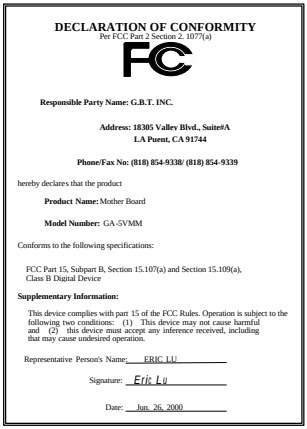
FCC Compliance Statement:



DECLARATION OF CONFORMITY
Per FCC Part 2 Section 2. 1077(a)

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

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

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

hereby declares that the product

Product Name: Mother Board

Model Number: GA-5VMM

Conforms to the following specifications:

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

Supplementary Information:

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

Representative Person's Name: ERIC LU

Signature: Eric Lu

Date: Jun. 26, 2000

This equipment has been tested and found to comply with limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna

-Move the equipment away from the receiver

-Plug the equipment into an outlet on a circuit different from that to which the receiver is connected

-Consult the dealer or an experienced radio/television technician for additional suggestions

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void Your authority to operate such equipment.

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

Declaration of Conformity

We, Manufacturer/Importer
(full address)

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

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

Mother Board
GA-5VMM

is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ **EN 55011**	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM high frequency equipment	☐ **EN 61000-3-2*** ☒ **EN60555-2**	Disturbances in supply systems caused by household appliances and similar electrical equipment "Harmonics"
☐ **EN55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☐ **EN61000-3-3*** ☒ **EN60555-3**	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☐ **EN 55014**	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☒ **EN 50081-1**	Generic emission standard Part 1: Residual, commercial and light industry
		☒ **EN 50082-1**	Generic immunity standard Part 1: Residual, commercial and light industry
☐ **EN 55015**	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ **EN 55081-2**	Generic emission standard Part 2: Industrial environment
☐ **EN 55020**	Immunity from radio interference of broadcast receivers and associated equipment	☐ **EN 55082-2**	Generic immunity standard Part 2: Industrial environment
☒ **EN 55022**	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	☐ **ENV 55104**	Immunity requirements for household appliances tools and similar apparatus
☐ **DIN VDE 0855** ☐ **part 10** ☐ **part 12**	Cabled distribution systems; Equipment for receiving and/or **distribution** from sound and television signals	☐ **EN 50091- 2**	EMC requirements for uninterruptible power systems (UPS)
☒ **CE marking**		CE (EC conformity marking)	

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

☐ **EN 60065**	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☐ **EN 60950**	Safety for information technology equipment including electrical business equipment
☐ **EN 60335**	Safety of household and similar electrical appliances	☐ **EN 50091-1**	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

(Stamp)

Date: Jun.26, 2000

Signature : *Rex Lin*

Name : Rex Lin

5VMM

Socket 7 Processor Motherboard

USER'S MANUAL

Socket 7 Processor Motherboard
REV. 2.1 First Edition
R-21-01-000712

How This Manual Is Organized

This manual is divided into the following sections:

1) Revision History	Manual revision information
2) Item Checklist	Product item list
3) Features	Product information & specification
4) Hardware Setup	Instructions on setting up the motherboard
5) Performance & Block Diagram	Product performance & block diagram
6) BIOS Setup	Instructions on setting up the BIOS software
7) Appendix	General reference

Table Of Content

Revision History

Revision	Revision Note	Date
2.1	Initial release of the 5VMM motherboard user's manual.	Jul.2000

Jul. 12, 2000 Taipei, Taiwan,

Item Checklist

☑The 5VMM motherboard

☑Cable for IDE / floppy device

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

☐Internal COM B Cable (Optional)

☐Internal USB Cable (Optional)

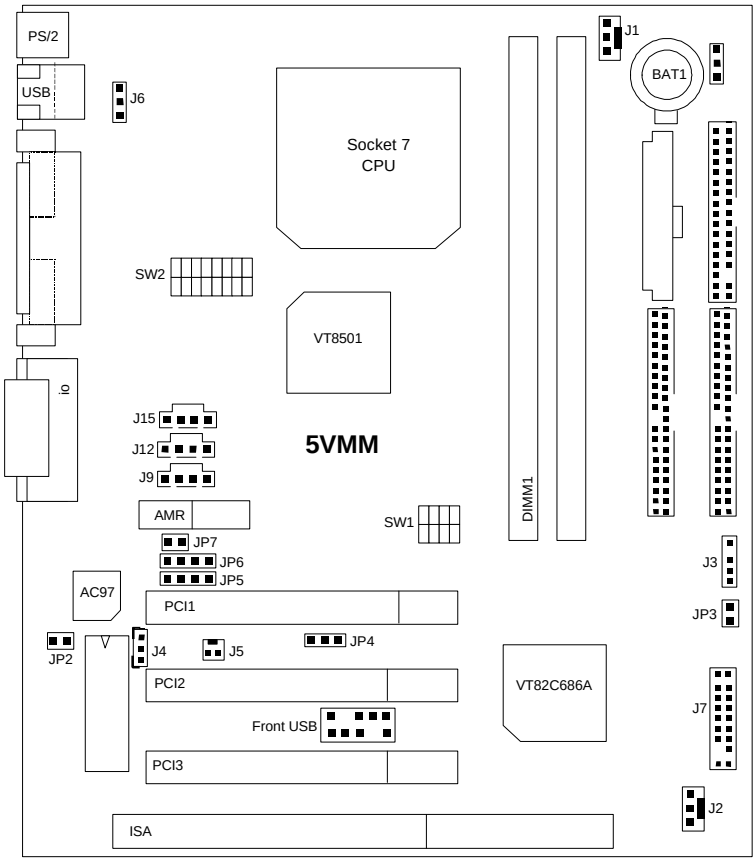
☐Cable for SCSI device

☑5VMM user's manual

Summary Of Features

Form Factor	• 24.6 cm x 18.6 cm Micro ATX size form factor, 4 layers PCB.
CPU	• Socket 7 processor • 2nd cache in CPU (Depend on CPU)
Chipset	• VT8501 • VT82C686A
Clock Generator	• ICS 9248-127 • 66/75/83/90/95/97MHz and 100MHz
Memory	• 2 168-pin DIMM sockets • Supports SDRAM 16MB~512MB(Max) • Supports only 3.3V SDRAM DIMM
I/O Control	• VT82C686A
Slots	• 3 PCI Slot Supports 33MHz & PCI 2.2 compliant • 1 ISA Slot • 1 AMR(Audio Modem Riser) slot
On-Board IDE	• 2 IDE bus master (DMA 33/ ATA66) IDE ports for up to 4 ATAPI devices • Supports PIO mode 3, 4 (UDMA33/ATA66) IDE & ATAPI CD-ROM
On-Board Peripherals	• 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88M bytes • 1 parallel ports supports SPP/EPP/ECP mode • 1 serial ports (COM A) • 4 USB ports (Front USB is optional) • 1 IrDA connector for IR
Hardware Monitor	• CPU/System fan revolution detect • CPU/System temperature detect • System voltage detect • CPU overheat shutdown detect
On-Board Sound	• AC '97 CODEC • Line In/Line Out/Mic In/AUX In/CD In/TEL/Game Port
BIOS	• Licensed AWARD BIOS, 2M bit flash ROM
PS/2 Connector	• PS/2 keyboard interface and PS/2 mouse interface
Additional Features	• Supports Wake-on-LAN (WOL)[Optional] • Supports Internal [Optional]/ External modem wake up • Includes 2 fan power connectors • Poly fuse for keyboard over-current protection

5VMM Motherboard Layout



CPU Speed Setup

The system bus speed is selectable at 66,75,83,90,95,97MHz and 100MHz.

CPU Voltage: O: ON/ X: OFF

SW2	1	2	3	4	5	SW2	1	2	3	4	5
1.3V	X	X	X	X	O	2.5V	O	X	O	X	X
1.4V	X	O	X	X	O	2.6V	X	O	O	X	X
1.5V	X	X	O	X	O	2.7V	O	O	O	X	X
1.6V	X	O	O	X	O	2.8V	X	X	X	O	X
1.7V	X	X	X	O	O	2.9V	O	X	X	O	X
1.8V	X	O	X	O	O	3.0V	X	O	X	O	X
1.9V	X	X	O	O	O	3.1V	O	O	X	O	X
2.0V	X	O	O	O	O	3.2V	X	X	O	O	X
2.1V	O	X	X	X	X	3.3V	O	X	O	O	X
2.2V	X	O	X	X	X	3.4V	X	O	O	O	X
2.3V	O	O	X	X	X	3.5V	O	O	O	O	X
2.4V	X	X	O	X	X	---	---	---	---	---	---

CPU Ratio:

SW2	6	7	8
X1.5	X	X	X
X2	O	X	X
X2.5	O	O	X
X3	X	O	X
X3.5	X	X	X
X4	O	X	O
X4.5	O	O	O
X5	X	O	O
X5.5	X	X	O

SW1:

FSB	S1	S2	S3	S4
66	O	X	X	X
75	X	X	X	O
83	O	X	O	X
90	O	O	X	X
95	X	O	O	X
97	X	X	O	X
100	O	O	O	X

♦Note: It's strongly recommended that set the system speed according to your hardware configuration: CPU, SDRAM, Cards, etc

O: ON / X: OFF

SWITCH	SW 2								SW1			
CPU / SW	S1	S2	S3	S4	S5	S6	S7	S8	S1	S2	S3	S4
1. Pentium® 133 MHz	O	O	O	O	X	O	X	X	O	X	X	X
2. Pentium® 166 MHz	O	O	O	O	X	O	O	X	O	X	X	X
3. Pentium® 200 MHz	O	O	O	O	X	X	O	X	O	X	X	X
4. Intel MMX-166MHz	X	X	X	O	X	O	O	X	O	X	X	X
5. Intel MMX-200MHz	X	X	X	O	X	X	O	X	O	X	X	X
6. Intel MMX-233MHz	X	X	X	O	X	X	X	X	O	X	X	X
7. AMD-K6/166 (2.9V)	O	X	X	O	X	O	O	X	O	X	X	X
8. AMD-K6/200 (2.9V)	O	X	X	O	X	X	O	X	O	X	X	X
9. AMD-K6/233 (3.2V)	X	X	O	O	X	X	X	X	O	X	X	X
10. AMD-K6/233 (66*3.5 2.2V)	X	O	X	X	X	X	X	X	O	X	X	X
11. AMD-K6/266 (66*4 2.2V) AMD-K6-2/266 (66*4 2.2V)	X	O	X	X	X	O	X	O	O	X	X	X
12. AMD-K6/300 (66*4.5 2.2V)	X	O	X	X	X	O	O	O	O	X	X	X
13. AMD-K6/300 (100*3 2.2V) AMD-K6-2/300 (100*3 2.2V)	X	O	X	X	X	X	O	X	O	O	O	X
14. AMD-K6-2/333 (66*5 2.2V)	X	O	X	X	X	X	O	O	O	X	X	X
15.AMD-K6-2/333 (95*3.5 2.2V)	X	O	X	X	X	X	X	X	X	O	O	X
16. AMD-K6-2/350 (100*3.5 2.2V)	X	O	X	X	X	X	X	X	O	O	O	X
17.AMD-K6-2/366 (66*5.5 2.2V) *	X	O	X	X	X	X	X	O	O	X	X	X
18. AMD-K6-2/380 (95*4 2.2V)	X	O	X	X	X	O	X	O	X	O	O	X
19. AMD-K6-2/400 (100*4 2.2V)	X	O	X	X	X	O	X	O	O	O	O	X
20. AMD-K6-2/450 (100*4.5 2.2V) *	X	O	X	X	X	O	O	O	O	O	O	X
21. AMD-K6-2/450 (100*4.5 2.4V)	X	X	O	X	X	O	O	O	O	O	O	X
22. AMD-K6-2/475 (95*5 2.2V) *	X	O	X	X	X	X	O	O	X	O	O	X
23. AMD-K6-2/475 (95*5 2.4V) *	X	X	O	X	X	X	O	O	X	O	O	X
24. AMD-K6-2/500 (100*5 2.2V) *	X	O	X	X	X	X	O	O	O	O	O	X
25.AMD-K6-2/500 (100*5 2.3V) *	O	O	X	X	X	X	O	O	O	O	O	X
26. AMD-K6-2/500 (100*5 2.4V) *	X	X	O	X	X	X	O	O	O	O	O	X
27. AMD-K6-2/533 (97*5.5 2.2V) *	X	O	X	X	X	X	X	O	X	X	O	X
28. AMD-K6-2/550 (100*5.5 2.2V) *	X	O	X	X	X	X	X	O	O	O	O	X
29. AMD-K6-III/400 (100*4 2.2V) *	X	O	X	X	X	O	X	O	O	O	O	X
30.AMD-K6-III/400 (100*4 2.4V)	X	X	O	X	X	O	X	O	O	O	O	X

SWITCH	SW 2								SW1			
CPU SW	S1	S2	S3	S4	S5	S6	S7	S8	S1	S2	S3	S4
31.AMD-K6-III/450 (100*4.5 2.2V) *	X	O	X	X	X	O	O	O	O	O	O	X
32.AMD-K6-III/450 (100*4.5 2.4V) *	X	X	O	X	X	O	O	O	O	O	O	X
33.AMD-K6-III/475 (95*5 2.2V) *	X	O	X	X	X	X	O	O	X	O	O	X
34.AMD-K6-III/475 (95*5 2.4V) *	X	X	O	X	X	X	O	O	X	O	O	X
35.AMD-K6-III/500 (100*5 2.2V) *	X	O	X	X	X	X	O	O	O	O	O	X
36.AMD-K6-III/500 (100*5 2.4V) *	X	X	O	X	X	X	O	O	O	O	O	X
37.AMD-K6-III/550 (100*5.5 2.2V) *	X	O	X	X	X	X	X	O	O	O	O	X
38. Cyrix/IBM 6x86MX-PR166 (66*2 2.9V)	O	X	X	O	X	O	X	X	O	X	X	X
39. Cyrix/IBM 6x86MX-PR200 (66*2.5 2.9V)	O	X	X	O	X	O	O	X	O	X	X	X
40. Cyrix/IBM 6x86MX-PR200 (75*2 2.9V)	O	X	X	O	X	O	X	X	X	X	X	O
41. Cyrix/IBM 6x86MX-PR233 (66*3 2.9V)	O	X	X	O	X	X	O	X	O	X	X	X
42. Cyrix/IBM 6x86MX-PR233 (75*2.5 2.9V)	O	X	X	O	X	O	O	X	X	X	X	O
43. Cyrix/IBM 6x86MX-PR233 (83*2 2.9V)	O	X	X	O	X	O	X	X	O	X	O	X
44. Cyrix/IBM 6x86MX-PR266 (66*3.5 2.9V)	O	X	X	O	X	X	X	X	O	X	X	X
45. Cyrix/IBM 6x86MX-PR266 (75*3 2.9V)	O	X	X	O	X	X	O	X	X	X	X	O
46. Cyrix/IBM 6x86MX-PR266 (83*2.5 2.9V)	O	X	X	O	X	O	O	X	O	X	O	X
47. Cyrix M ¢ -PR300 (66*3.5 2.9V)	O	X	X	O	X	X	X	X	O	X	X	X
48. Cyrix M ¢ -PR333 (66*4 2.9V)	O	X	X	O	X	O	X	O	O	X	X	X
49. Cyrix M ¢ -PR333 (83*3 2.9V)	O	X	X	O	X	X	O	X	O	X	O	X
50. Cyrix M ¢ -PR333 (75*3.5 2.9V)	O	X	X	O	X	X	X	X	X	X	X	O
51. Cyrix M ¢ -PR333 (100*2.5 2.9V)	O	X	X	O	X	O	O	X	O	O	O	X
52. Cyrix M ¢ -PR350 * (90*3 2.9V)	O	X	X	O	X	X	O	X	O	O	X	X

SWITCH	SW 2								SW1			
CPU SW	S1	S2	S3	S4	S5	S6	S7	S8	S1	S2	S3	S4
53. Cyrix M ¢ -PR366 * (75*4 2.9V)	O	X	X	O	X	O	X	O	X	X	X	O
54. Cyrix M ¢ -PR366 * (83*3.5 2.9V)	O	X	X	O	X	X	X	X	O	X	O	X
55. Cyrix M ¢ -PR366 * (100*3 2.9V)	O	X	X	O	X	X	O	X	O	O	O	X
56. Cyrix M ¢ -PR400 * (90*4 2.9V)	O	X	X	O	X	O	X	O	O	O	X	X
57. Cyrix M ¢ -PR400 * (100*3.5 2.9V)	O	X	X	O	X	X	X	X	O	O	O	X
58. IDT Winchip 2-200 (66*3 3.5V)	O	O	O	O	X	X	O	X	O	X	X	X
59. IDT Winchip 2-200 * (100*2 3.5V)	O	O	O	O	X	O	X	X	O	O	O	X
60. IDT Winchip 2-225 (75*3 3.5V)	O	O	O	O	X	X	O	X	X	X	X	O
61. IDT Winchip 2-233 * (66*3.5 3.5V)	O	O	O	O	X	X	X	X	O	X	X	X
62. IDT Winchip 2-266 * (66*4 3.5V)	O	O	O	O	X	O	X	O	O	X	X	X
63. IDT Winchip 2-266 * (100*2.33 3.5V)	O	O	O	O	X	X	O	O	O	O	O	X
64. IDT Winchip 2-300 * (100*2.5 3.5V)	O	O	O	O	X	O	O	X	O	O	O	X
65. IDT Winchip 3-266 * (100*2.33 2.8V)	X	X	X	O	X	X	O	O	O	O	O	X
66. RISE MP6-266 * (100*2 2.8V)	X	X	X	O	X	O	X	X	O	O	O	X

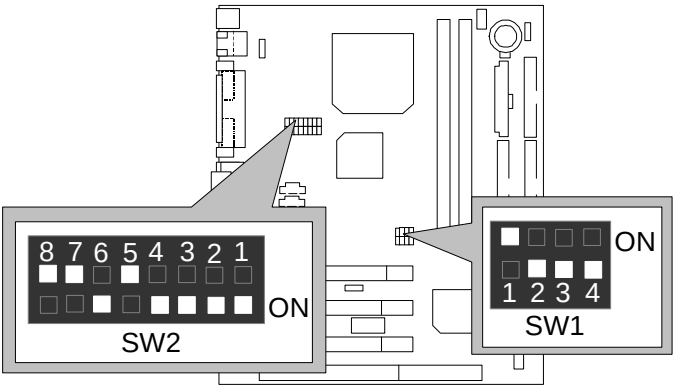
★ Note: If Cyrix 6x86 is being used, please check the CPU Date Code after 605.

The default setting is 100*3 at 2.2V for AMD K6/300 and AMD K6-2/300

SWITCH	SW 2								SW1			
CPU SW	S1	S2	S3	S4	S5	S6	S7	S8	S1	S2	S3	S4
AMD-K6/300 (100*3 2.2V) AMD-K6-2/300 (100*3 2.2V)	X	O	X	X	X	X	O	X	O	O	O	X

The settings of the processors marked with "*" above are just for your reference, these processors have not been tested yet !

1. Pentium® Processor 133 MHz



2. Pentium® Processor 166 MHz

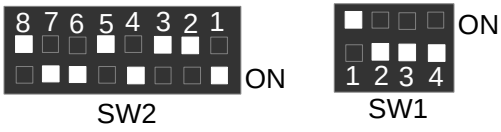
3. Pentium® Processor 200 MHz

4. Intel MMX-166 MHz

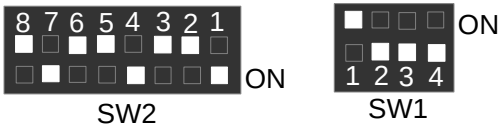
5. Intel MMX-200 MHz

6. Intel MMX-233 MHz

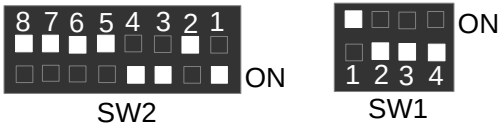
7. AMD-K6/166 (2.9V)



8. AMD-K6/200 (2.9V)



9. AMD-K6/233 (3.2V)

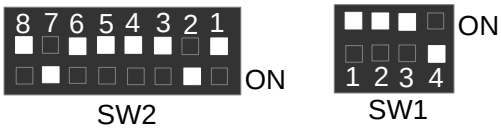


10. AMD-K6/233 (66*3.5 2.2V)

11. AMD-K6/266 (66*4 2.2V); AMD-K6-2/266 (66*4 2.2V)

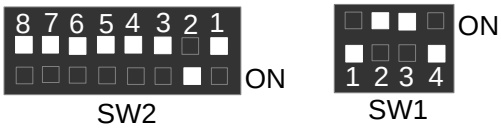
12. AMD-K6/300 (66*4.5 2.2V)

13. AMD-K6/300 (100*3 2.2V); AMD-K6-2/300 (100*3 2.2V)

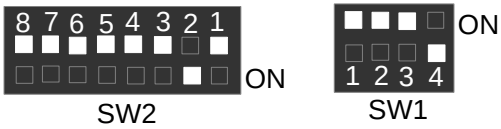


14. AMD-K6-2/333 (66*5 2.2V)

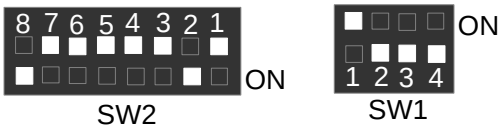
15. AMD-K6-2/333 (95*3.5 2.2V)



16. AMD-K6-2/350 (100*3.5 2.2V)

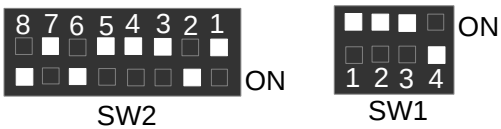


17. AMD-K6-2/366 (66*5.5 2.2V)

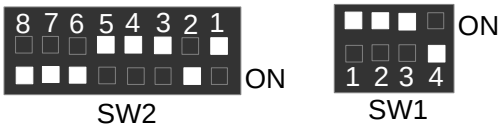


18. AMD-K6-2/380 (95*4 2.2V)

19. AMD-K6-2/400 (100*4 2.2V)



20. AMD-K6-2/450 (100*4.5 2.2V)



21. AMD-K6-2/450 (100*4.5 2.4V)

22. AMD-K6-2/475 (95*5 2.2V)

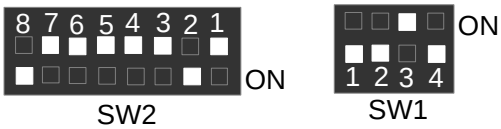
23. AMD-K6-2/475 (95*5 2.4V)

24. AMD-K6-2/500 (100*5 2.2V)

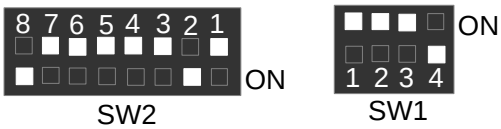
25. AMD-K6-2/500 (100*5 2.3V)

26. AMD-K6-2/500 (100*5 2.4V)

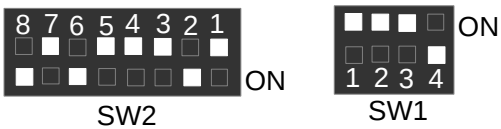
27. AMD-K6-2/533 (97*5.5 2.2V)



28. AMD-K6-2/550 (100*5.5 2.2V)



29. AMD-K6-III/400 (100*4 2.2V)



30. AMD-K6-III/400 (100*4 2.4V)

31. AMD-K6-III/450 (100*4.5 2.2V)

32. AMD-K6-III/450 (100*4.5 2.4V)

33. AMD-K6-III/475 (95*5 2.2V)

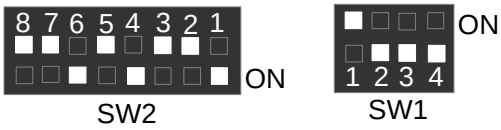
34. AMD-K6-III/475 (95*5 2.4V)

35. AMD-K6-III/500 (100*5 2.2V)

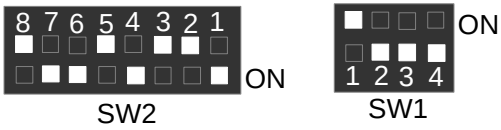
36. AMD-K6-III/500 (100*5 2.4V)

37. AMD-K6-III/550 (100*5.5 2.2V)

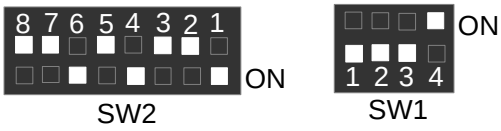
38. Cyrix / IBM 6x86MX-PR166 (66*2 2.9V)



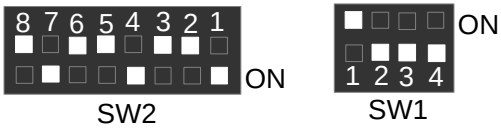
39. Cyrix / IBM 6x86MX-PR200 (66*2.5 2.9V)



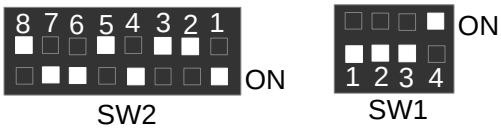
40. Cyrix / IBM 6x86MX-PR200 (75*2 2.9V)



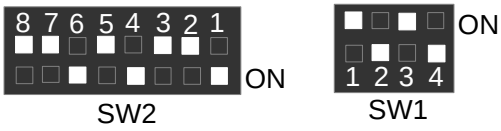
41. Cyrix / IBM 6x86MX-PR233 (66*3 2.9V)



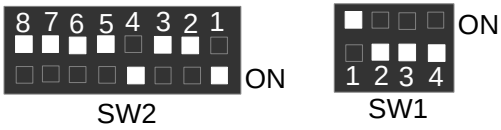
42. Cyrix / IBM 6x86MX-PR233 (75*2.5 2.9V)



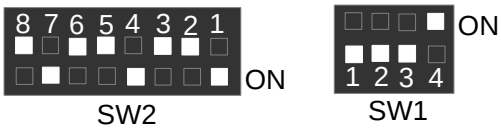
43. Cyrix / IBM 6x86MX-PR233 (83*2 2.9V)



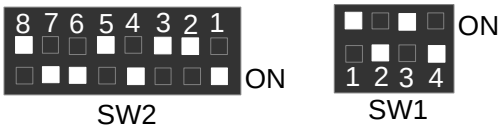
44. Cyrix / IBM 6x86MX-PR266 (66*3.5 2.9V)



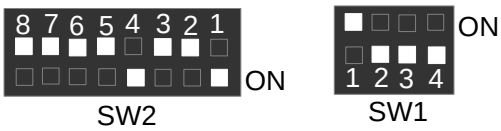
45. Cyrix / IBM 6x86MX-PR266 (75*3 2.9V)



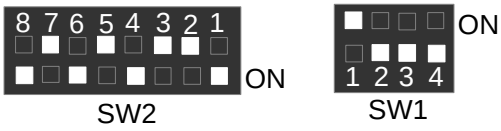
46. Cyrix / IBM 6x86MX-PR266 (83*2.5 2.9V)



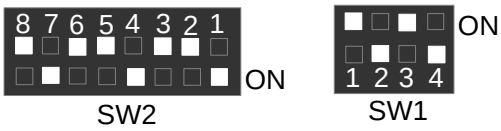
47. Cyrix M ¢ -PR300 (66*3.5 2.9V)



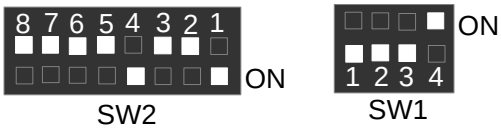
48. Cyrix M ¢ -PR333 (66*4 2.9V)



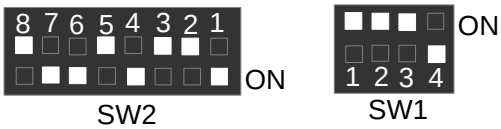
49. Cyrix M ¢ -PR333 (83*3 2.9V)



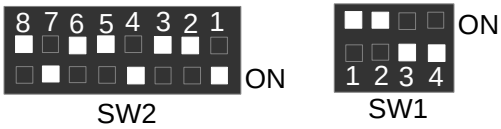
50. Cyrix M ¢ -PR333 (75*3.5 2.9V)



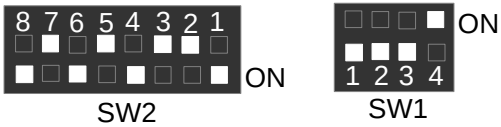
51. Cyrix M ¢ -PR333 (100*2.5 2.9V)



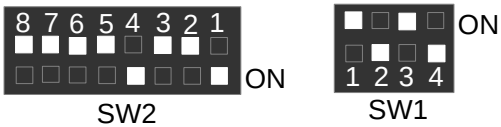
52. Cyrix M ¢ -PR350 (90*3 2.9V)



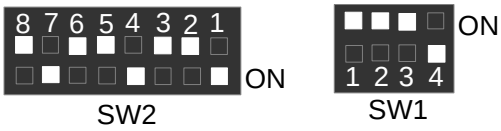
53. Cyrix M ¢ -PR366 (75*4 2.9V)



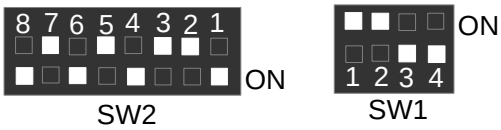
54. Cyrix M ¢ -PR366 (83*3.5 2.9V)



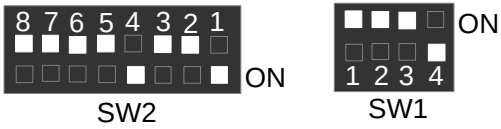
55. Cyrix M ¢ -PR366 (100*3 2.9V)



56. Cyrix M ¢ -PR400 (90*4 2.9V)



57. Cyrix M ¢ -PR400 (100*3.5 2.9V)



58. IDT Winchip 2-200 (66*3 3.5V)

59. IDT Winchip 2-200 (100*2 3.5V)

60. IDT Winchip 2-225 (75*3 3.5V)

61. IDT Winchip 2-233 (66*3.5 3.5V)

62. IDT Winchip 2-266 (66*4 3.5V)

63. IDT Winchip 2-266 (100*2.33 3.5V)

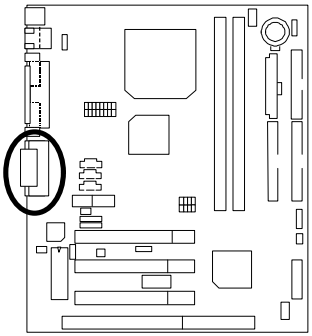
64. IDT Winchip 2-300 (100*2.5 3.5V)

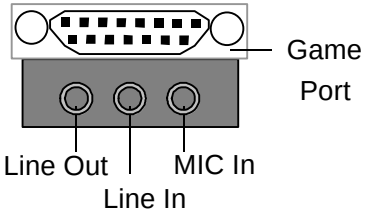
65. IDT Winchip 3-266 (100*2.33 2.8V)

66. RISE MP6-266 (100*2 2.8V)

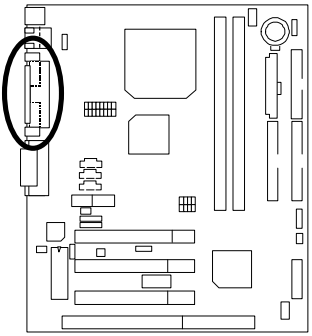
Connectors

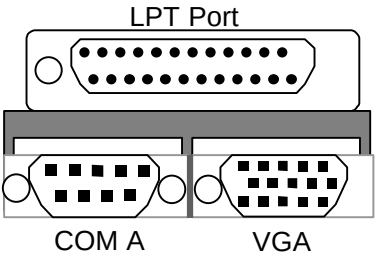
Game & Audio Port



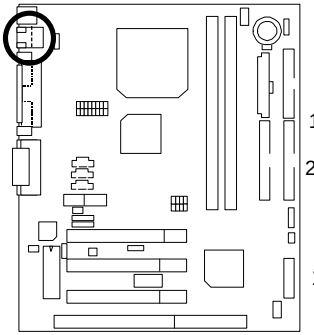


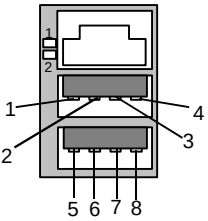
COM A / VGA / LPT Port





USB & LAN Connector (LAN is optional)



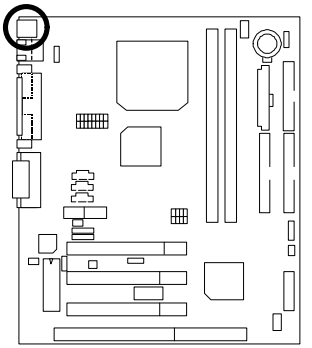


1 – Green LED
(LAN Link LED)

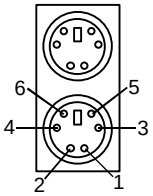
2 – Yellow LED
(LAN Active LED)

Pin No.	Definition
1	USB V0
2	USB D0-
3	USB D0+
4	GND
5	USB V1
6	USB D1-
7	USB D1+
8	GND

PS/2 Keyboard & PS/2 Mouse Connector



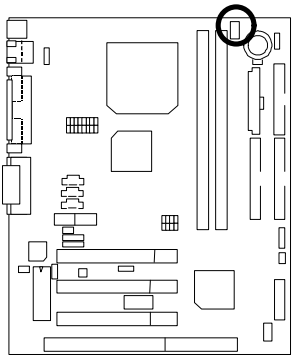
PS/2 Mouse



PS/2 Keyboard

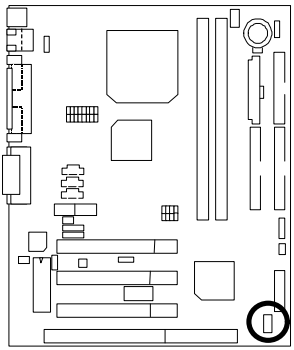
PS/2 Mouse/ Keyboard	
Pin No.	Definition
1	Data
2	NC
3	GND
4	VCC(+5V)
5	Clock
6	NC

J1: CPU Fan



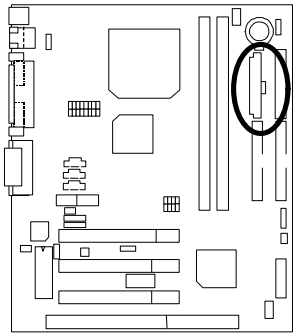
Pin No.	Definition
1	GND
2	+12V
3	SENSE

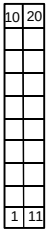
J2: System Fan



Pin No.	Definition
1	GND
2	+12V
3	SENSE

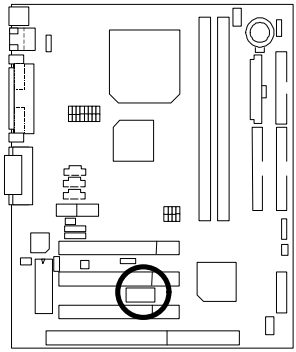
ATX Power

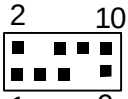




Pin No.	Definition
3,5,7,13,15-17	GND
1,2,11	3.3V
4,6,19,20	VCC
10	+12V
12	-12V
18	-5V
8	Power Good
9	5V SB stand by+5V
14	PS-ON(Soft On/Off)

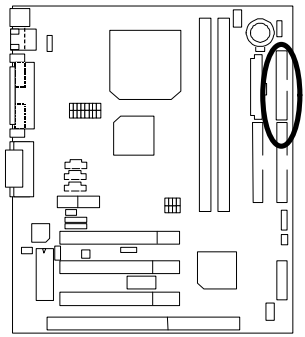
Front USB (Optional)

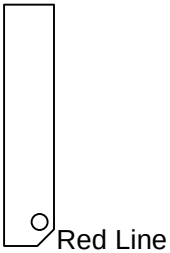




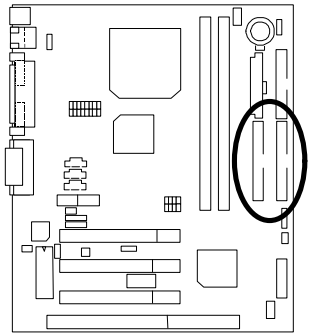
Pin No.	Definition
1	5V-SB
2	GND
3	USB D2-
4	NC
5	USB D2+
6	USB D3-
7	NC
8	USB D3+
9	GND
10	5V-SB

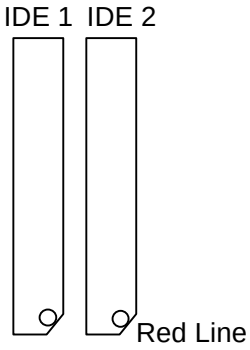
Floppy Port



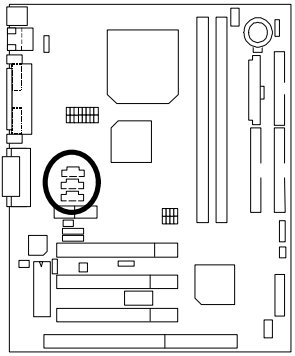


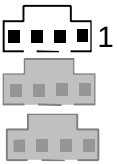
IDE1 (Primary), IDE2 (Secondary) Port





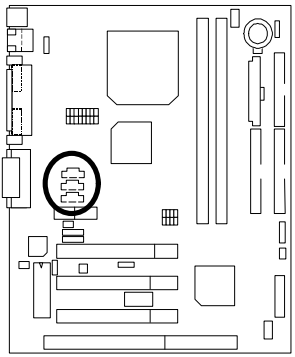
J15: CD Audio Line In

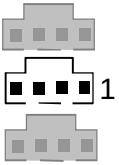




Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

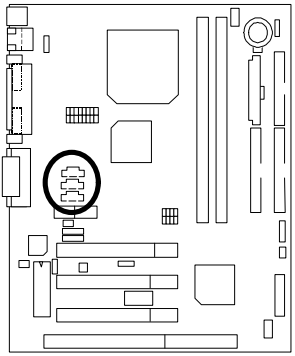
J12: AUX_IN (Optional)

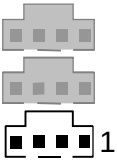




Pin No.	Definition
1	AUX-L
2	GND
3	GND
4	AUX-R

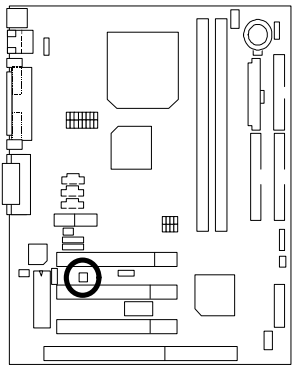
J9: TEL: The connector is for Modem with internal voice connector (Optional)





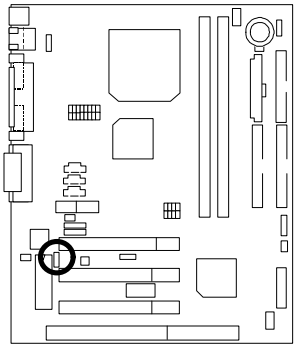
Pin No.	Definition
1	Signal-In
2	GND
3	GND
4	Signal-Out

J5: Ring Power On (Internal Modem Card Wake Up) [Optional]



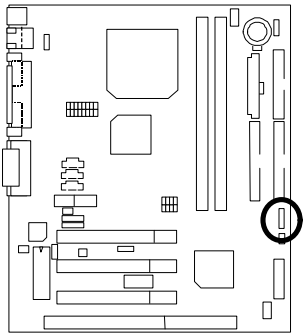
Pin No.	Definition
1	Signal
2	GND

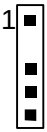
J4: Wake On LAN (Optional)



Pin No.	Definition
1	+5V SB
2	GND
3	Signal

J3: IR Connector

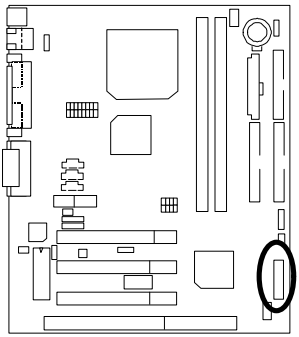


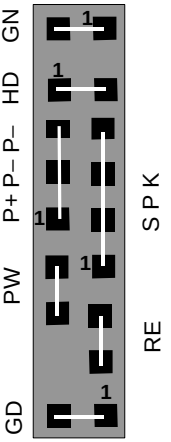


PIN No.	Definition
1	VCC (+5V)
2	NC
3	IR data input
4	GND
5	IR data output

Panel And Jumper Definition

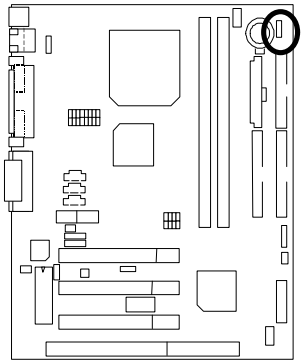
J7: For 2x11 Pins Jumper

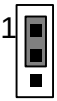




GN (Green Switch)	Open: Normal Operation Close: Entering Green Mode
GD (Green LED)	Pin 1: LED anode(+) Pin 2: LED cathode(–)
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+) Pin 2: LED cathode(–)
SPK (Speaker Connector)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(–)
RE (Reset Switch)	Open: Normal Operation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

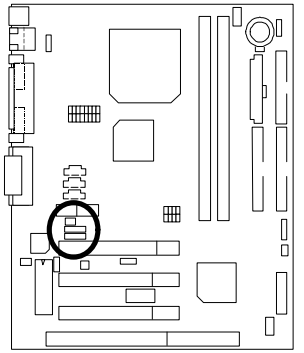
JP1: Clear CMOS Function

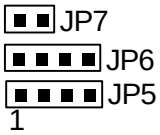




Pin No.	Definition
1-2 close	Normal (Default)
2-3 close	Clear CMOS

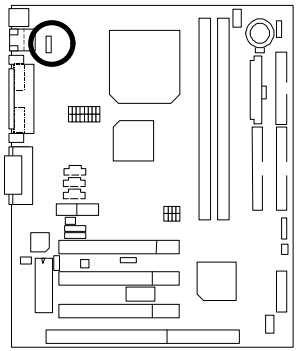
JP5/JP6/JP7: Onboard AC97 & AMR (Primary or Secondary) Select
(AMR→ Audio Modem Riser)





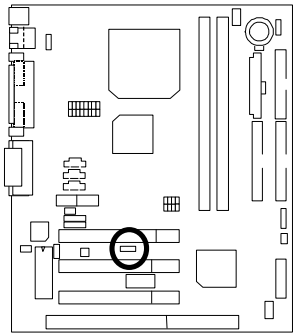
Jumper / Function	JP5	JP6	JP7
Only AC97	1-2 Close	1-2 Close	OFF
Only AMR (Primary)	3-4 Close	3-4 Close	OFF
AC97+MR (Secondary) (Default)	1-2 Close 3-4 Close	1-2 Close	ON

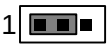
J6: USB Device Wake up Selection (Optional)



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

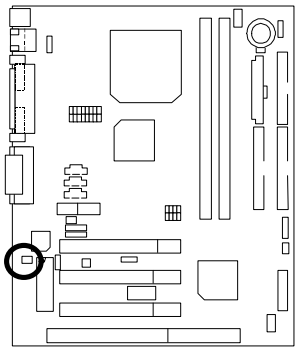
JP4: Onboard LAN Function (Optional)





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

JP2: BIOS Flash ROM Write Protection (Optional)

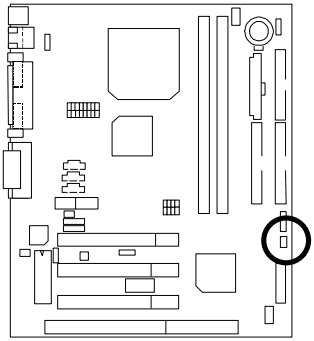


1 ■ ■

Pin No.	Definition
Close	BIOS Write Protection
Open	Normal (Default)

☞Please set Jumper JP2 to "Open" to enabled BIOS write function when you update new BIOS or new device.

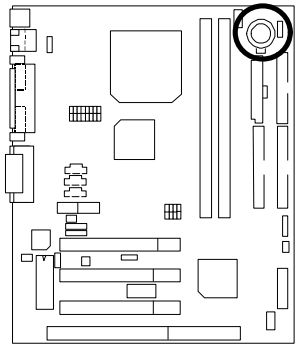
JP3: Internal Buzzer Connector (Optional)



1

Pin No.	Definition
Open	Internal Buzzer Disabled
Close	Internal Buzzer Enabled (Default)

BAT1: Battery



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

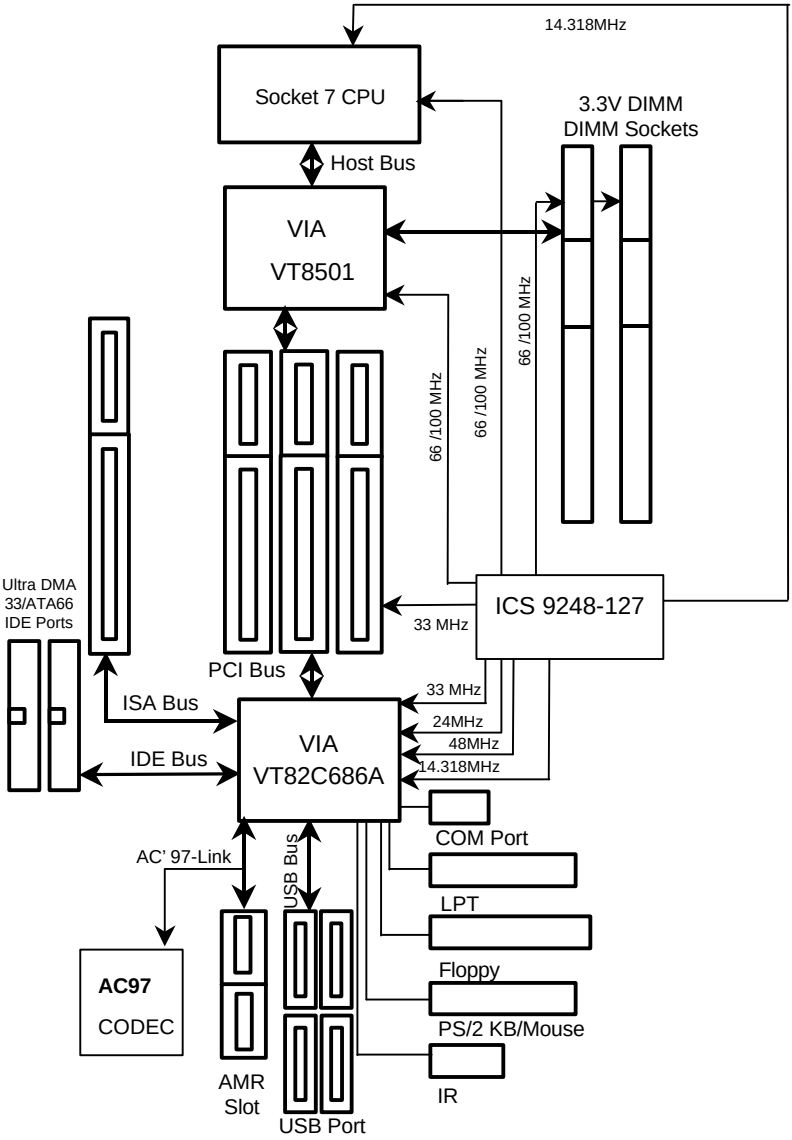
Performance List

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

- CPU AMD K6-III 450MHz, AMD K6-2 500MHz, AMD K6-2+ 450MHz Processor
- DRAM (128x1) MB SDRAM
- CACHE SIZE 512 KB included in CPU
- DISPLAY Onboard AGP VIA Trident Bland 3D/MVP4 (8MB SDRAM)
- STORAGE Onboard IDE (Quantum KA13600AT)
- O.S. Windows NT™ 4.0 SPK6
- DRIVER Display Driver at 1024 x 768 x 16bit colors x 75Hz

Processor	AMD		
	K6-III 450MHz (100x4.5)	K6-2 500MHz (100x5)	K6-2+ 450MHz (100x4.5)
Winbench99			
CPU mark99	39.6	12.1	28.8
FPU Winmark 99	1520	1570	1520
Business Disk Winmark 99	5090	3350	4620
Hi-End Disk Winmark 99	13300	9910	11500
Business Graphics Winmark 99	144	57.4	120
Hi-End Graphics Winmark 99	353	122	326
Winstone99			
Business Winstone99	27.4	14.8	23.7
Hi-End Winstone99	24.1	13.9	21.5

Block Diagram



Memory Installation

The motherboard has 2 dual inline memory module (DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM Slot .The DIMM module can only fit in one direction due to the two notch. Memory size can vary between sockets.

Install memory in any combination table:

DIMM	168-pin SDRAM DIMM Modules	
DIMM1	Supports 16 / 32 / 64 / 128 / 256 / 512MB	X 1 pcs
DIMM2	Supports 16 / 32 / 64 / 128 / 256 / 512MB	X 1 pcs

BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERING SETUP

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

CONTROL KEYS

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

GETTING HELP

Main Menu

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

Status Page Setup Menu / Option Page Setup Menu

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

The Main Menu

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

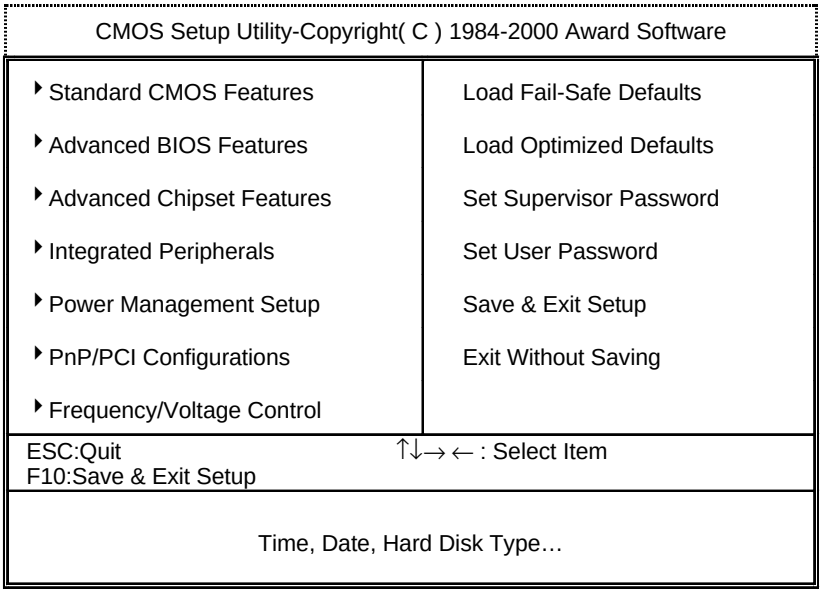


Figure 1: Main Menu

- **Standard CMOS Features**

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

- **Advanced BIOS Features**

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

- **Advanced Chipset Features**

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

- **Integrated Peripherals**

  This setup page includes all onboard peripherals.

- **Power Management Setup**

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

- **PnP/PCI Configurations**

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

- **Frequency/Voltage Control**

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

- **Load Fail-Safe Defaults**

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

- **Load Optimized Defaults**

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

- **Set Supervisor password**

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

- **Set User password**

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

- **Save & Exit Setup**

  Save CMOS value settings to CMOS and exit setup.

- **Exit Without Saving**

  Abandon all CMOS value changes and exit setup.

Standard CMOS Features

The items in Standard CMOS Features Menu (Figure 2) are divided into 9 categories. Each category includes no, one or more than one setup items. Use the arrows to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

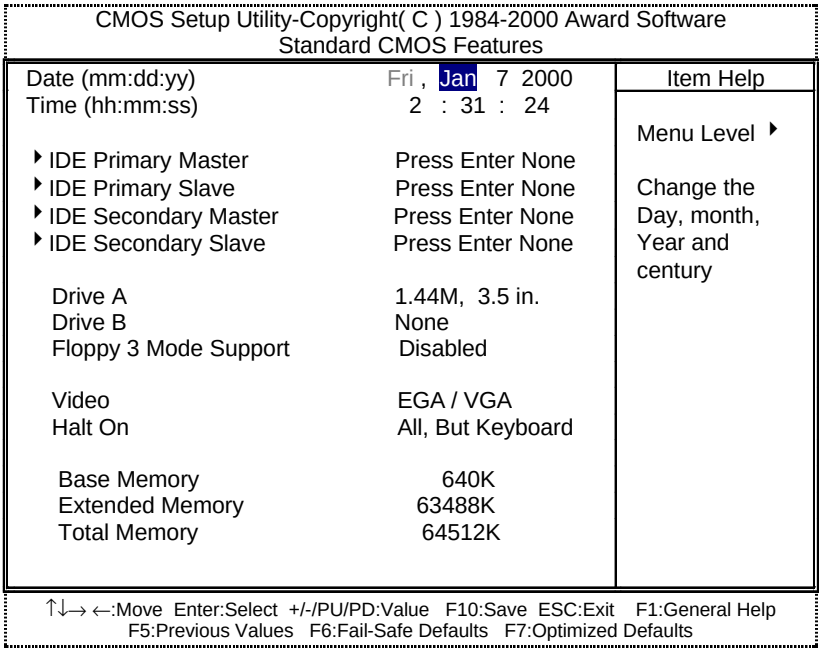


Figure 2: Standard CMOS Features

- **Date**

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

Week	The week, from Sun to Sat, determined by the BIOS and is display-only
Month	The month, Jan. Through Dec.
Day	The day, from 1 to 31 (or the maximum allowed in the month)
Year	The year, from 1994 through 2079

- **Time**

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

- **IDE Primary Master, Slave / Secondary Master, Slave**

  The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and user definable type. User type is user-definable; Auto type which will automatically detect HDD type.

  Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

  If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

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

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

- **Drive A / Drive B**

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

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

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

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

- **Video**

The category detects the type of adapter used for the primary system monitor that must match your video display card and monitor. Although secondary monitors are supported, you do not have to select the type in setup.

EGA/VGA	Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SVGA, or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode.
CGA 80	Color Graphics Adapter, power up in 80 column mode.
MONO	Monochrome adapter, includes high resolution monochrome adapters.

- **Halt on**

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

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

- **Memory**

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

Base Memory

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

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

Extended Memory

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

Advanced BIOS Features

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Advanced BIOS Features

		Item Help
Virus Warning	Disabled	
CPU Internal Cache	Enabled	
Quick Power On Self Test	Enabled	Menu Level ▸
First Boot Device	Floppy	Allows you to
Second Boot Device	HDD-0	choose the VIRUS
Third Boot Device	LS120	Warning feature
Boot Other Device	Enabled	For IDE Hard disk
Swap Floppy Drive	Disabled	Boot sector
Boot Up Floppy Seek	Enabled	Protection. If this
Boot Up NumLock Status	On	Function is enable
Gate A20 Option	Fast	And someone
Typematic Rate Setting	Disabled	Attempt to write
X Typematic Rate (Chars/Sec)	6	Data into this area
X Typematic Delay (Msec)	250	, BIOS will show
Security Option	Setup	A warning
OS Select For DRAM >64MB	Non-OS2	Message on
HDD S.M.A.R.T. Capability	Disabled	Screen and alarm
Report No FDD For WIN 95	Yes	beep
Video BIOS Shadow	Enabled	
Cyrix 6x86/M II CPUID	Enabled	

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

Figure 3: Advanced BIOS Features

- **Virus Warning**

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

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

- **CPU Internal Cache**

These two categories speed up memory access. However, it depends on CPU / chipset design.

Enabled	Enabled cache. **(Default value)**
Disabled	Disabled cache.

- **Quick Power On Self Test**

This category speeds up Power On Self Test (POST) after you power on the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

Enabled	Enabled quick POST. **(Default value)**
Disabled	Normal POST.

- **First / Second / Third Boot device**

Floppy	Select your boot device priority by Floppy.
LS120	Select your boot device priority by LS120.
HDD-0~3	Select your boot device priority by HDD-0~3.
SCSI	Select your boot device priority by SCSI.
CDROM	Select your boot device priority by CDROM.
ZIP100	Select your boot device priority by ZIP100.
Disabled	Disabled this function.
LAN	Select your boot device priority by LAN.

- **Boot other device**

Enabled	Enabled select your boot device priority function. **(Default value)**
Disabled	Disabled this function.

- **Swap Floppy Drive**

Enabled	Floppy A & B will be swapped under DOS.
Disabled	Floppy A & B will be normal definition. **(Default value)**

- **Boot Up Floppy Seek**

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

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

- **Boot Up NumLock Status**

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

- **Gate A20 Option**

Normal	Set Gate A20 Option is Normal.
Fast	Set Gate A20 Option is Fast. **(Default value)**

- **Typematic Rate Setting**

Enabled	Enable Keyboard Typematic rate setting.
Disabled	Disable Keyboard Typematic rate setting. **(Default value)**

- **Typematic Rate (Chars / Sec.)**

6-30	Set the maximum Typematic rate from 6 chars. Per second to 30 characters. Per second. **(Default value: 6)**

- **Typematic Delay (Msec.)**

250-1000	Set the time delay from first key to repeat the same key in to computer. **(Default value: 250)**

- **Security Option**

  This category allows you to limit access to the system and Setup, or just to Setup.

System	The system can not boot and can not access to Setup page will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt. **(Default value)**

- **OS Select For DRAM>64MB**

Non-OS2	Using non-OS2 operating system. **(Default value)**
OS2	Using OS2 operating system and DRAM>64MB.

- **HDD S.M.A.R.T. Capability**

Enabled	Enabled HDD S.M.A.R.T. Capability.
Disabled	Disabled HDD S.M.A.R.T. Capability. **(Default value)**

- **Report No FDD For WIN 95**

No	Assign IRQ6 For FDD.
Yes	FDD Detect IRQ6 Automatically. **(Default value)**

- **Video BIOS Shadow**

It determines whether video BIOS is able to copy to RAM, however, it is optional from chipset design. Video Shadow will increase the video speed.

Enabled	Video shadow is enabled. **(Default value)**
Disabled	Video shadow is disabled.

- **Cyrix 6x86/M II CPUID**

Enabled	Enabled Cyrix 6x86/M II CPUID. **(Default value)**
Disabled	Disabled this function.

Advanced Chipset Features

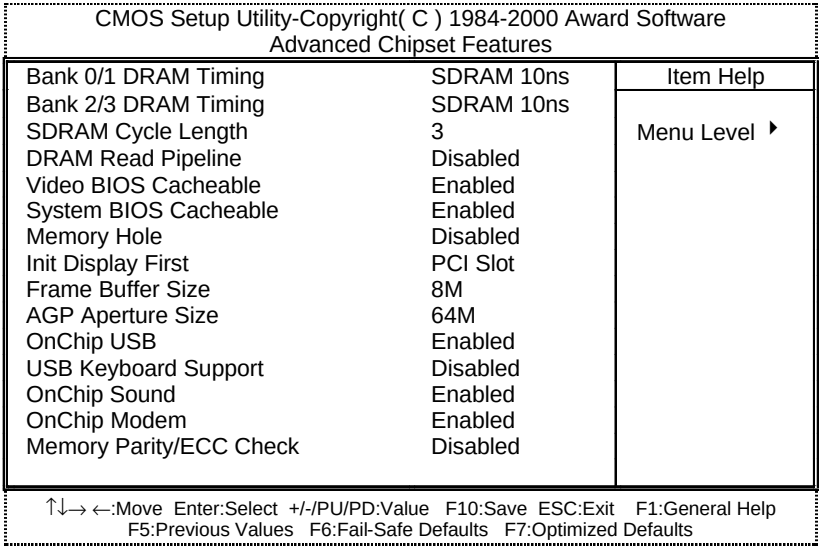

Figure 4: Advanced Chipset Features

- **Bank 0/1, 2/3 DRAM Timing**

SDRAM 10ns	For SDRAM 10ns DRAM timing operation. **(Default Value)**
SDRAM 8ns	For SDRAM 8ns DRAM timing operation.
Normal	For Normal DRAM timing operation.
Medium	For Medium DRAM timing operation.
Fast	For Fast DRAM timing operation.
Turbo	For Turbo DRAM timing operation.

- **SDRAM Cycle Length**

3	Set SDRAM Cycle Length to 3. **(Default Value)**
2	Set SDRAM Cycle Length to 2.

- **DRAM Read Pipeline**

Enabled	Enabled DRAM Read Pipeline.
Disabled	Disabled DRAM Read Pipeline. **(Default value)**

- **Video BIOS Cacheable**

Enabled	Enabled video BIOS Cacheable. **(Default value)**
Disabled	Disabled video BIOS Cacheable.

- **System BIOS Cacheable**

Enabled	Enable System BIOS Cacheable. **(Default value)**
Disabled	Disable System BIOS Cacheable.

- **Memory Hole**

Disabled	Normal Setting. **(Default value)**
15M-16M	Set Address=15~16MB remap to ISA BUS.

- **Init Display First**

PCI Slot	System will boot from PCI VGA Card first. **(Default value)**
AGP	System will boot from AGP Display Card first.

- **Frame Buffer Size**

4MB	Set Frame Buffer Size to 4MB.
8MB	Set Frame Buffer Size to 8 MB. **(Default Value)**
NA	Disabled this function.

- **AGP Aperture Size**

4MB	Set AGP Aperture Size to 4MB.
8MB	Set AGP Aperture Size to 8MB.
16MB	Set AGP Aperture Size to 16MB.
32MB	Set AGP Aperture Size to 32MB.
64MB	Set AGP Aperture Size to 64MB. **(Default Value)**
128MB	Set AGP Aperture Size to 128MB.

- **OnChip USB**

Enabled	Enabled OnChip USB. **(Default value)**
Disabled	Disabled USB Controller.

- **USB Keyboard Support**

Enabled	Enabled USB Keyboard Support.
Disabled	Disabled USB Keyboard Support. **(Default value)**

- **OnChip Sound**

Enabled	Enabled OnChip Sound. **(Default Value)**
Disabled	Disabled this function.

- **OnChip Modem**

Enabled	Enabled OnChip Modem. **(Default Value)**
Disabled	Disabled this function.

- **Memory Parity/ECC Check**

Enabled	Enabled Memory Parity/ECC Check Function.
Disabled	Disabled Memory Parity/ECC Check Function. **(Default Value)**

Integrated Peripherals

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Integrated Peripherals

		Item Help
OnChip IDE Channel 0	Enabled	
OnChip IDE Channel 1	Enabled	
IDE Prefetch Mode	Enabled	Menu Level ▸
Primary Master PIO	Auto	
Primary Slave PIO	Auto	
Secondary Master PIO	Auto	
Secondary Slave PIO	Auto	
Primary Master UDMA	Auto	
Primary Slave UDMA	Auto	
Secondary Master UDMA	Auto	
Secondary Slave UDMA	Auto	
IDE HDD Block Mode	Enabled	
Onboard FDD Controller	Enabled	
Onboard Serial Port 1	Auto	
Onboard Serial Port 2	Auto	
UART 2 Mode	HPSIR	
IR Function Duplex	Half	
TX, RX inverting enable	No, Yes	
Onboard Parallel Port	378/IRQ7	
Onboard Parallel Mode	Normal	
❋ ECP Mode Use DMA	3	
❋ Parallel Port EPP Type	EPP1.9	
Onboard Legacy Audio	Enabled	
Sound Blaster	Disabled	
SB I/O Base Address	220H	
SB IRQ Select	IRQ5	
SB DMA Select	DMA1	
MPU-401	Disabled	
MPU-401 I/O Address	330-333H	
Game Port (200-207H)	Enabled	

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

Figure 5: Integrated Peripherals

❋ These two items will be available when "Onboard Parallel Mode" is set to ECP+EPP.

- **OnChip IDE Channel 0**

Enabled	Enabled onboard 1st channel IDE port. **(Default value)**
Disabled	Disabled onboard 1st channel IDE port.

- **OnChip IDE Channel 1**

Enabled	Enabled onboard 2nd channel IDE port. **(Default value)**
Disabled	Disabled onboard 2nd channel IDE port.

- **IDE Prefetch Mode**

Enabled	Enabled IDE Prefetch Mode. **(Default value)**
Disabled	Disabled IDE Prefetch Mode.

- **Primary Master PIO (for onboard IDE 1st channel)**

Auto	BIOS will automatically detect the IDE HDD Accessing mode. **(Default value)**
Mode0~4	Manually set the IDE Accessing mode.

- **Primary Slave PIO (for onboard IDE 1st channel)**

Auto	BIOS will automatically detect the IDE HDD Accessing mode. **(Default value)**
Mode0~4	Manually set the IDE Accessing mode.

- **Secondary Master PIO (for onboard IDE 2nd channel)**

Auto	BIOS will automatically detect the IDE HDD Accessing mode. **(Default value)**
Mode0~4	Manually set the IDE Accessing mode.

- **Secondary Slave PIO (for onboard IDE 2nd channel)**

Auto	BIOS will automatically detect the IDE HDD Accessing mode. **(Default value)**
Mode0~4	Manually set the IDE Accessing mode.

- **Primary Master UDMA**

Auto	BIOS will automatically detect the IDE HDD Accessing mode. **(Default value)**
Disabled	Disable UDMA function.

- **Primary Slave UDMA**

Auto	BIOS will automatically detect the IDE HDD Accessing mode. **(Default value)**
Disabled	Disable UDMA function.

- **Secondary Master UDMA**

Auto	BIOS will automatically detect the IDE HDD Accessing mode. **(Default value)**
Disabled	Disable UDMA function.

- **Secondary Slave UDMA**

Auto	BIOS will automatically detect the IDE HDD Accessing mode. **(Default value)**
Disabled	Disable UDMA function.

- **IDE HDD Block Mode**

Enabled	Enabled IDE HDD Block Mode. **(Default value)**
Disabled	Disabled IDE HDD Block Mode.

- **Onboard FDD Controller**

Enabled	Enabled onboard FDD port. **(Default value)**
Disabled	Disabled onboard FDD port.

- **Onboard Serial Port 1**

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

- **Onboard Serial Port 2**

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

- **UART 2 Mode**

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

HPSIR	Set onboard I/O chip UART 2 to HPSIR mode. **(Default Value)**
ASKIR	Set onboard I/O chip UART 2 to ASKIR Mode.

- **IR Function Duplex**

Half	IR Function Duplex Half. **(Default Value)**
Full	IR Function Duplex Full.

- **TX, RX Inverting enabled**

No, Yes	Set TX, RX Inverting enabled to No, Yes. **(Default Value)**
Yes, No	Set TX, RX Inverting enabled to Yes, No.
No, No	Set TX, RX Inverting enabled to No, No.
Yes, Yes	Set TX, RX Inverting enabled to Yes, Yes.

- **Onboard Parallel port**

378/IRQ7	Enabled onboard LPT port and address is 378/IRQ7. **(Default value)**
278/IRQ5	Enabled onboard LPT port and address is 278/IRQ5.
Disabled	Disabled onboard LPT port.
3BC/IRQ7	Enabled onboard LPT port and address is 3BC/IRQ7.

- **Onboard Parallel Mode**

Normal	Normal Setting. **(Default value)**
EPP	Using Parallel port as Enhanced Parallel Port.
ECP	Using Parallel port as Extended Capabilities Port.
ECP+EPP	Using Parallel port as ECP & EPP mode.

- **ECP Mode Use DMA**

1	Set ECP Mode Use DMA is 1.
3	Set ECP Mode Use DMA is 3. **(Default value)**

- **Parallel Port EPP Type**

EPP 1.9	EPP Version is 1.9. **(Default value)**
EPP 1.7	EPP Version is 1.7.

- **Onboard Legacy Audio**

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

- **Sound Blaster**

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

- **SB I/O Base Address**

220H	Set SB I/O Base Address is 220h. **(Default Value)**
240H	Set SB I/O Base Address is 240h.
260H	Set SB I/O Base Address is 260h.
280H	Set SB I/O Base Address is 280h.

- **SB IRQ Select**

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

- **SB DMA Select**

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

- **MPU-401**

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

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

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

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

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

Power Management Setup

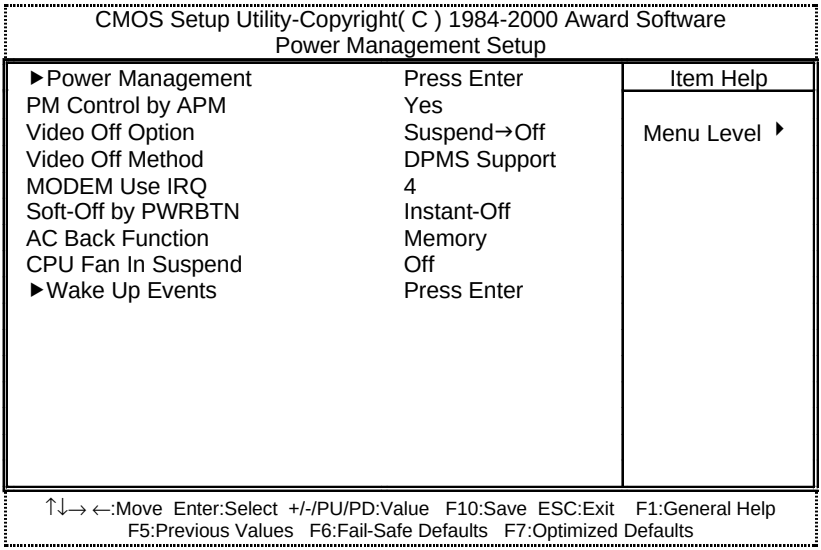


Figure 6: Power Management Setup

- **Power Management**

User Define	For configuring our own power management features. **(Default value)**
Min Saving	Minimum power saving.
Max Saving	Maximum power saving.

- **HDD Power Down**

Disabled	Disabled HDD Power Down mode function. **(Default value)**
1-15 mins	Enabled HDD Power Down mode between 1 to 15 mins.

- **Doze Mode**

Disabled	Disabled Doze Mode.
10Sec - 1 Hour	Setup the timer to enter Doze Mode.

- **Suspend Mode**

Disabled	Disabled Suspend Mode.
10Sec - 1 Hour	Setup the timer to enter Suspend Mode.

- **PM Control by APM**

Yes	Enabled PM Control by APM. **(Default value)**
No	Disabled this function.

- **Video off Option**

Suspend→Off	BIOS will turn off V/H-SYNC when gets into Green mode for Green monitor power saving. **(Default value)**
All Modes→Off	BIOS will turn off V/H-SYNC when all modes.
Always On	BIOS will turn always on when all modes.

- **Video off Method**

V/H SYNC+Blank	BIOS will turn off V/H-SYNC when gets into Green mode for Green monitor power saving.
Blank Screen	BIOS will only black monitor when gets into Green mode.
DPMS Support	BIOS will use DPMS Standard to control VGA card. (The Green type VGA card will turn off V/H-SYNC automatically.) **(Default value)**

- **MODEM Use IRQ**

NA	Set MODEM Use IRQ to NA.
3	Set MODEM Use IRQ to 3.
4	Set MODEM Use IRQ to 4. **(Default value)**
5	Set MODEM Use IRQ to 5.
7	Set MODEM Use IRQ to 7.
9	Set MODEM Use IRQ to 9.
10	Set MODEM Use IRQ to 10.
11	Set MODEM Use IRQ to 11.

- **Soft-off by PWR-BTTN**

Instant-off	Soft switch ON/OFF for POWER ON/OFF. **(Default value)**
Delay 4 Sec.	Soft switch ON 4sec. for POWER OFF.

- **AC Back Function**

Memory	This function depends on computer status. **(Default value)**
Soft-Off	Set System Soft-Off Status.
Full-On	Set System Full-On Status.

- **CPU Fan In Suspend**

Off	Disabled this function. **(Default value)**
On	Stop CPU FAN when entering Suspend mode.

- **VGA**

OFF	Disabled monitor VGA activity. **(Default value)**
ON	Enabled monitor VGA activity.

- **LPT & COM**

LPT/COM	Enabled LPT/COM Ports Activity. **(Default value)**
NONE	Normal Operation.
LPT	Enabled LPT Ports Activity.
COM	Enabled COM Ports Activity.

- **HDD & FDD**

ON	Enabled HDD & FDD Ports Activity. **(Default value)**
OFF	Disabled HDD & FDD Ports Activity.

- **DMA/master**

ON	Don't detect DMA/master PM event.
OFF	Normal Operation. **(Default value)**

- **PowerOn by PCI Card**

Disabled	Disabled this function.
Enabled	Enabled PowerOn by PCI Card. **(Default value)**

- **Wake Up On LAN/Ring**

Disabled	Disabled this function.
Enabled	Enabled Wake Up On LAN/Ring. **(Default value)**

- **RTC Alarm Resume**

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

Disabled	Disabled this function. **(Default value)**
Enabled	Enabled alarm function to POWER ON system.

If the "RTC Alarm Resume" is Enabled.

Date (of Month) Alarm :	0~31
Resume Time (hh: mm: ss) Alarm :	(0~23) : (0~59) : (0~59)

- **Primary INTR**

OFF	Disabled this function.
ON	Enabled Primary INTR Function. **(Default value)**

- **IRQ [3-15]**

Disabled	Disabled this function.
Primary	The resource is used by Primary device.
Secondary	The resource is used by Secondary device.

PnP/PCI Configurations

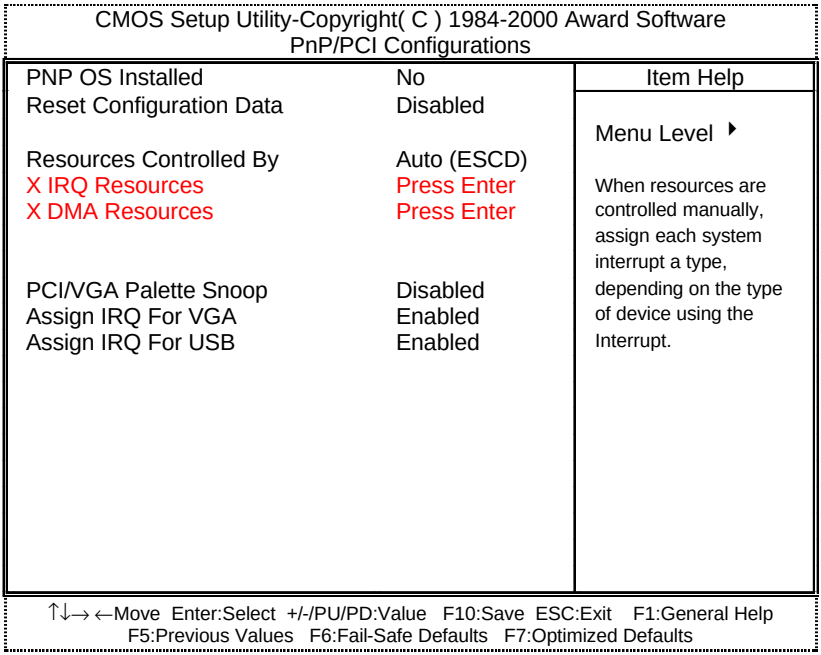


Figure 7: PnP/PCI Configurations

- **PNP OS Installed**

Yes	Enable PNP OS Installed function.
No	Disable PNP OS Installed function. **(Default value)**

- **Reset Configuration Data**

Disabled	Disabled this function. **(Default value)**
ESCD	Clear PnP information in ESCD.
DMI	Update Desktop Management Information data.
Both	Clear PnP information in ESCD & update DMI data.

- **Resources Controlled by**

Manual	User can set the PnP resource (I/O Address, IRQ & DMA channels) used by legacy ISA DEVICE.
Auto(ESCD)	BIOS automatically use these PnP rescuers. **(Default value)**

- **IRQ (3,4,5,7,9, 10,11,12,14,15),DMA(0,1,3,5,6,7)**

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

- **PCI/VGA Palette Snoop**

Enabled	For having Video Card on ISA Bus and VGA Card on PCI Bus.
Disabled	For VGA Card only. **(Default value)**

- **Assign IRQ For VGA**

Enabled	Assign a specific IRQ for VGA. **(Default value)**
Disabled	No IRQ is assigned for VGA.

- **Assign IRQ For USB**

Enabled	Assign a specific IRQ for USB. **(Default value)**
Disabled	No IRQ is assigned for USB.

Frequency/Voltage Control

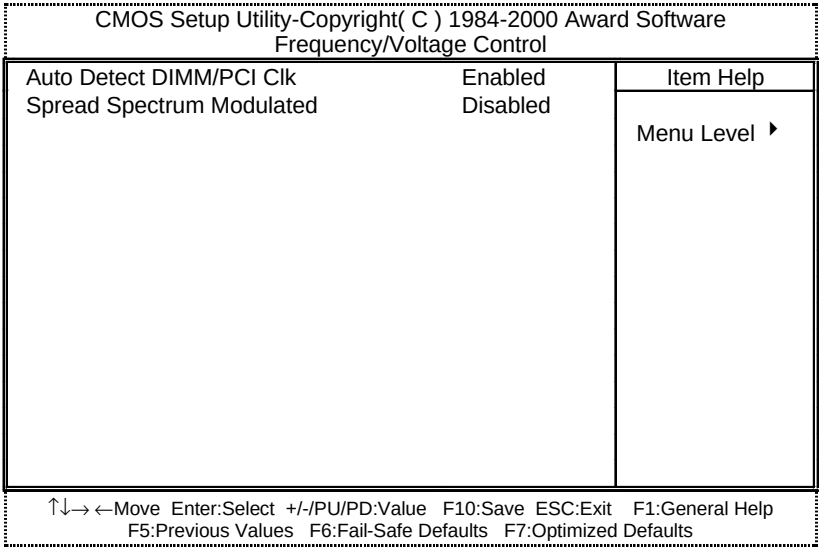


Figure 8: Frequency/Voltage Control

- **Auto Detect DIMM/PCI Clk**

Disabled	Disabled Auto Detect DIMM/PCI Clk.
Enabled	Enabled Auto Detect DIMM/PCI Clk. **(Default value)**

- **Spread Spectrum Modulated**

Disabled	Disabled this function. **(Default value)**
±0.25%	Set Spread Spectrum to ±0.25%.
–0.5%	Set Spread Spectrum to –0.5%.

Load Fail-Safe Defaults

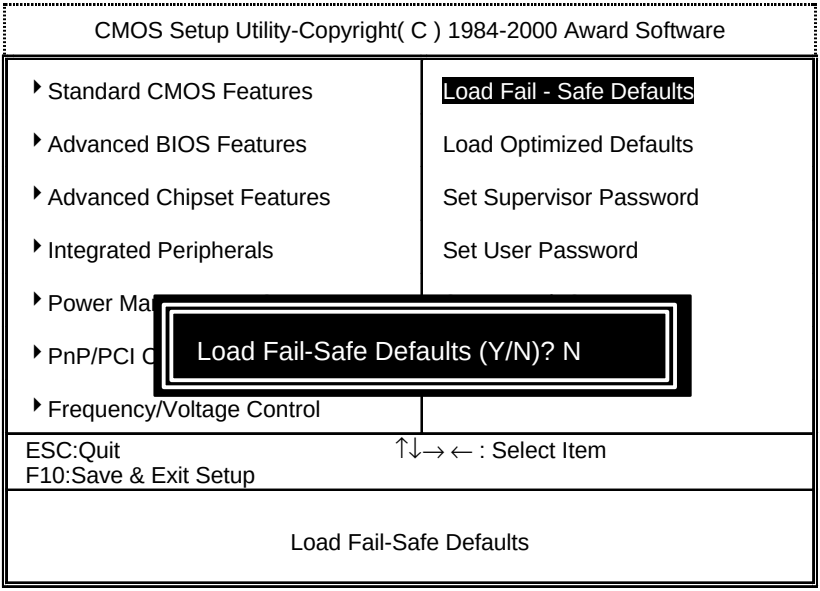


Figure 9: Load Fail-Safe Defaults

- **Load Fail-Safe Defaults**

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

Load Optimized Defaults

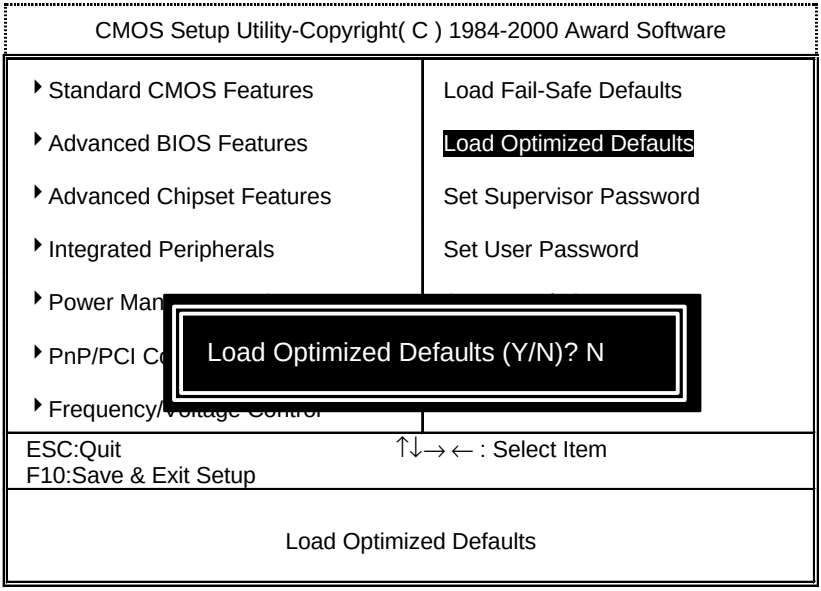


Figure 10: Load Optimized Defaults

- **Load Optimized Defaults**

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

Set Supervisor / User Password

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

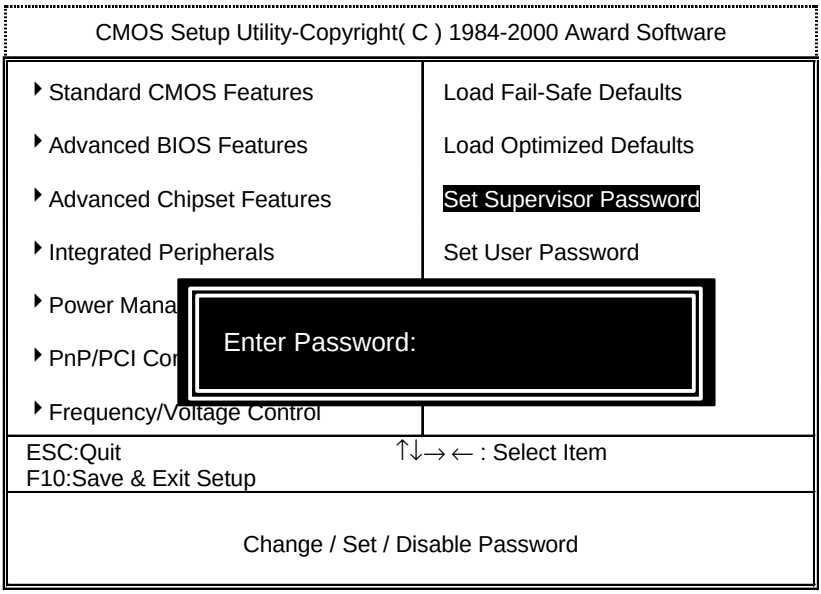


Figure 11: Password Setting

Type the password, up to eight characters, and press <Enter>. The password typed now will clear the previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

If you select "System" at "Security Option" in BIOS Features Setup Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu. If you select "Setup" at "Security Option" in BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

Save & Exit Setup

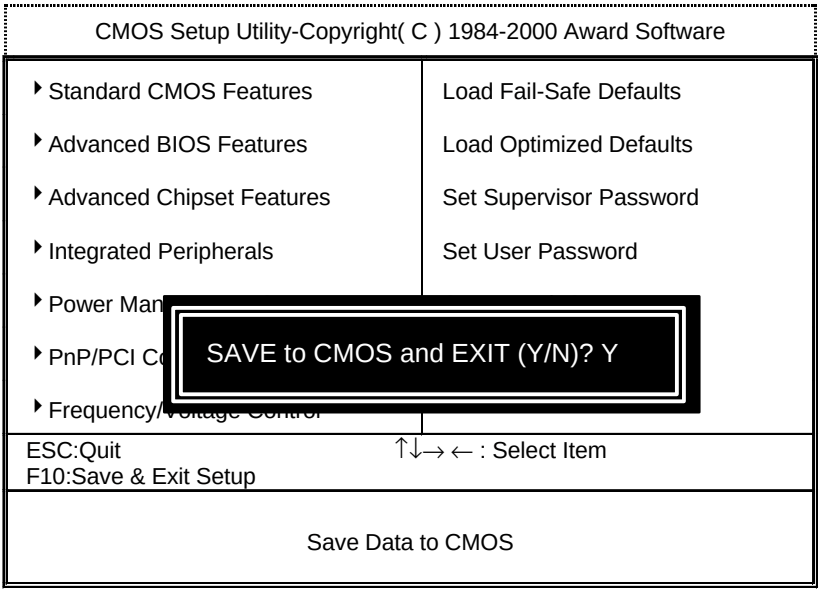


Figure 12: Save & Exit Setup

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

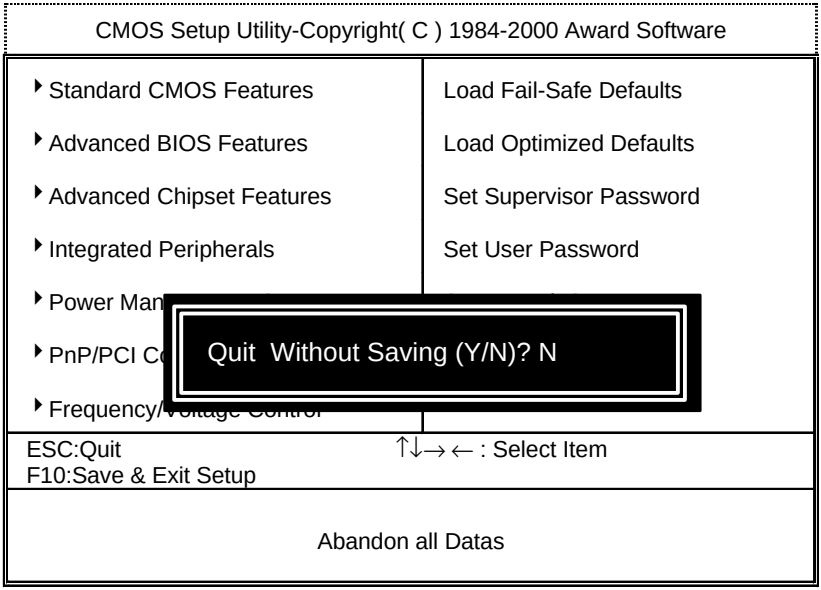


Figure 13: Exit Without Saving

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

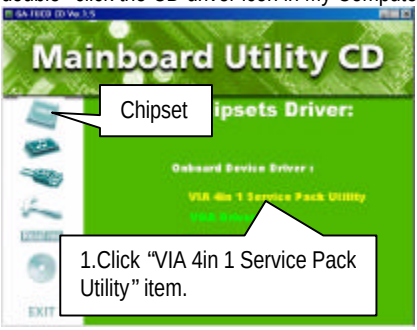
Type "N" will return to Setup Utility.

Appendix

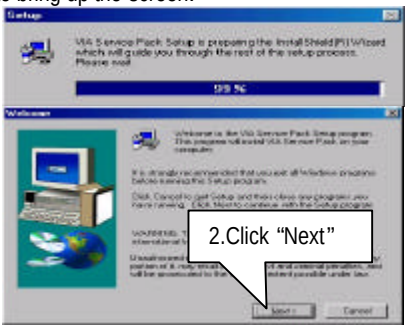
Appendix A: VIA Chipsets Driver

A. VIA 4 in 1 Service Pack Utility:

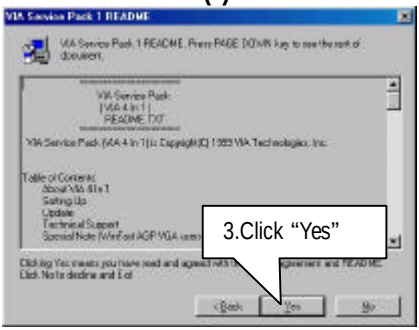
Insert the support CD that came with your motherboard into your CD-ROM driver or double –click the CD driver icon in My Computer to bring up the screen.



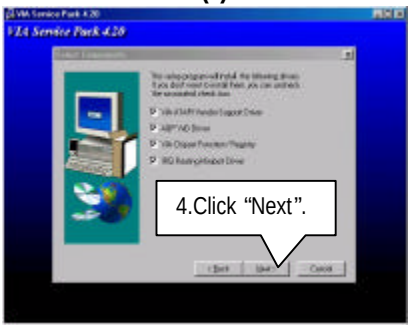
(1)



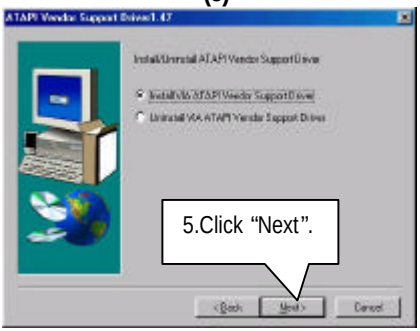
(2)



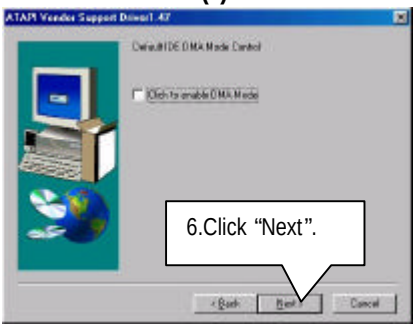
(3)



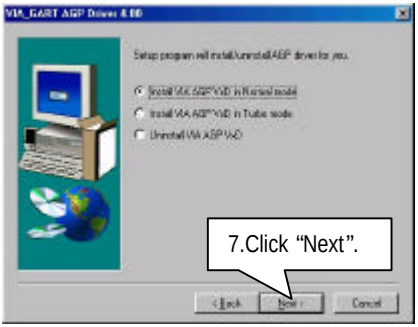
(4)



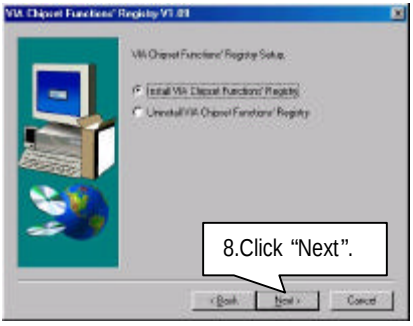
(5)



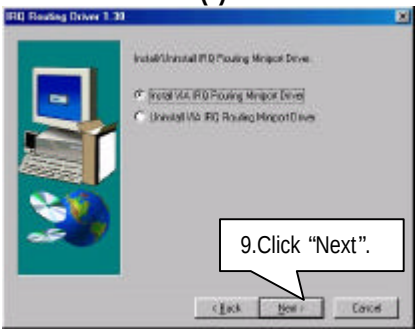
(6)


7.Click “Next”.

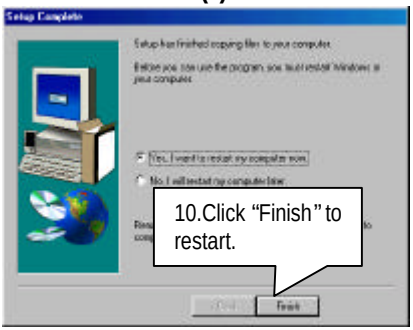
(7)


8.Click “Next”.

(8)


9.Click “Next”.

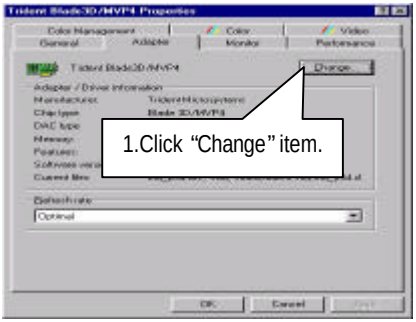
(9)


10.Click “Finish” to restart.

(10)

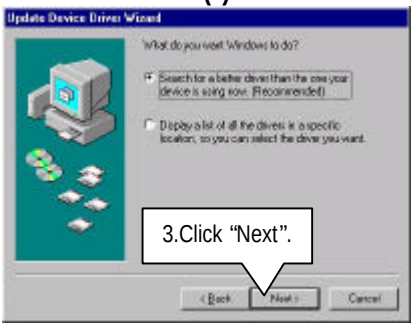
B. VGA Driver:

Insert the support CD that came with your motherboard into your CD-ROM driver or double –click the CD driver icon in My Computer to bring up the screen.

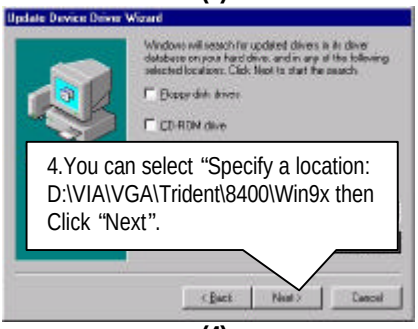


(1)

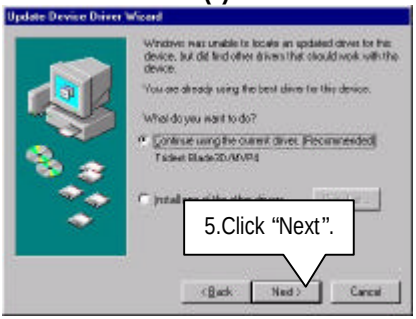
(2)



(3)

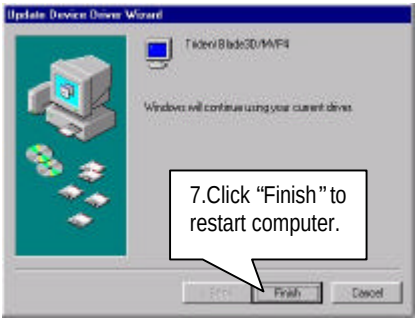


(4)



(5)

(6)

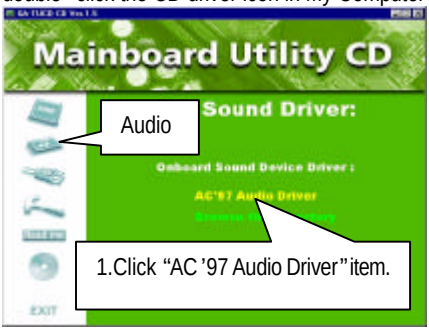

Update Device Driver Wizard
Trident Blade3D/MVP4
Windows will continue using your current drive.
7.Click "Finish" to restart computer.
Finish
Cancel

(7)

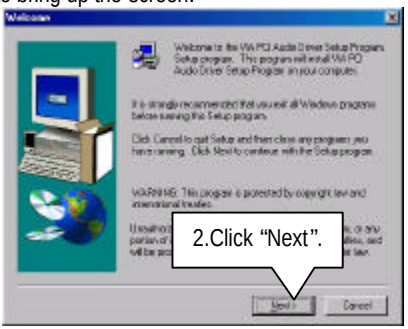
Appendix B: VIA Sound Driver

A. AC'97 Audio Driver:

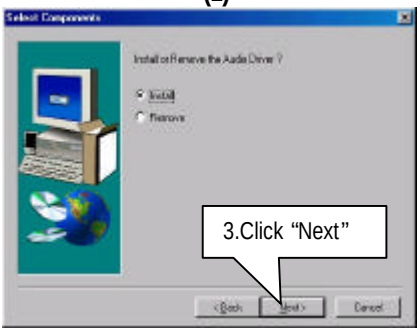
Insert the support CD that came with your motherboard into your CD-ROM driver or double –click the CD driver icon in My Computer to bring up the screen.



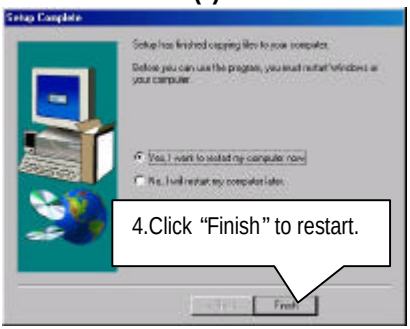
(1)



(2)



(3)



(4)

Appendix C: BIOS Flash Procedure

BIOS update procedure:

- ✓ Please check your BIOS vendor (AMI or AWARD) on the motherboard.
- ✓ It is recommended you copy the AWDFlash.exe or AMIFlash.exe in driver CD (D:\>Utility\BIOSFlash) and the BIOS binary files into the directory you made in your hard disk. i.e:C:\>Utility\ (C:\>Utility : denotes the driver and the directory where you put the flash utilities and BIOS file in.) ¡ j
- ✓ Restart your computer into MS-DOS mode or command prompt only for Win95/98, go into the directory where the new BIOS file are located use the utility AWDFlash.exe or AMIFlash.exe to update the BIOS.
- ✓ Type the following command once you have enter the directory where all the files are located C:\utility\ AWDFlash or AMIFlash <filename of the BIOS binary file intended for flashing>.
- ✓ Once the process is finished, reboot the system.

Note: Please download the newest BIOS from our website (www.gigabyte.com.tw) or contact your local dealer for the file.

Appendix D: Acronyms

Acor.	Meaning
ACPI	Advanced Configuration and Power Interface
POST	Power-On Self Test
LAN	Local Area Network
ECP	Extended Capabilities Port
APM	Advanced Power Management
DMA	Direct Memory Access
MHz	Megahertz
ESCD	Extended System Configuration Data
CPU	Central Processing Unit
SMP	Symmetric Multi-Processing
USB	Universal Serial Bus
OS	Operating System
ECC	Error Checking and Correcting
IDE	Integrated Dual Channel Enhanced
SCI	Special Circumstance Instructions
LBA	Logical Block Addressing
EMC	Electromagnetic Compatibility
BIOS	Basic Input / Output System
SMI	System Management Interrupt
IRQ	Interrupt Request
NIC	Network Interface Card
A.G.P.	Accelerated Graphics Port
S.E.C.C.	Single Edge Contact Cartridge
LED	Light Emitting Diode
EPP	Enhanced Parallel Port
CMOS	Complementary Metal Oxide Semiconductor
I/O	Input / Output
ESD	Electrostatic Discharge
OEM	Original Equipment Manufacturer
SRAM	Static Random Access Memory
VID	Voltage ID
DMI	Desktop Management Interface
MIDI	Musical Interface Digital Interface
IOAPIC	Input Output Advanced Programmable Input Controller
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
PAC	PCI A.G.P. Controller
AMR	Audio Modem Riser

To be continued...

Acor.	Meaning
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
DRM	Dual Retention Mechanism
ISA	Industry Standard Architecture
MTH	Memory Translator Hub
CRIMM	Continuity RIMM