device if no legacy ISA device using IRQ11.

Load Fail-Safe Defaults

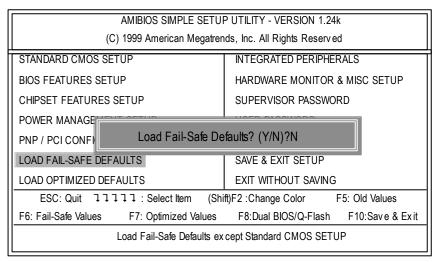


Figure 7: Load Fail-Safe Defaults

∠ 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

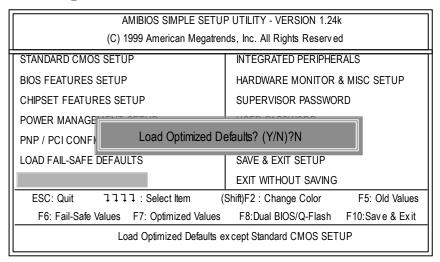


Figure 8: Load Optimized Defaults

∠ 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 FDC	:Auto			
OnBoard Serial Port 1	:Auto			
OnBoard Serial Port 2	:Auto			
Serial Port2 Mode	:Normal			
OnBoard Parallel Port	:Auto			
Parallel Port Mode	:ECP			
Parallel Port IRQ	:Auto			
Parallel Port DMA	:Auto			
OnBoard MIDI Port	:300			
OnBoard Game Port	:Enabled			
OnBoard SC Interface*	:Disabled			
OnBoard MS/SD Interface*	:Memory Stick			
OnBoard IDE	:Both			
OnBoard Sound Chip*	:Enabled			
OnBoard LAN Chip*	:Enabled	ESC : Quit	コココココ: Select Item	
OnBoard USB 2.0 Chip	:Enabled	F1 : Help	PU/PD+/-/: Modify	
OnBoard PROMISE Chip*	:ATA	F5 : Old Values	(Shift)F2: Color	
		F6 : Fail-Safe	F7 : Optimized	
		F8 :Dual BIOS/Q-	-Flash	

Figure 9: Integrated Peripherals

Auto Set On Board FDC is Auto (Default Value).

Disabled On Board FDCEnabled Enabled On Board FDC

"*" For GA-7VRXP Only.

♣Auto BIOS will automatically setup the port 1 address (Default Value).

♣3F8/COM1 Enable onboard Serial port 1 and address is 3F8.
 ♣2F8/COM2 Enable onboard Serial port 1 and address is 2F8.
 ♣3E8/COM3 Enable onboard Serial port 1 and address is 3E8.
 ♣2E8/COM4 Enable onboard Serial port 1 and address is 2E8.

♣ Disabled Disable onboard Serial port 1.

♣Auto BIOS will automatically setup the port 2 address (Default Value).

♣3F8/COM1 Enable onboard Serial port 2 and address is 3F8.
 ♣2F8/COM2 Enable onboard Serial port 2 and address is 2F8.
 ♣3E8/COM3 Enable onboard Serial port 2 and address is 3E8.
 ♣2E8/COM4 Enable onboard Serial port 2 and address is 2E8.

♣Disabled Disable onboard Serial port 2.

≤ Serial Port 2 Mode

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

SCR option is shown only when there's SCR hardware function is installed.

#378 Enable On Board LPT port and address is 378.
 #278 Enable On Board LPT port and address is 278.
 #3BC Enable On Board LPT port and address is 3BC.
 #Auto Set On Board LPT port is Auto. (Default Value)

Disable On Board LPT port.

∠ Parallel Port Mode

♣EPP Using Parallel port as Enhanced Parallel Port.

ECP Using Parallel port as Extended Capabilities Port. (Default Value)

♣Normal Normal Operation.

♣EPP+ECP Using Parallel port as Enhanced Parallel Port & Extended Capabilities Port.

♣Auto Set Auto to parallel Port IRQ DMA Channel. (Default Value).

♣5 Set Parallel Port IRQ is 5.

∠ Parallel Port DMA

♣Auto Set Auto to parallel port mode DMA Channel.(Default Value).

Set Parallel Port DMA is 3.
 Set Parallel Port DMA is 1.
 Set Parallel Port DMA is 0.

300 Set 300 for MIDI Port. (Default Value) **300**

\$310 Set 310 for MIDI Port .
 \$320 Set 320 for MIDI Port.
 \$330 Set 330 for MIDI Port.
 Disabled Disabled this function.

♣ Enabled Enabled onBoard Game Port.(Default Value)

Disabled Disabled onBoard SC Interface.(Default Value)

Secure Digital Set MS/SD Interface to Secure Digital.

Both Set OnBoard IDE is Both (Default Value).

♣ Primary Set OnBoard IDE is Primary♣ Secondary Set OnBoard IDE is Secondary

∠ Onboard Sound Chip*

♣ Enable Enable onboard Sound function. (Default value)

♣ Disable Disable onboard Sound function.

Enabled Enabled OnBoard Lan Chip. (Default Value)

Disabled Disabled OnBoard Lan Chip.

If "OnBoard SC Interface" is set to "Enabled" and "OnBoard MS/SD Interface" set to "Memory Stick" at the same time, there will not be enough IRQ resource to solve this issue, there are two alternative solutions:

1.Use USB Mouse instead of PS/2 Mouse.

2.Disabled either "Onboard Serial Port1", "Onboard Serial Port2" or "Onboard Parallel Port" in BIOS setting.

"*" For GA-7VRXP Only.

♣ Enable Enable onboard USB 2.0 Device.(Default value)

♣ Disable Disable onboard USB 2.0 Device.

$\hspace{-0.5cm} \not\hspace{-0.5cm} \hspace{-0.5cm} \hspace{-$

#RAID Enable onboard RAID Device.

♣ATA Enable onboard ATA Device. (Default value)

♣ Disable Disable onboard ATA/RAID Device.

[&]quot;*" For GA-7VRXP Only.

Hardware Monitor & MISC Setup

AMIBIOS SETUP - HARDWARE MONITOR & MISC SETUP				
(C) 199	99 American Megatre	ends, Inc. All Rights Reserve	ed	
AGP Voltage	:1.5V			
DDR Voltage	:2.5V			
VCore Voltage	:Normal			
CPU Host Clock (Mhz)	:By Hw			
*Reset Case Open Status	:No			
#Case Status	:Open			
CPU Temp.	: 35°C/ 95°F			
System Temp.	: 33°C/ 91°F			
CPU Fan Speed	: 5273 RPM			
System Fan Speed	: 0 RPM			
Vcore	: +1.632V			
Vtt	: +3.344V			
+3.300V	: +3.296V	F1 : Help	PU/PD+/-/: Modify	
+5.000V	: +5.080V	F5 : Old Values	(Shift)F2: Color	
+12.000V	: +11.840V	F6 : Fail-Safe	F7 : Optimized	
5V SB	: +4.972V	F8 : Dual BIOS/Q-Flash		

Figure 10: Hardwar & Monitor & MISC Setup

AGP Voltage

♣1.5V Set AGP voltage to 1.5V. (Default Value)

\$1.6V
\$1.7V
\$1.7V
\$1.8V
\$1.8V
\$1.8V
\$2 AGP voltage to 1.7V
\$2 AGP voltage to 1.8V

\mathbb{Z} DDR Voltage

3.5 3.5 3.5 3.5 4.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5

\$2.6V
\$2.7V
\$2.7V
\$2.8V
\$et DDR voltage to 2.7V.
\$et DDR voltage to 2.8V.

"#" Only for GA-7VRX/GA-7VRXP PCB Ver.1.1 use.

∠ VCore Voltage

♣ Normal	Normal Function.(Default Value)
+ 5.0%	Set VC ore voltage to +5.0%.
+ 7.5%	Set VC ore voltage to +7.5%.
4 +10.0%	Set VC ore voltage to +10.0%.

∠ CPU Host Clock (Mhz)

♣By Hw Set CPU Host Clock by Hw. (Default Value)
 ♣133 Set CPU Host Clock to 133MHz~161MHz.
 ♣100 Set CPU Host Clock to 100Mhz~128MHz.

#@Reset Case Open Status

Case Status

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

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

If you want to reset "Case Opened" value, set "Reset Case Open Status" to

"Yes" and save CMOS, your computer will restart.

∠ CPU/ Sys tem Temp.

♣ Detect CPU / SystemTemperature automatically.

∠ CPU / System FAN Speed

♣Detect CPU / System Fan speed status automatically .

lpha Current Voltage (V) VCORE/ Vtt / +3.3 V / +12 V / +5 V / 5 VSB

Detect system's voltage status automatically.

"#" Only for GA-7VRX/GA-7VRXP PCB Ver.1.1 use.

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.

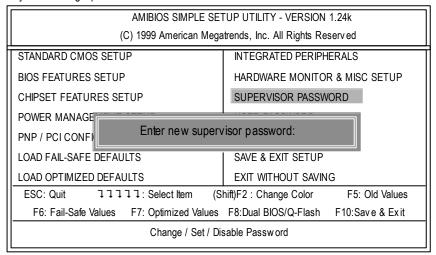


Figure 11: Password Setting

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 programallows 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

```
AMIBIOS SETUP - STANDARD CMOS SETUP
               (C) 1999 American Megatrends, Inc. All Rights Reserved
Date (mm/dd/yyyy): Fri Mar 16, 2001
Time (hh/mm/ss) : 14:44:35
            TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE
Pri Master : Auto
Pri Slave : Auto
Sec Master: Auto
Sec Slave : Auto
Floppy Drive A : 1.44 MB 3^{1/2}
                                            Base Memory: 640 Kb
Floppy Drive B: Not Installed
                                           Other Memory: 384 Kb
                                            Extended Memory: 255 Mb
Boot Sector Virus Protection : Disabled
                                            Total Memory: 256 Mb
Month: Jan - Dec
                                           ESC: Exit
Day : 01- 31
                                            Year : 1990 - 2099
                                            PU / PD / + / - : Modify
                                            (Shift) F2: Color
```

Figure 12: IDE HDD Auto Detection

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

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

Save & Exit Setup

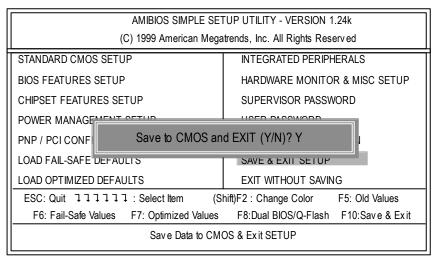


Figure 13: Save & Exit Setup

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

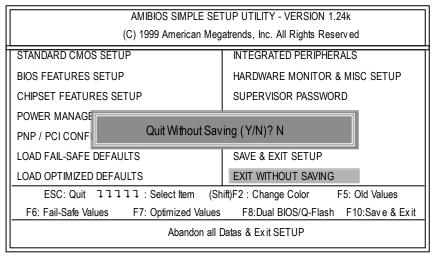


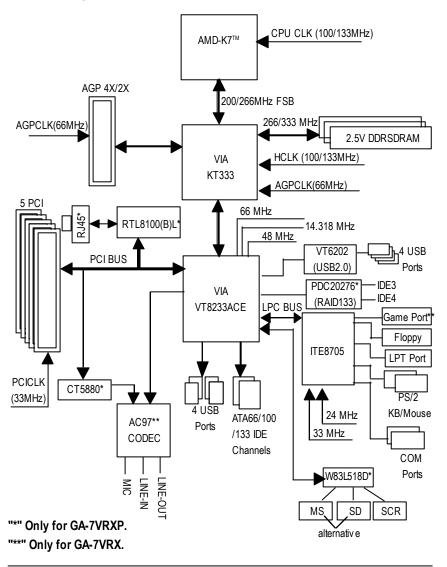
Figure 14: Exit Without Saving

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

Type "N" will return to Setup Utility.

Chapter 4 Technical Reference

Block Diagram



Dual BIOS & Q-Flash Utility Introduction

A. What is Dual BIOS Technology?

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

B. How to use Dual BIOS and Q-Flash Utility?

a. Boot Screen



b. Dual BIOS Utility

	Dual BI	OS Utility			
Boot From	Boot FromMain BIOS				
Main ROM Type		SST 39S	F020		
Backup ROM Type		SST 39S	F020		
Wide I	Range Protection	Disable			
	Boot From	MainBIOS			
	Auto Recovery	Enable			
	Halt On Error	Disable			
Сору	/ Main ROM Data	a to Backup			
Load Default Settings					
	Save Settings to	CMOS			
	Q-Flash Uti	ility			
Load Main BIOS From Floppy					
Load Backup BIOS From Floppy					
Save Main BIOS to Floppy					
Save Backup BIOS to Floppy					
PgDn/PgUp:Modify	Ղ Ղ:Move	ESC:Re	set	F10:Power Off	

c. Dual BIOS Item explanation:

BIOS will auto detect: Boot From : Main BIOS

Main ROM Type: SST 39SF020 Backup ROM Type: SST 39SF020

Wide Range Protection: Disable(Default), Enable

Status 1:

If any failure (ex. Update ESCD failure, checksum error or reset...) occurs in the Main BIOS , just before the Operating System is loaded and after the power is on, and that the Wide Range Protection is set to "Enable", the PC will boot from Backup BIOS automatically.

Status 2:

If the ROM BIOS on peripherals cards(ex. SCSI Cards, LAN Cards,...) emits signals to request restart of the system after the user make any alteration on it, the boot up BIOS will not be changed to the Backup BIOS.

Boot From: Main BIOS (Default), Backup BIOS

Status 1:

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

Auto Recovery: Enabled(Default), Disabled

When one of the Main BIOS or Backup BIOS occurs checksum failure, the working BIOS will automatically recover the BIOS of checksum failure.

(In the Power Management Setup of the BIOS Setting, if ACPI Suspend Type is set to Suspend to RAM, the Auto Recovery will be set to Enable automatically.)

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

Halt On Error: Disable(Default), Enable

If the BIOS occurs a checksum error or the Main BIOS occurs a WIDE RANGE PROTECTION error and Halt On BIOS Defects set to Enable, the PC will show mes sages on the boot screen, and the system will pause and wait for the user's instruction. If Auto Recovery: Disable, it will show <or the other key to continue.>

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

Copy Main ROM Data to Backup

Backup message:

Are you sure to copy BIOS?

[Enter] to continue or [Esc] to abort...

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

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

C. What is Q-Flash Utility?

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

D. How to use Q-Flash?

Load Main (Backup) BIOS From Floppy

- ≤ In the A:drive, insert the "BIOS" diskette, then Press Enter to Run.
- ≤ You can use the light bar to select item. then Press "Enter".

Dual BIOS Utility						
Boot Fron	Boot FromMain BIOS					
Main RO	М Туре		SST 39SF020			
Backup F	ROM Type		SST 39SF020			
		3 file(s) found	d			
	COMMAND	.COM	92.8K			
	FLASH848.E	XE	472.16K			
	7VRXP.E8		256K			
	Total size: 1.39M		Free size:316k			
	F5:Refresh		DEL:Delete			
	Q-Flash Utility					
Load Main BIOS From Floppy						
Load Backup BIOS From Floppy						
Save Main BIOS to Floppy						
Save Backup BIOS to Floppy						
PgDn	/PgUp:Modify	ՂՂ:Move	ESC:Reset	F10:P	ower Off	

Reading BIOS file from Floppy

Don't Turn Off Power or RESET System...

CHECKSUM=78B7

Are you sure to update BIOS?

[Enter] to continue or [Esc] to abort....

!!COPY BIOS Complete-Pass!!

Please press any key to continue

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

Save Main (Backup) BIOS to Floppy

- ✓ In the A:drive, insert the "BIOS" diskette, then Press Enter to Run.
- ∠ You can use the light bar to select item. then Press "Enter".

	Dual E	NOS IIflity					
Dual BIOS Utility							
	Boot FromMain BIOS						
Main ROM 7	Т у ре	SST 39SF020					
Backup RON	/ Type	SST 39SF020					
	TYPE FI	LE NAME					
	File name:						
	3 file(s	s) found					
	COMMAND.COM	92.8K					
	FLASH848.EXE	472.16K					
	7VRXP.E8	256K					
	Total size: 1.39M	Free size:316k					
	F5:Refresh	DEL:Delete					
Loau Waiii Dio S Froiti Froppy							
Load Backup BIOS From Floppy							
Save Main BIOS to Floppy							
	Save Backup I	BIOS to Floppy					
PgDn/Pg	Up:Modify 77:Move	ESC:Reset	F10:Power Off				

Saving BIOS to floppy

Don't Turn Off Power or RESET System...



DualBIOS™ Technology FAQ

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

What's DualBIOS™?

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

I. Q: What is DualBIOS™ technology?

Answer:

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

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

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

- New computer viruses are being found that attack and destroy the system BIOS. They may corrupt your BIOS code, causing your PC to be unstable or even not boot normally.
- 2. BIOS data will be corrupted if a power loss/surge occurs, or if a user resets the system, or if the power button is pressed during the process of performing a system BIOS upgrade.
- If a user mistakenly updates their mainboard with the incorrect BIOS file, then the system may not be able to boot correctly. This may cause the PC system hang in operation or during boot.
- 4. A flash ROM's life cycle is limited according to electronic characteristics. The modern PC utilizes the Plug and Play BIOS, and is updated regularly. If a user changes peripherals often, there is a slight chance of damage to the flash ROM.
 With Giga-Byte Technology's patented DualBIOS™ technology you can reduce the possibility of hangs during system boot up, and/or loss BIOS data due to above reasons. This new technology will eliminate valuable system down time and costly repair bills cause by BIOS failures.

III. Q: How does DualBIOS™ technology work?

Answer:

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

IV. Q: Who Needs DualBIOS™ technology?

Answer:

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

- 2. During or after a BIOS upgrade, if DualBIOS™ detects that the main BIOS is corrupt, the backup BIOS will take over the boot-up process automatically. Moreover, it will verify the main and backup BIOS checksums when booting-up. DualBIOS™ technology examines the checksum of the main and backup BIOS while the system is powered on to guarantee your BIOS operates properly.
- 3. Power Users will have the advantage of having two BIOS versions on their mainboard. The benefit is being able to select either version BIOS to suit the performance system needs.
- 4. Flexibility for high-end desktop PCs and workstation/servers. In the DualBIOS™ utility, the option can be set, "Halt On When BIOS Defects," to be enabled to halt your system with awarning message that the main BIOS has been corrupted. Most workstation/servers require constant operation to guarantee services have not been interrupted. In this situation, the "Halt On When BIOS Defects" message may be disabled to avoid system pauses during normal booting. Another advantage you gain from Giga-Byte's DualBIOS™ technology is the ability to upgrade from dual 2 Mbit BIOS to dual 4 Mbit BIOS in the future if extra BIOS storage is need.

SPDIF Introduction (For GA-7VRXP Only)

SPDIF Introduction

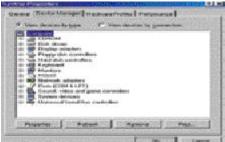
A. What is SPDIF?

The SPDIF output is capable of providing digital signal to AC3 decoder which can support upto 5.1 speakers.

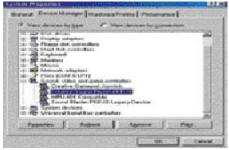
B. How to use SPDIF?



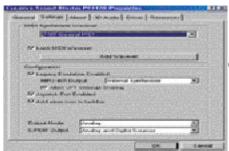
Click your mouse right button in "My Computer" and select the "Properties" item.



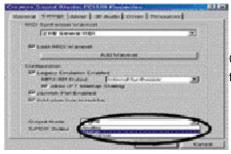
Click "Device Manager" item.



Click "Sound, vidio and game controllers" item and select the "Creative Sound Blaster PCI128" item.



Click "Settings" item and select the "Output Mode" item.



Click "Digital" item, Line Out will be reconfigure to SPDIF Out.

Recommend you to select "Autosense", It will automatically detect the type (mono or stereo) of the audio connector that you plug into Line Out audio jack, then configure Line Out to either SPDIF or Speaker accordingly.

@ 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.

May be 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 Gigaby te'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 Gigaby te 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 Gigaby te, 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, Gigaby te'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*lll 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 lotof technical know-how, sometimes "over-

drive" is even considered as special skills found only in some enthusiasts.

But as to the experts in "overdrive", whats 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 Easy TuneIII—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 overdocking. In "Advanced Mode", one can change the system bus speed in small increments to getultimate system performance. And no matter which mainboard is used, if it's a Gigaby te's product*, Easy TuneIII helps to perform the best of system.

Besides, different from other traditional over-clocking methods, Easy TuneIII 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 Easy TuneIII 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 Easy TuneIII, user can "Save" this bus speed and "Load" it in next time. Obviously, Gigabyte Easy TuneIII has already turned the "overdrive" technology toward to a newer generation.

This wonderful softw are is now free bundled in Gigabyte motherboard attached driver C.D. Users may make a test drive of "Easy TuneIII" to find out more amazing features by themselves.

RAID Introduction

What is RAID?

This motherboard implements two different types of RAID levels as follows:

RAID 0 (stripe)

For capacity -- The motherboard array will be as big as the smallest HDD in the array times however many HDDs are in the array. Any larger HDDs will simply be truncated. The truncated space on the bigger HDDs will then be unusable.

For sustained data transfers -- A RAID 0 array consisting of two HDDs will transfer at about twice the speed of the slowest HDD in the array. A RAID 0 array consisting of four HDDs will transfer at about three times the speed of the slowest HDD in the array.

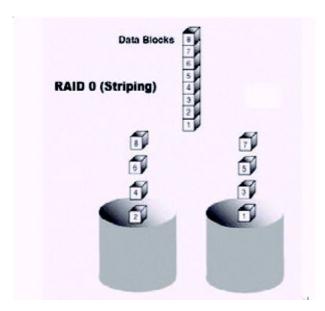
RAID 1 (mirror)

For capacity - This Motherboard array will be as big as the smallest HDD in the array. The larger HDD will simply be truncated. The truncated space on the bigger HDD will then be unusable. For sustained data transfers — This motherboard array will write data at the rate of the slowest HDD in the array. This motherboard array will read data at twice the rate of the slowest HDD in the array.

About RAID Levels Striping (RAID 0)

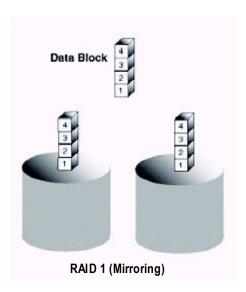
Reads and writes sectors of data interleaved between multiple drives. When any disk member fails, it affects the entire array. Performance is better than a single drive since the workload is balanced between the array members. This array type is for high performance systems. Identical drives are recommended for performance as well as data storage efficiency. The disk array data capacity is equal to the number of drive members times the smallest member capacity. For example, one 1GB and 1 drives will form a 2GB (2 x 1GB) disk array.

Stripe Size - a value can be set from 1KB to 1024KB sector size. The size can directly affect performance. In the FastBuild BIOS, the "Desktop" default is 8KB while "Server" and "A/V Editing" are 64KB.



Mirroring (RAID 1)

Writes duplicate data on to a pair of drives while reads are performed in parallel. ATA RAID 1 is fault tolerant because each drive of a mirrored pair is installed on separate IDE channels. If one of the mirrored drives suffers a mechanical failure (e.g. spindle failure) or does not respond, the remaining drive will continue to function. This is called Fault Tolerance. If one drive has a physical sector error, the mirrored drive will continue to function.



On the next reboot, the FastBuild[™] utility will display an error in the array and recommend to replace the failed drive. Users may choose to continue using their PC, however Promise recommends replacing the failed drive as soon as possible. See Chapter 4 for a functional description.

Due to redundancy, the drive capacity of the array is half the total drive capacity. For example, two 1GB drives that have a combined capacity of 2GB would have 1GB of usable storage. With drives of different capacities, there may be unused capacity on the larger drive.

Creating Your Disk Array

You will now use the FastBuild BIOS utility to create your array using the attached drives. There are two different scenarios in creating this array. You can create an array for performance, you can create a Security array using new hard drives (recommended).



WARNING: If creating a Security array using an existing hard drive, backup any necessary data. Failure to follow this accepted PC practice could result in data loss

 Boot your system. If this is the first time you have booted with RAID, the FastBuild BIOS will display the following screen.

FastTrak100 (tm) "Lite" BIOS Version 1.xx (Build xxxx)

(c) 1995-2001 Promise Technology, Inc. All Rights Reserved.

No array defined . . .

Press <Ctrl-F> to enter FastBuild (tm) Utility

Or press <ESC> key to continue booting the system.

- 2. Press <Ctrl-F> keys to display the FastBuild (tm) Utility Main Menu
- 3. Press "1" to display the Auto Setup Menu below. This is the fastest and easiest method to creating your first array.

Creating an Array for Performance

NOTE: This motherboard allows users to create striped arrays with 1, 2 drives.

To create an array for best performance, follow these steps:

- 1. Using the Spacebar, choose "Performance" under the Optimize Array for section.
- 2. Select how you will use your PC most under the Typical Application usage section The choices are A/V Editing, Server, and Desktop (the default).
- 3. Press < Ctrl-Y > keys to Save and create the array.
- 4. Reboot your system.
- 5. Once the array has been created, you will need to FDISK and format the array as if it were a new single hard drive.
- 6. Proceed to Installing Drivers section of the manual (see RAID Manual of the IUCD).

Creating a Security Array With New Drives

NOTE: This motherborad permit only two drives to be used for a single Mirrored array in Auto Setup. To create an array for data protection using new hard drives, follow these steps:

- 1. Using the Spacebar, choose "Security" under the Optimize Array for section.
- 2. Press <Ctrl-Y> keys to Save your selection.
- 3. The window below will appear.

Do you want the disk image to be duplicated to another? (Yes/No)

Y - Create and Duplicate

N - Create Only

- 4. Press "N" for the Create Only option.
- A window will appear almost immediately confirming that your Security array has been created.Press any key to reboot the system

Array has been created. <Press Any Key to Reboot>

- 6. Proceed with normal FDISK and format procedures as if you had just installed a new hard drive.
- 7. Once the arrayed drives have been formatted, proceed to the Installing Driver chapter (see RAID Manual of the IUCD) to install your operating system.

Creating a Security Array With An Existing Data Drive

NOTE: This motherboard permits only two drives to be used for a single Mirrored array in Auto Setup.

You would use this method if you wish to use a drive that already contains data and/or is the bootable system drive in your system. You will need another drive of identical or larger storage capacity.



WARNING: Backup any necessary data before proceeding. Failure to follow this accepted PC practice could result in data loss.



WARNING: If you wish to include your current bootable drive using the Windows NT 4.x or Windows 2000 operating system as part of a bootable Mirrored (RAID 1) array on your system, do NOT connect the hard drive to the motherboard controller yet. You MUST install the Windows NT4 or 2000 driver software first (see RAID Manual of the IUCD) to this drive while it is still attached to your existing hard drive controller. For all other Operating Systems, proceed here.

Follow these steps:

- 1. Using the Spacebar, choose "Security" under the Optimize Array for section.
- 2. Press <Ctrl-Y> keys to Save your selection. The window below will appear.

Do you want the disk image to be duplicated to another? (Yes/No)

- Y Create and Duplicate
- N Create Only
- 3. Press "Y" for the Create and Duplicate option. The window below will appear asking you to select the Source drive to use. FastBuild will copy all data from the Source drive to the Target drive.

_				_		
	Source Disk					
	Channel:ID	Drive Model	Capacity (MB)			
		Target Dis	k			
	Channel:ID Drive Model Capacity (MB)					
	[Please Select A Source Disk]					
	Channel:ID	nannel:ID Drive Model Capacity (MB)				
	1:Master	QUANTUMCR8.4A	8063			
	2:Master	QUANTUMCR8.4A	8063			
		[√] Up [√]DOWN	[ESC] Exit [Enter] Select			

- 4. Use the arrow keys to choose which drive contains the existing data to be copied.
- 5. Press [Enter] keys to selection and start duplication. The following progress screen will appear

Start to duplicate the image . . . Do you want to continue? (Yes/No)

Y - Continue

N - Abort

- 6. Select "Y" to continue. If you choose "N" , you will be returned to step 1.
- 7. Once complete, the following screen will appear confirming that your Security array has been created. Press any key to reboot the system

Array has been created.
<Press Any Key to Reboot>

8. Proceed to the Installing Driver chapter (see RAID Manual of the IUCD) to install the RAID driver and/or operating system.

Using FastBuild™ Configuration Utility

The FastBuild[™] Configuration Utility offers several menu choices to create and manage the drive array on the motherboard. For purposes of this manual, it is assumed you have already created an array in the previous chapter and now wish to make a change to the array or view other options.

Viewing BIOS Screen

When you boot your system with the RAID function and drives installed, the FastBuild BIOS will detect the drives attached and show the following screen.

```
FastTrak100 (tm)"Lite" BIOS Version 1.xx (Build xx)

(c) 1995-2001 Promise Technology, Inc. All Rights Reserved.

Scanning IDE drives . . . . .
```

If an array exists already, the BIOS will display the following screen showing the board RAID BIOS version and status of the array.

```
FastTrak100 (tm) "Lite"BIOS Version 1.xx (Build xxxx)

(c) 1995-2001 Promise Technology, Inc. All Rights Reserved.

ID MODE SIZE TRACK-MAPPING STATUS

1 * 1*2 Mirror 16126M 611/128/32 Functional

Press <Ctrl-F> to enter FastBuild (tm) Utility....
```

The array status consists of three possible conditions: Functional, Critical, Offline. Functional - The array is operational.

Critical - A mirrored array contains a drive that has failed or disconnected. The remaining drive member in the array is functional. However, the array has temporarily lost its ability to provide fault tolerance. The user should identify the failed drive through the FastBuildO Setup utility, and then replace the problem drive.

Offline - A striped array has 1 drive that has failed or been disconnected. When the array condition is "offline," the user must replace the failed drive(s), then restore data from a backup source.

Navigating the FastBuild™ Setup Menu

When using the menus, these are some of the basic navigation tips: Arrow keys highlights through choices; [Space] bar key allows to cycle through options;

[Enter] key selects an option; [ESC] key is used to abort or exit the current menu.

Using the Main Menu

This is the first option screen when entering the FastBuild™ Setup.

To create a new array automatically, follow the steps under "Creating Array's Automatically" on page 80. Promise recommends this option for most users.

To view drives assigned to arrays, see "Viewing Drive Assignments" on page 82.

To delete an array (but not delete the data contained on the array), select "Deleting An Array" on page 84

To rebuild a mirrored array, see "Rebuilding an Array" on page 86.

To view controller settings, see "Viewing Controller Configuration" on page 88.



NOTE: After configuring an array using FastBuild, you should FDISK and format the arrayed drive(s) if you are using new, blank drives. Depending on the type of array you are using.

Creating Arrays Automatically

The Auto Setup <1> selection from the Main Menu can intuitively help create your disk array. It will assign all available drives appropriate for the disk array you are creating. After making all selections, use Ctrl-Y to Save selections. FastBuild will automatically build the array.

Optimize Array For

Select whether you want Performance (RAID 0), Security (RAID 1) under the "Optimize Array for" setting.

Performance (RAID 0 Striping)

Supports the maximum performance. The storage capacity equals the number of drives times the capacity of the smallest drive in the disk array.

NOTE: This motherboard permits striped arrays using 1, 2 drive attached in Auto Setup mode. Security (RAID 1 Mirroring)

Creates a mirrored (or fault tolerant) array for data security.

NOTE: Under the Security setting, This motherboard permits two drives to be used for a single Mirrored array only.

Defining Typical Application Usage

Allows the user to choose the type of PC usage that will be performed in order to optimize how This motherboard handles data blocks to enhance performance. Your choice will determine the block size used. You may choose from: A/V Editing (for audio/v ideo applications, or any similar application that requires large file transfers), Server (for numerous small file transfers), or Desktop (a combination of large and small file sizes).

Viewing Drive Assignments

The View Drive Assignments <2> option in the Main Menu displays whether drives are assigned to a disk arrays or are unassigned.

Under the "Assignment" column, drives are labeled with their assigned disk array or shown as "Free" if unassigned. Such "Free" drives can be used for a future array. Unassigned drives are not accessible by the OS. The menu also displays the data transfer mode that relates to speed used by each drive (U5 refers to 100MB/sec transfers, U4 refers to 66MB/sec transfers, etc...)

FastBuild (tm) Utility 1.32 (c) 1996-2001 Promise Technology, Inc.				
	[View	w Drive Assignments	s]	
Channel:ID	Drive Model	Capacity (MB)	Assignment	Mode
1: Master	QUANTUMCR8.4A	8063	Array 1	U5
1 : Slave	QUANTUMCR8.4A	8063	Free	U5
2 : Master	QUANTUMCR8.4A	8063	Array 1	U5
	[Key	s Available]		
[] Up [] D	own [ESC] Exit Mode	e (P=PIO, D=DMA,	U=UDMA)	

How Orders Arrays

During startup, the disk arrays on the motherboard are recognized in this order: 1) The array set to bootable in the FastBuildTM Setup, and 2) the Array number (i.e. Array 0, Array 1_i K). This would be involved in determining which drive letters will be assigned to each disk array.

How Saves Array Information

All disk array data is saved into the reserved sector on each array member. We suggests that users record their disk array information for future reference.

Another feature of the motherboard disk array system is to recognize drive members even if drives are moved between different motherboard connectors(IDE3&IDE4). Since each drive's array data identifies itself to the array, it is possible to move or swap drives without modifying the array setup. This is valuable when adding drives, or during a rebuild.

Deleting An Array

The Delete Array <4> Menu option allows for deletion of disk array assignments. This is not the same as deleting data from the drives themselves. If you delete an array by accident (and before it has been used again), the array can normally be recovered by defining the array identically as the deleted array.



WARNING: Deleting an existing disk array could result in its data loss. Make sure to record all array information including the array type, the disk members, and stripe block size in case you wish to undo a deletion.

	FastBuild (tm) Utilit	ity 1.32 (c) 1996-2001 Promise Technology, Inc.		
		[Delete Array Menu]		
Array No	RAID Mode	Total Drv	Capacity (MB)	Status
Array 1	Mirror	2	8063	Functional
Array 2	Stripe	1	8063	Functional
Array 3	Stripe	1	8063	Functional
Array 4				
	[Keys Available]			
	[7] Up [7] Down	[ESC] Exit	[Del] Delete	

- 1. To delete an array, highlight the Array you wish to delete and press the [Del] key.
- 2. The View Array Definition menu will appear (see below) showing which drives are assigned to this array.

	FastBuild (tm) Utilit	y 1.32 (c) 1996	6-2001 Promise Techno	ology, Inc.
	[Define Array Menu]			
Array No	RAID Mode	Total Drv	Capacity (MB)	Status
Array 1	Mirror	2	8063	Functional
Stripe Block:	64 KB			
		[Drive Assig	nments]	
Channel:ID	Drive Model		Capacity (MB)	Assignment
1 : Master	QUANTUMC	R8.4A	8063	Υ
2 : Master	QUANTUMC	R8.4A	8063	Υ

3. Confirm yes to the following warning message with the <Ctrl-Y> key to continue array deletion:

Are you sure you want to delete this array?
Press Ctrl-Y to Delete, others to Abort

4. After deleting the array, you should create a new array using Auto Setup or the Define Array menu from the FastBuild Main Menu.

Rebuilding A Mirrored Array

The Rebuild Array <5> Menu option is necessary to recover from an error in a mirrored disk array. You will receive an error message when booting your system from the BIOS.

NOTE: Drives MUST be replaced if they contain any physical errors.

Follow these steps BEFORE using the Rebuild Array menu option:

- 1. On bootup, the system Startup BIOS will display an error message identifying which drive has failed.
- 2. Press <Ctrl-F> keys to enter FastBuild Main Menu.
- 3. Select submenu Define Array <3>.
- 4. Select the failed array and identify the Channel and ID of the failed drive.
- 5. Power off and physically remove the failed drive.
- 6. Replace the drive with an identical model.
- 7. Reboot the system and enter the FastBuild Main Menu.
- 8. Select the <5> Rebuild Array option. The following screen will appear.

	FastBuild (tm) Utilit	u) Utility 1.32 (c) 1996-2001 Promise Technology, Inc.			
		[Rebuild Array Menu]			
Array No	RAID Mode	Total Drv Capacity (MB) Status			
Array 1	Mirror	2	16126	Critical	
Array 2	Stripe	1	8063	Functional	
Array 3	Stripe	1	8063	Functional	
Array 4					
[Keys Available]					
[٦] Up [٦] Down [ESC] Exit [Enter] Select					

- 9. Highlight the array whose Status is "Critical".
- 10. Press [Enter]. The following screen will then appear (see next page).

FastBuild (tm) Utility 1.32 (c) 1996-2001 Promise Technology, Inc. [Rebuild Array Menu]

The Previous recovery is not complete!

<Press Any Key to Restart The Recovery>

11. Press any key and confirm that the data will be copied on to the selected drive. All data on the replacement drive will be written over with mirrored information from the array drive. A progress bar will appear as below.



12. Once the rebuild process is complete, the user will be asked to reboot the system.

Viewing Controller Settings

The Controller Configuration <6> menu selection allows you to enable or disable the BIOS from halting (the default) if it detects an error on boot up. You may also view the system resources (Interrupt and I/O port address) of data channels

FastBuild (tm) Utility 1.32 (c) 1996-2001 Promise Technology, Inc.

[Adapter C onfiguration - Options]

Halt On Error: Enable

[System Resources Configuration]

Channel 1 (IDE1) Interrupt: A I/O Port: 9800

Channel 2 (IDE2) Interrupt: A I/O Port: A000

[Keys Available]

[],] Space] Change Option [ESC] Exit

Halting BIOS On Bootup Errors

The [Adapter Configuration - Options] section allows you to enable or disable The system to Halt operation at the BIOS startup screen should an error be detected. This is the only option that can be changed on this screen.

Viewing System Resources

The [System Resources Configuration] section of this submenu displays the PCI slot interrupt and port address used by the system. The resources used are determined by the Mainboard PCI PnP BIOS for the PCI slot in which the system resides.

In the rare case that there is a resource conflict, refer to the Mainboard BIOS documentation on changes on resources allocated to the system PCI slot.

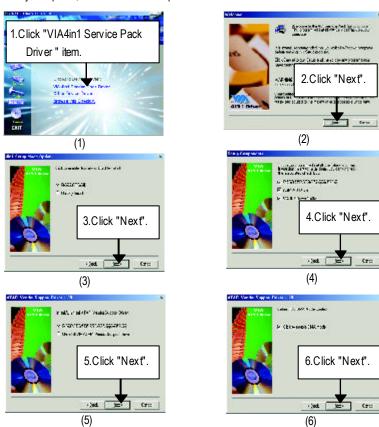
Chapter 5 Appendix

Picture below are shown in Windows ME

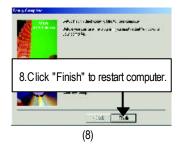
Appendix A: VIA 4 in 1 Service Pack Driver Installation

A. VIA 4 in 1 Service Pack Driver 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.







Appendix B: AC97 Sound Chipset Driver

"AC'97 Audio Driver" under Windows ME will auto install.

Appendix C: Creative CT5880 Chipset Driver Installation (Only for GA-7VRXP)

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.





Appendix D: RealTek 8139/8100 Network Driver (Only for GA-7VRXP)

"RealTek 8139/8100 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:).







Appendix E: Other Device Driver

E-1:Promise RAID Driver Information



E-2:FastTrak Utilities Information



(3)





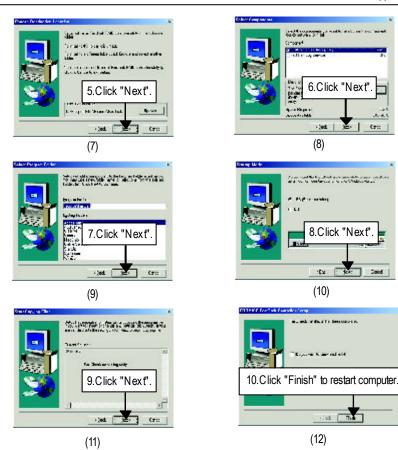
(2)



(4)

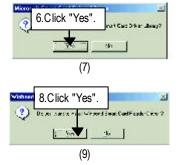


92



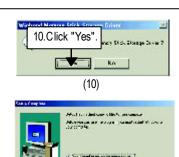


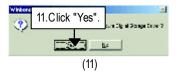












E-4:Winbond Smart Manager for Smart Card Reader

12.Click "Finish" to restart computer.

(12)













E-5:ATA133 Driver setup Information

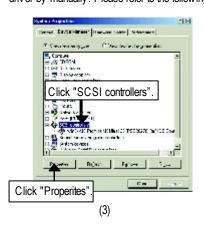
(This manual assumes that your CD-ROM device drive letter is D:).





(2)

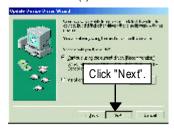
If you want to install ATA133 Driver, go to "Control Panel-->System-->Device Manager" and install driver by manually. Please refer to the following precedure:



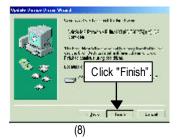








(6)



(7)



(9)

E-6:USB 2.0 Host controller



(1)





(2)



(4)

Appendix F: Face-Wizard Utilities Installation

What is Face-Wizard™?

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

How does it work?

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

What's benefit for using Face-Wizard™?

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





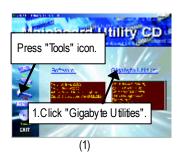






Appendix G: EasyTuneIII Utilities Installation

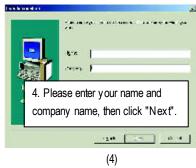
Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

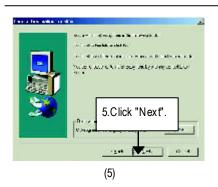






(3)











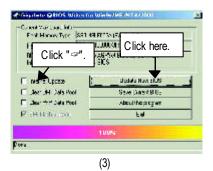
Appendix H: BIOS Flash Procedure

BIOS update procedure:

If your OS is Win9X, we recommend that you used Gigabyte @BIOS $^{\text{TM}}$ Program to flash BIOS.







Methods and steps:

- I. Update BIOS through Internet
- a. Click "Internet Update" icon
- b. Click "Update New BIOS" icon
- c. Select @BIOS™ sever ("Gigabyte @BIOS™ sever 1 in Taiwan" and "Gigabyte @BIOS™ sever 2 in Taiwan" are available for now, the others will be completedsoon)
- d. Select the exact model name on your motherboard
- e. System will automatically download and update the BIOS.

- II. Update BIOS NOT through Internet:
- a. Do not click "Internet Update" icon
- b. Click "Update New BIOS"
- c. Please select "All Files" in dialog box while opening the old file.
- d. Please search for BIOS unzip file, downloading from internet or any other methods (such as: 7VRXP.F1).
- e. Complete update process following the instruction.

III. Save BIOS

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

IV. Check out supported motherboard and Flash ROM:

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

Note:

- a. In method I, if it shows two or more motherboard's model names to be selected, please make sure your motherboard's model name again. Selecting wrong model name will cause the system unbooted.
- b. In method II, be sure that motherboard's model name in BIOS unzip file are the same as your motherboard's. Otherwise, your system won't boot.
- c. In method I, if the BIOS file you need cannot be found in @BIOS™ server, please go onto Gigaby te's web site for downloading and updating it according to method II.
- d. Please note that any interruption during updating will cause system unbooted

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

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

STEP 1:

- (1) Please make sure you have set "Auto" for BIOS Feature Setup (BIOS Flash Protection). For more detail please refer to page 34.
- (2) Please make sure your system has installed the extraction utility such as winzip or pkunzip. Firstly you have to install the extraction utility such as winzip or pkunzip for unzip the files. Both of these utilities are available on many shareware download pages like http://www.shareware.cnet.com

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

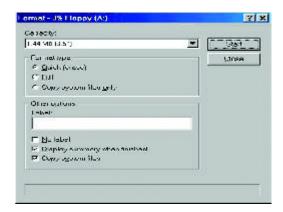
Beware: Windows ME/2000 are not allowed to make a DOS boot diskette.

(1) With an available floppy disk in the floppy drive. Please leave the diskette "UN-write protected" type. Double click the "My Computer" icon from Desktop, then click "3.5 diskette (A)" and right click to select "Format (M)"

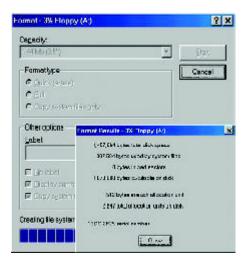


(2) Select the "Quick (erase)" for Format Type, and pick both "Display summary when finished" and "Copy system files", after that press "Start". That will format the floppy and transfer the needed system files to it.

Beware: This procedure will erase all the prior data on that floppy, so please proceed accordingly.



(3) After the floppy has been formatted completely, please press "Close".

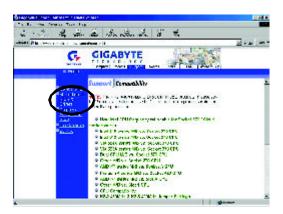


STEP 3: Download BIOS and BIOS utility program.

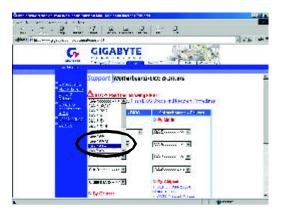
(1) Please go to Gigabyte website http://www.gigabyte.com.tw/index.html, and click "Support".



(2) From Support zone, click the "Motherboards BIOS & Drivers".



(3) We use GA-7VTX motherboard as example. Please select GA-7VTX by Model or Chipset optional menu to obtain BIOS flash files.



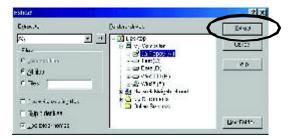
(4) Select an appropriate BIOS version (For example: F4), and click to download the file. It will pop up a file download screen, then select the "Open this file from its current location" and press "OK".



(5) At this time the screen shows the following picture, please click "Extract" button to unzip the files.



(6) Please extract the download files into the clean bootable floppy disk A mentioned in STEP 2, and press "Extract".



STEP 4: Make sure the system will boot from the floppy disk.

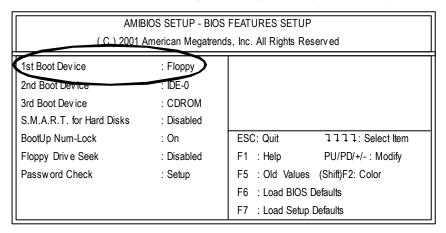
(1) Insert the floppy disk (contains bootable program and unzip file) into the floppy drive A. Then, restart the system. The system will boot from the floppy disk. Please press key to enter BIOS setup main menu when system is boot up.



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

AMIBIOS SIMPLE SETUI	P UTILITY - VERSION 1.24b
(C) 1999 American Megatren	nds, Inc. All Rights Reserved
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	HARDWARE MONITOR & MISC SETUP
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD
POWER MANAGEMENT SETUP	USER PASSWORD
PNP / PCI CONFIGURATION	IDE HDD AUTO DETECTION
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
ESC: Quit 1111: Select Item (Shi	ft)F2 : Change Color F5: Old Values
F6: Load BIOS Defaults F7: Load Setup Defaults	efaults F10:Save & Exit
Time, Date,	Hard Disk Type

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



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

AMIBIOS SIMPLE SET	TUP UTILITY - VERSION 1.24b				
(C) 2001 American Mega	atrends, Inc. All Rights Reserved				
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS				
BIOS FEATURES SETUP	HARDWARE MONITOR & MISC SETUP				
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD				
POWER MANAGEMENT SETUP	POWER MANAGEMENT SETUP				
PNP / PCI CONF Save to CMOS and EXIT (Y/N)? Y					
LOAD BIOS DEFAULTS	SAVE & EXII SETUP				
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING				
ESC: Quit 1111: Select Item (Shi	ift)F2 : Change Color F5: Old Values				
F6: Load BIOS Defaults F7: Load Setup Defaults F10:Save & Exit					
Save Data to CMOS & Exit SETUP					

STEP 5: BIOS flashing.

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

Starting Windows 98...

Microsoft(R) Windows 98
© Copyright Microsoft Corp 1981-1999

A:\> dir/w

Volume in drive A has no label

Volume Serial Number is 16EB-353D

Directory of A:\

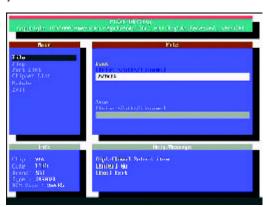
COMMAND.COM 7VTX.F4 FLASH841.EXE

3 file(s) 838,954 by tes

0 dir(s) 324,608 by tes free

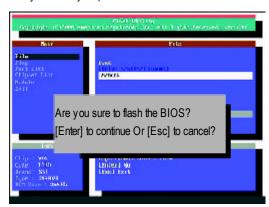
A:\> Flash841 7VTX.F4

(2) Now screen appears the following Flash Utility main menu. Press "Enter", the highlighted item will locate on the model name of the right-upper screen. Right after that, press "Enter" to start BIOS Flash Utility.

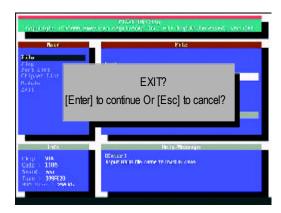


(3) It will pop up a screen and asks "Are you sure to flash the BIOS?" Press [Enter] to continue the procedure, or press [ESC] to quit.

Beware: Please do not turn off the system while you are upgrading BIOS. It will render your BIOS corrupted and system totally inoperative.



(4) The BIOS flash completed. Please press [ESC] to exit Flash Utility.

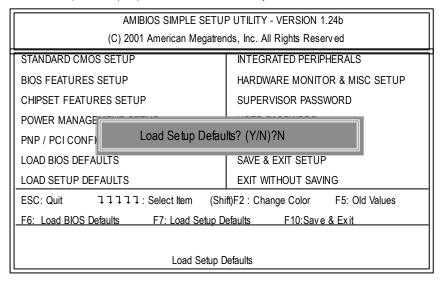


STEP 6: Load BIOS defaults.

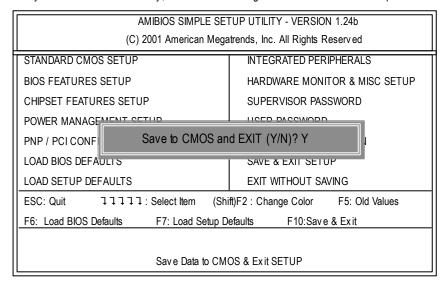
- Normally the system redetects all devices after BIOS has been upgraded. Therefore, we highly recommend reloading the BIOS defaults after BIOS has been upgraded. This important step resets everything after the flash.
- (1) Take out the floppy diskette from floppy drive, and then restart the system. The boot up screen will indicate your motherboard model and current BIOS version.



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



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



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

Appendix I:	: 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.....

GA-7VRX/GA-7VRXP Motherboard

Acrony ms	Meaning
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
MIDI	Musical Instrument Digital Interface
МТН	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

Customer/Country:		Company:		Phone No.:	
Contact Person		E-mail Add. :			
Model name/Lo	t Number:			PCB revision:	
BIOS version:		O.S./A.S.:		•	
Hardware	Mfs.	Model name	Size:	Driv er/U tility:	
Configuration					
CPU					
Memory					
Brand					
Video Card					
Audio Card					
HDD					
CD-ROM /					
DVD-ROM					
Modem					
Network					
AMR/CNR					
Key board					
Mouse					
Power supply					
Other Device					
Problem Descri	ption:	•			
_					