

Motherboard 7KM400MN

Chapter 1 Specifications	3
1.1. Introduction	3
1.2. Package Contents	3
1.3. Specifications and Features	4
CPU Processor	4
Chipset	4
PCI	4
DDR SDRAM Memory	4
Universal Serial Bus (USB)	4
AGP	4
VGA integrated on board	4
Award BIOS	5
ATA 133 On Board	5
SATA RAID Interface integrated	5
WOL (Wake On LAN)	5
CNR (Communication Networking Riser) slot	5
1.4. 7KM400MN Layout Diagram	6
1.5. CPU Installation	8
1.6. DDR SDRAM Installation	8
1.7. Connectors & Jumpers Setting	9
1.7.1. Back Panel I/O Connectors	9
1.7.1.1. PS/2 Mouse / Keyboard CONN:	9
1.7.1.2. USB ports	9
1.7.1.3. Serial Interface Port: COM1	9
1.7.1.4. Parallel Interface Port	10
1.7.1.5. Audio Ports	10
1.7.1.6. VGA connector integrated on board	10
1.7.1.7. RJ45 connector optional on board	10
1.7.2. ATX Main Power Connectors: ATXPWR	10
1.7.3. Floppy Disk Connector: FDD	11
1.7.4. Hard Disk Connectors: IDE1/IDE2	11
1.7.5. Fan Connectors: FAN1 (CPU)/2/3	11
1.7.6. CD Audio-In Connectors: CDIN1	11
1.7.7. IR infrared module: IR1 Connector	12
1.7.8. SPDIF Connector: SPDIF1	12
1.7.9. Front Audio Connector: J8	12
1.7.10. Audio/LAN Riser Slot: CNR1	13
1.7.11. Wake On LAN Connector: WOL1	13

- 1.7.12. Front Panel Connectors: PANEL1 14
- 1.7.13. Modem Pin-header: J9 (optional) 15
- 1.7.14. Serial ATA Connectors: CN2/3 15
- 1.7.15. AGP 8X/4X Slot 15
- 1.7.16. CMOS Function Selector: JBAT1 16
- 1.7.17. PS2 / USB Keyboard Power Selector: J6 16
- 1.7.18. J1&J2, J3, J4, J5 Jumpers Setup 17
- Chapter 2 Drivers & Utilities 18**
- 2.1. Auto-run Menu 18
- 2.2. Installing VIA 4-in-1 Service Pack 20
- 2.3. Installing Audio Driver 21
- 2.4. Installing VGA Drivers 22
- 2.5. Installing USB 2.0 Driver 23
- 2.6. LAN Drivers (optional) 24
- 2.7. Installing Modem Driver (optional) 25
- 2.8. Installing RAID Driver (optional) 26
- Chapter 3. Compatibility Test 27**
- (1) CPU Compatibility Test 27
- (2) Memory Compatibility Test 27
- (3) AGP Display Card Compatibility Test 28
- Chapter 4. BIOS Setup 30**
- (Chapter 4 will be presented in CD version only.) 30
- 4.1 BIOS Support 30
- 4.2 Main Menu 33
- 4.3 Standard CMOS Features 36
- 4.4 Advanced BIOS Features 40
- 4.5 Advanced Chipset Features 44
- 4.6 Integrated Peripherals 51
- 4.7 Power Management Setup 58
- 4.8 PnP/PCI Configurations 64
- 4.9 PC Health Status 67
- 4.10 Frequency/Voltage Control 68
- 4.11 Load Fail-Safe Defaults 69
- 4.12 Load Optimized Defaults 70
- 4.13 Set Supervisor / User Password 71
- 4.14 Save & Exit Setup 72
- 4.15 Exit Without Saving 73

Chapter 1

Specifications

Chapter 1 Specifications

1.1. Introduction

The 7KM400MN motherboard is an integration of AMD Athlon/Duron CPU in Socket 462 packaging and the North Bridge VIA KM400A supporting 100/133/166/200 MHz Front Side Bus.

North Bridge KM400A on board also supports DDR 200/266/333/400 SDRAMs, while the South Bridge VT8237 provides stable supports of ULTRA ATA 133, SATA RAID interface, 6-channel Audio playback and USB 2.0/1.1 interface.

This manual is a general reference of the first release of this motherboard which is subject to update without notice. If any difference is found between this manual and the motherboard you are using, please visit our Web Site for update information.

1.2. Package Contents

- HDD UDMA66/100 Cable x1.
- FDD Cable.
- Flash Memory with BIOS.
- I/O Shielding
- Fully Setup Driver CD with built in utilities.
- User Manual.

1.3. Specifications and Features

CPU Processor

- | Support 100/133/166 MHz System Interface speed
- | Single Socket 462 for AMD™ Athlon CPUs 700MHz~3200+ or higher*, and Duron CPUs 600 ~ 1400 MHz or higher*

* The higher frequency CPU should be compatible with AMD CPU specification and the motherboard latest BIOS version which will be released in our Web Site (url printed on the cover page).

Chipset

- | VIA KM400A North Bridge
- | VIA VT8237 South Bridge

PCI

- | Supports 3 x PCI slots, 32-bit 33MHz PCI Bus speed.

DDR SDRAM Memory

- | Supporting 64/128/256/512/1G....MB DDR module in 2 slots
- | Supporting Synchronous 400/333/266/200MHz DDR SDRAM
- | Supporting a maximum memory size of 2GB of DDR SDRAM

Universal Serial Bus (USB)

- | Supporting 4 on-board Universal Serial Bus(USB) Ports
- | Supporting USB 2.0/1.1

AGP

- | Supporting 1 x AGP8X/4X slot, V3.0 compliant.

VGA integrated on board

- | KM400A supporting VGA interface for VGA display
- | Supporting 1x VGA connector for CRT display

Award BIOS

- | Supporting Plug & Play specification which detects the peripheral devices and expansion cards automatically
- | Supporting CD-ROM, SCSI, LAN BOOT, Temperature sensor, LAN, Alarm Bus CLK setup
- | Supporting Desktop Management Interface (DMI) function for recording mainboard specification

ATA 133 On Board

- | Supporting PIO Mode 5, Master Mode, high performance hard disk drives.
- | Supporting Ultra DMA 33/66/100/133 Bus Master Mode.
- | Supporting 4xIDE devices, including CD-ROM, CD-R, CD-RW, LS-120 and high capacity hard disk drives with LBA mode

6-channel AC 97 Audio Codec

- | AC 97 2.2 compatible Codec, 6-channel Audio interface.

SATA RAID Interface integrated

- | South Bridge VT8237 supporting SATA RAID interface for RAID system configuration
- | Supporting 2 x SATA connectors for 2 RAID Hard Disks configuration

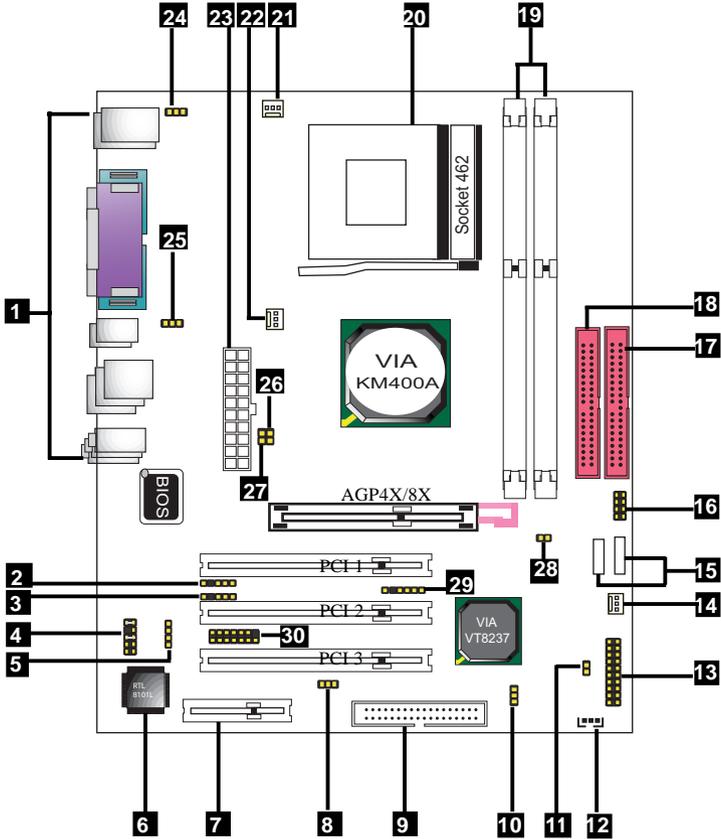
WOL (Wake On LAN)

- | Supporting system power-on by LAN Ring-up signal

CNR (Communication Networking Riser) slot

- | Supporting optional Audio/LAN Riser card

1.4. 7KM400MN Layout Diagram



7KM400MN Component Layout :

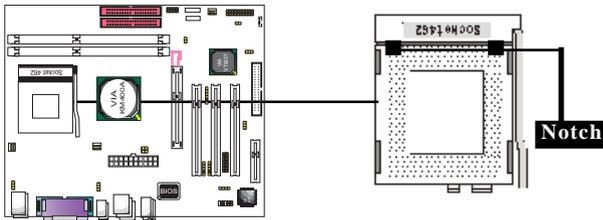
1. Back Panel: Back Panel I/O Connectors (Mouse, Keyboard, COM1, VGA, Printer, USB0/1/2/3, LAN, Mic in, Line in, Speaker-out)
2. IR1: Connector for Infrared signal Receive/Transmit
3. SPDIF1: Sony/Philip Digital Interface Format) Audio Connector
4. J8: Front Audio Connector
5. CD-IN1: CD Audio In Connector
6. Rtl 8101L: LAN Controller
7. CNR1: Communication Networking Riser Slot
8. JP1: Jumper for Audio Selection
9. FDD: Floppy Drive Connector
10. JBAT1: Jumper for clearing CMOS
11. J4: Jumper for VLink Clock Select
12. WOL1: Wake-on LAN connector
13. PANEL1: Front Panel connectors
14. FAN1: Cooling Fan connector
15. CN2/3: Serial ATA connector
16. J5: Jumper for CPU Clock Select/Booting Select
17. IDE2: IDE connector
18. IDE1: IDE Connector
19. 2 x DDR DIMM slots
20. CPU Socket 462
21. FAN2: Cooling Fan connector
22. FAN3: Cooling Fan connector
23. CN1: ATX Power connector
24. J10: Jumper for Keyboard / Mouse Power Select
25. J6: Jumper for USB Keyboard/Mouse Power Select
26. J2: Jumper for FSB Frequency Select
27. J1: Jumper for FSB Frequency Select
28. J3: Jumper for SATA Mode Select
29. DEBUG1: GPIO Error connector
30. J9: Modem Card Connector

1.5. CPU Installation

The motherboard operates with Socket 462 for AMD Athlon™ and Duron™ processor. The CPU should always have a Heat Sink and cooling fan attached to prevent overheating.

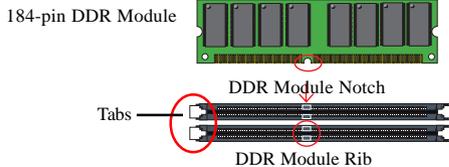
CPU Installation Procedures for Socket 462

1. Pull the lever sideways away from the socket then raise the lever to a 90-degree angle.
2. Locate Pin 1 in the socket and look for the white dot or cut edge in the CPU. Match Pin 1 with the white dot/cut edge then insert the CPU.
3. Press the lever down to complete the installation.



1.6. DDR SDRAM Installation

The motherboard supports a maximized 3GB memory. It provides three 184-pin unbuffered DDR sockets and each supports 64MB to 1GB DDR memory module.

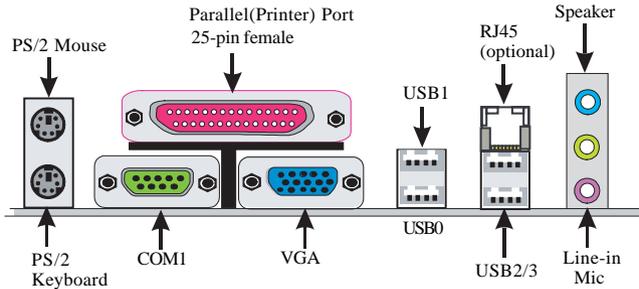


Note: Push the tabs out. Insert the DDR memory modules into the socket at a 90-degree angle then push down vertically to fit onto place. When you plug or unplug DDR module, you must check your power supply is OFF.

1.7. Connectors & Jumpers Setting

1.7.1. Back Panel I/O Connectors

This motherboard provides the following back panel connectors:

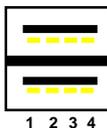


1.7.1.1. PS/2 Mouse / Keyboard CONN:

The motherboard provides a standard PS/2 mouse / Keyboard mini DIN connector for attaching a PS/2 mouse. You can plug a PS/2 mouse / Keyboard directly into this connector.

1.7.1.2. USB ports

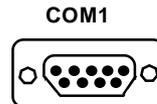
The motherboard provides a OHCI(Universal Host Controller Interface) & EHCI(Enhance Host Controller Interface) Universal Serial Bus Roots for connecting USB devices such as a keyboard, mouse and other USB devices.



USB Pin	Signal
1	5V Power
2	USBDT-
3	USBDT+
4	GND

1.7.1.3. Serial Interface Port: COM1

The serial interface port is sometimes referred to as an RS-232 port or an asynchronous communication port. Mice, printers, modems and other peripheral devices are connected to COM1.



1.7.1.4. Parallel Interface Port

Sometimes called a Centronics port, the parallel port is almost exclusively used with printers. The parallel port on your system is a 25-pin, DB 25 connector.

1.7.1.5. Audio Ports

Speaker out is a connector for Speakers or Headphones. Line in is used for external CD player, Tape player, or other audio devices. Mic is a connector for the microphones.

1.7.1.6. VGA connector integrated on board

VGA connector integrated on board supporting VGA display.

1.7.1.7. RJ45 connector optional on board

RJ45 connector is optionally integrated on board for support of 100/10 Ethernet LAN interface.

1.7.2. ATX Main Power Connectors: ATXPWR

This power connector supports instant power-on functionality, which means that the system will boot up instantly when the power connector is inserted on the board.



Pin	Signal	Pin	Signal
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	PS-ON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW-OK	18	-5V
9	5V_SB	19	5V
10	12V	20	5V

Important:

To switch on your power supply, please make sure:

1. Memory Module is properly installed.
2. Power supply setup is OK.

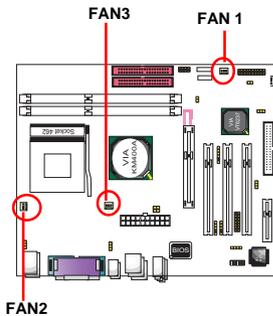
1.7.3. Floppy Disk Connector: FDD

This connector supports the provided floppy drive ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to the floppy drives.

1.7.4. Hard Disk Connectors: IDE1/IDE2

These connectors are provided with IDE hard disk ribbon cable into the package. After connecting the end of cable with single connector to the mainboard, connect the other two connectors at the other end to your hard disk. If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper settings. BIOS now supports SCSI device or IDE CD-ROM boot up (see "HDD Sequence SCSI/IDE First" & "Boot Sequence" in the BIOS Features Setup of the BIOS SOFTWARE).

1.7.5. Fan Connectors: FAN1 (CPU)/2/3



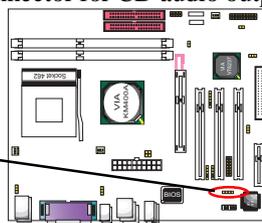
FAN 1		Pin Definition
0	1	GND
0	2	+12VDC
0	3	NC

FAN 2/3		Pin Definition
0	1	N/C
0	2	+12VDC
0	3	CPU/Sys

1.7.6. CD Audio-In Connectors: CDIN1

CDIN1 is the connectors for CD-Audio Input signal. Connect it to CD-ROM CD-Audio output connector for CD audio output.

Pin	CDIN1	Definition
1		CD-L
2		GND
3		GND
4		CD-R

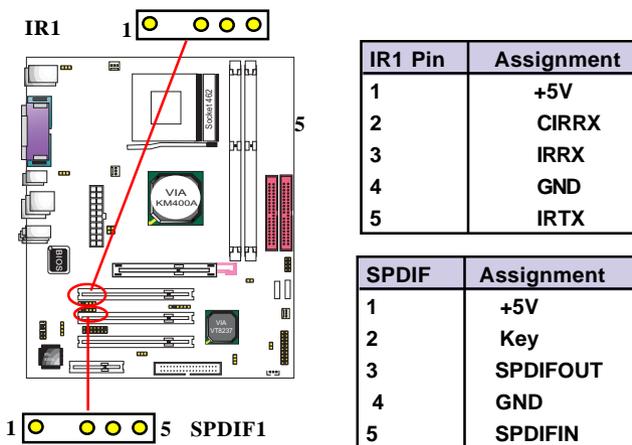


1.7.7. IR infrared module: IR1 Connector

This connector supports the optional wireless transmission and reception infrared module. You must configure the setting through the BIOS setup to use the IR function.

1.7.8. SPDIF Connector: SPDIF1

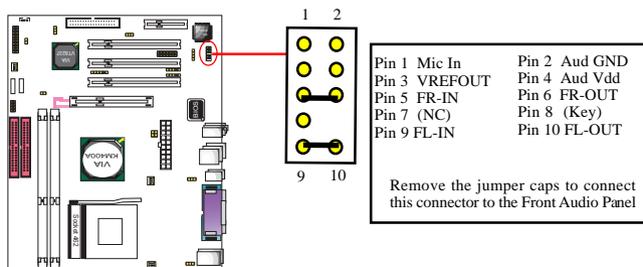
SPDIF1 is designed on board for Digital Audio in/out.



1.7.9. Front Audio Connector: J8

J8 provides connection to the Front Audio connectors of the Front Audio Panel.

To use this Front Audio Connector, please remove the jumper caps on it and connect it to the Front Audio Panel.

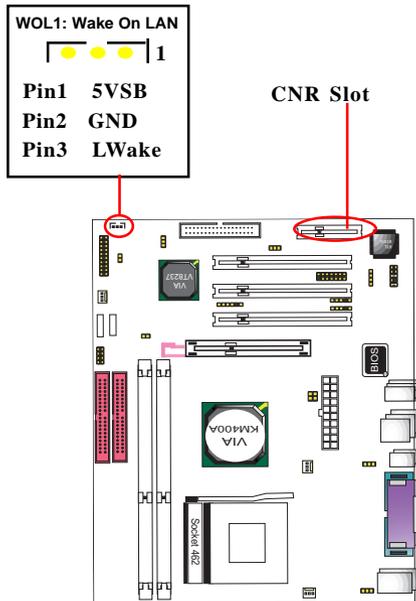


1.7.10. Audio/LAN Riser Slot: CNR1

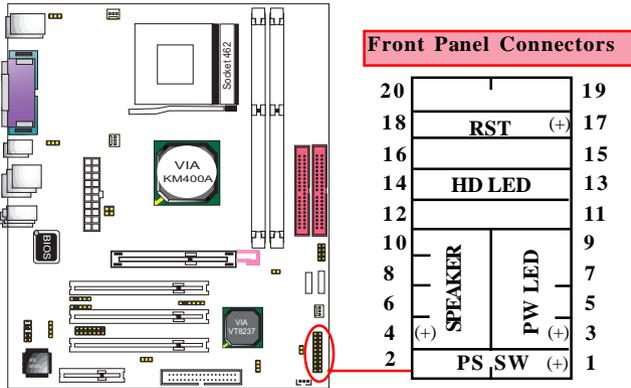
CNR1 is a Communication/Networking Riser Slot for installation of an optional Audio/LAN Riser Card.

1.7.11. Wake On LAN Connector: WOL1

WOL1 is a Wake On LAN (WOL) connector for transmitting the Ring signal from a PCI LAN card to wake up system. If you use a PCI LAN card for system networking, you can connect this Wake On LAN connector to the PCI LAN card on board for Wake On LAN function.



1.7.12. Front Panel Connectors: PANEL1



PSSW

The system power is controlled by a momentary switch connected to this lead. Pushing the button once will switch the system ON.

PowerLEDLead (PW_LED)

The system power LED lights when the system power is on.

Speaker Connector (SPEAKER)

The speaker (onboard or offboard) provides error beep code information during the Power Self-Test when the computer cannot use the video interface. The speaker is not connected to the audio subsystem and does not receive output from the audio subsystem.

HardDrive LED Connector (HD_LED)

This connector supplies power to the cabinet IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause the LED to light up.

Reset Switch Lead (RST)

The connector can be connected to a reset switch. Press this reset switch to restart system.

1.7.13. Modem Pin-header: J9 (optional)

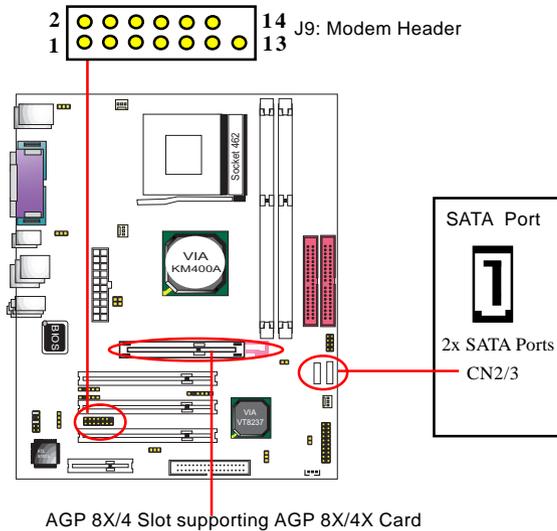
J9 is a Modem Pin-header designed on board for a Modem card setup.

1.7.14. Serial ATA Connectors: CN2/3

Two SATA Connectors are built on board for high speed data transfer rate up to 150MB/s. Hard Disk Drive with Serial ATA Interface is supported by these two SATA Connector.

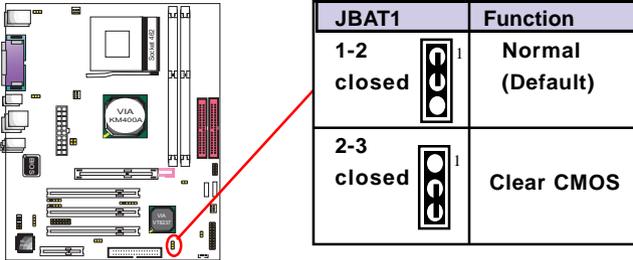
1.7.15. AGP 8X/4X Slot

AGP 8X/4X Slot on board supporting AGP 8X/4X digital display



1.7.16. CMOS Function Selector: JBAT1

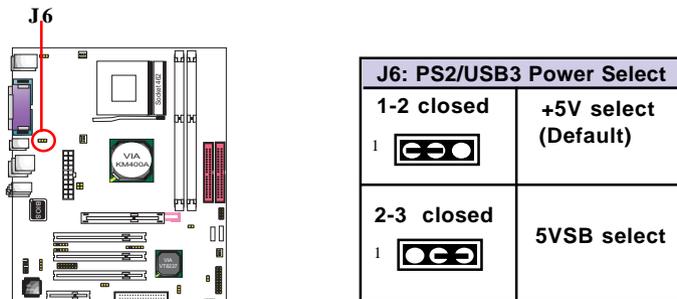
When you have problem with booting system, you may clear CMOS to restore the optimum default BIOS data.



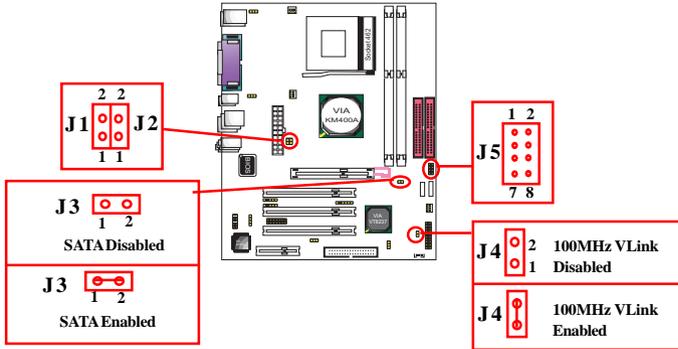
1. Remove the Jumper cap of JBAT1 from 1-2.
2. After 1 or two seconds, set JBAT1 to 2-3 closed with the jumper cap.
3. After 1 or two seconds, restore the JP3 to 1-2 closed.
Now, the CMOS RAM has restored to the optimum default setting.

1.7.17. PS2 / USB Keyboard Power Selector: J6

J6 is designed to select the PS2 / USB3 Keyboard Power function.



1.7.18. J1&J2, J3, J4, J5 Jumpers Setup



J5	 5-6 open	 5-6 open	 5-6 closed	 5-6 closed
J1&J2				
CPU(MHz)	100 MHz (default)	133 MHz	166 MHz	200 MHz

J5	 3-4 open From Boot ROM	 3-4 closed From Hardware strapping (Default)	 7-8 closed EEPROM for vt8237 disabled	 7-8 open EEPROM for vt8237 enabled
----	--	--	---	--

Chapter 2 Drivers & Utilities

There are motherboard drivers and utilities included in the disc attached in this motherboard package. You don't have to install all of them for booting your system. But after you have finished the hardware installation, you have to install an operation system (such as windows XP) before you are able to install any drivers or utilities.

Note: Please be aware of the different Procedures for installing drivers for Windows 98/ME/XP/2000 .

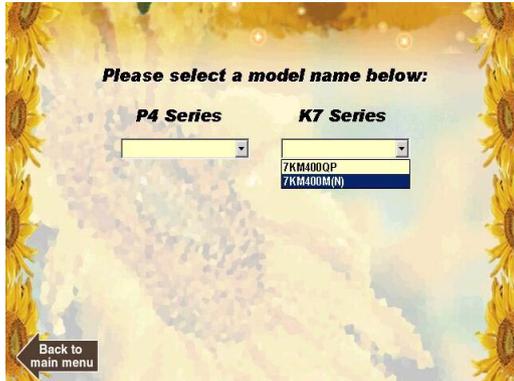
2.1. Auto-run Menu

You can use the auto-run menu in the driver CD attached in the motherboard package. Then choose the utility or driver and select model name. The autorun starting screen looks like below:

(1)
Select "Driver".



(2)
Select Model Name.



(3)
Click on the Model Name to reveal the Main Driver Menu.



2.2. Installing VIA 4-in-1 Service Pack

Enter the item "Chipset" of the Autorun program and install the VIA Service Pack. Follow the illustrations below :

(1)

Click "Chipset" Item on the Main Menu.



(2)

Click "Next" to continue.



(3)

Click "Yes" to continue



(4)

Click "Next" to install VIA ATAPI Vender Support Driver, AGP Driver and VIA INF Driver.



(5)

Tick the Restart button and click "OK" to restart system and complete the Chipset driver setup.



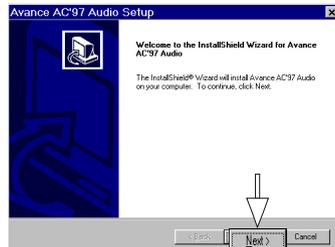
2.3. Installing Audio Driver

This motherboard comes with an AC97 CODEC V2.2, 6-channel compatible. You can find the Audio driver from this Auto-run menu.

(1)
Click "Audio Driver" Item
to start.



(2)
Click "Next".



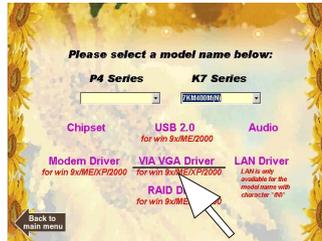
(3)
Click "Finish".



2.4. Installing VGA Drivers

Enter the item "VGA" of the Autorun program and install the VGADrivers for Win9X/NT/2000/XP. Follow the illustrations below

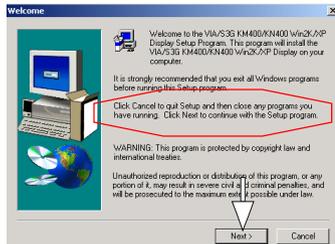
(1)
Click "VIA VGADriver"
Item.



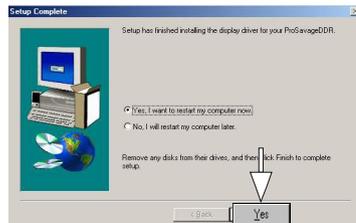
(2)
Click the OS running on
system.



(3)
Click "Next" to continue
with the setup.



(4)
In a few seconds, you are
prompted to restart system,
click "Finish" to restart
system and complete
installation.



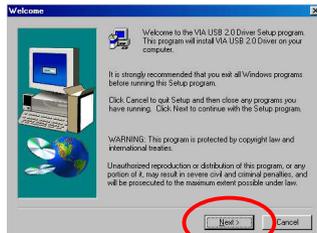
2.5. Installing USB 2.0 Driver

The VIA USB 2.0 driver is intended for Win 9X/Me/2K/XP systems.

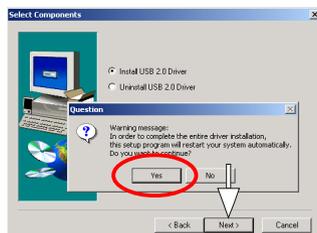
(1)
Click the "USB2.0"
item.



(2)
Click "Next" to
continue.



(3)
Tick "Install USB Driver" The
Setup Program informs you that
System will restart
automatically after setup
completes. Click "Yes" and
"Next" to continue



(4)
Follow the instructions on the Setup screens and finish Setup in a
few seconds. Your system will then automatically restart to
complete setup

2.6. LAN Drivers (optional)

(1)
Click the "LAN Driver" item.



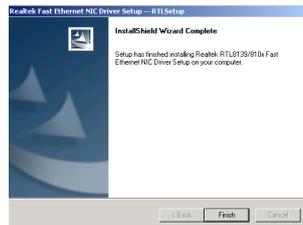
(2)
Instantly, Setup Wizard starts. Click "Next" to continue.



(3)
Instantly, Setup starts installing.



(4)
In a few seconds, setup completes. Restart system to put the just installed driver into effect.



2.7. Installing Modem Driver (optional)

Enter the item "Modem" of the Autorun program and install the Modem Drivers for Win9X/NT/2000/XP. Follow the illustrations below

(1)
Click "VIA ModemDriver"
Item.



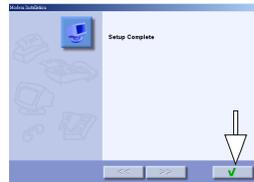
(2)
Click the OS running on
system.



(3)
Click the ">>" button to
continue.



(4)
In a few seconds, setup
completes. Click the Tick
button to restart system and
complete installation.



2.8. Installing RAID Driver (optional)

You should first configure your Serial ATA hard disk into RAID configuration and then install the RAID driver.

(1)

Click "RAID Driver" Item.



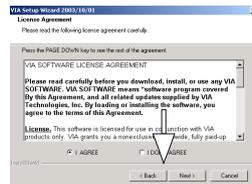
(2)

The RAID Wizard starts. Click "Next" to continue.



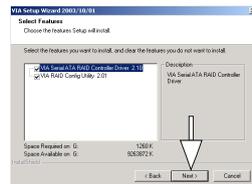
(3)

Agree to the License Agreement and click "Next" to continue.



(4)

The Setup Program will set up the RAID driver and Config Utility into your system. Click "Next" to continue.



(5)

In a few seconds, setup completes. Click the Finish button to restart system and complete installation.



Chapter 3 Test Report

Chapter 3. Compatibility Test

(1) CPU Compatibility Test

Nucleon	Model	CLK	Volt/Var	Test Speed	CPU Util. %	Stepping	RESET OK times	PWR On/Off OK times	CC-WS
Athlon XP	2800+	166	1.65	2083			PASS	PASS	29.5
Athlon XP	2700+	166	1.65	2175			PASS	PASS	30.9
Athlon XP	2400+	166	1.65	2000			PASS	PASS	28
Athlon XP	2600+	133	1.65	1921			PASS	PASS	27.7
Athlon XP	2200+	133	1.65	1917			PASS	PASS	21
Athlon XP	2100+	133	1.65	1740			PASS	PASS	23.8
Athlon XP	2000+	133	1.65	1675			PASS	PASS	26
Athlon XP	1900+	133	1.75	1600			PASS	PASS	27.2
Athlon XP	1800+	133	1.65	1540			PASS	PASS	22.6
Athlon XP	1700+	133	1.75	1475			PASS	PASS	25.8
Athlon XP	1600+	133	1.75	1410			PASS	PASS	25
Athlon XP	1500+	133	1.75	1340			PASS	PASS	24
Athlon	1.4G	133	1.75	1410			PASS	PASS	24.3
Athlon	1.33G	133	1.75	1340			PASS	PASS	23.6
Athlon	1.2G	133	1.75	1200			PASS	PASS	22.4
Athlon	1.13G	133	1.75	1140			PASS	PASS	21.1
Athlon	1.0G	133	1.75	1060			PASS	PASS	19.4
Athlon	1.2G	100	1.75	1217			PASS	PASS	21.1
Athlon	1.1G	100	1.75	1100			PASS	PASS	20
Athlon	1.0G	100	1.75	1017			PASS	PASS	19.1
Athlon	950M	100	1.75	960			PASS	PASS	18.5
Athlon	900M	100	1.75	917			PASS	PASS	17.8
Athlon	850M	100	1.75	880			PASS	PASS	17.4
Morgan	1.2G	100	1.75	1317			PASS	PASS	19.5
Morgan	1.2G	100	1.75	1217			PASS	PASS	19.3
Morgan	1.0G	100	1.75	1017			PASS	PASS	18.7
Duron	950M	100	1.75	960			PASS	PASS	16.5
Duron	860M	100	1.75	810			PASS	PASS	15.7
Duron	750M	100	1.75	760			PASS	PASS	15
Duron	1800+	133	1.5	1917			PASS	PASS	25.4
Duron	1600+	133	1.5	1660			PASS	PASS	24
Duron	1400+	133	1.5	1410			PASS	PASS	22.8

(2) Memory Compatibility Test

	Module Vendor	IC_Vendor	IC_Serial Numbers	CAPACITY	SDBE	DRAM CLK	Location	Memtest Ld1	WS 2002 (Business)
1	Adata	ADATA	A0D8808A8A-45B	256M	S	450	DIMM 1,2	PASS	26.4
2	Adata	ADATA	A0D8808A8A-5B	256M	S	400	DIMM 1,2	PASS	29.4
2	Adata	hynix	HY5DU56822BT-D43	256M	S	400	DIMM 1,2	PASS	29.8
3	Adata	SAMSUNG	K4H560838D-TCC0	256M	S	400	DIMM 1,2	PASS	18.4
3	Adata	WINBOND	W942509CH-5	256M	S	400	DIMM 1,2	PASS	22.1
3	Adata	WINBOND	W942508BH-6	512M	D	400	DIMM 1,2	PASS	21.8
2	Adata	SAMSUNG	K4H560838D-TCC4	512M	D	400	DIMM 1,2	PASS	25
1	Kingston	Kingston	D3208DL1T-5	512M	D	400	DIMM 1,2	PASS	23.9
2	China	PMI	PM4D328V5	256M	S	400	DIMM 1,2	PASS	27.3
1	Geil	Geil	G216L6464D2TG5NK73	512M	D	400	DIMM 1,2	PASS	26.8
3	Kingston	hynix	HY5DU56822BT-D43	256M	S	400	DIMM 1,2	PASS	23.1
1	Transcend	Moel	V58C22568045A75	512M	D	400	DIMM 1,2	PASS	23.5
3	Kingmax	KINGMAX	KDL389P4EA-50	512M	D	400	DIMM 1,2	PASS	22.6
1	Sellec	Sellec	DDR32M8AT-5	512M	D	400	DIMM 1,2	PASS	23.1
2	Kingmax	KINGMAX	KDL884T42A-05	256M	D	333	DIMM 1,2	PASS	21.8
2	Adata	Vdata	VDD8808A8A-6B	256M	S	333	DIMM 1,2	PASS	28.6
2	Adata	NANYA	NT5DS32M8BT-6K	512M	D	333	DIMM 1,2	PASS	30.7
2	Apacer	INFINEON	HYB25D256800AT-7	256M	D	266	DIMM 1,2	PASS	22.4
2	China	hynix	HY5DU56822AT-H	512M	D	266	DIMM 1,2	PASS	26.4
2	Weblink	ELDJR	NZD812880AT-75B	256M	D	266	DIMM 1,2	PASS	28.3
1	Adata	ADATA	A0D8808A8A-45B	256M	S	450	DIMM 1	PASS	25.3
2	Adata	ADATA	A0D8808A8A-5B	256M	S	400	DIMM 1	PASS	26.5
2	Adata	hynix	HY5DU56822BT-D43	256M	S	400	DIMM 1	PASS	27
3	Adata	SAMSUNG	K4H560838D-TCC	256M	S	400	DIMM 1	PASS	16.7
3	Adata	WINBOND	W942509CH-5	256M	S	400	DIMM 1	PASS	19
3	Adata	WINBOND	W942508BH-6	512M	D	400	DIMM 1	PASS	23.1
2	Adata	SAMSUNG	K4H560838D-TCC4	512M	D	400	DIMM 1	PASS	23.7
1	Kingston	Kingston	D3208DL1T-5	512M	D	400	DIMM 1	PASS	21.6
2	China	PMI	PM4D328V5	256M	S	400	DIMM 1	PASS	26.9
1	Geil	Geil	G216L6464D2TG5NK73	512M	D	400	DIMM 1	PASS	24.5
3	Kingston	hynix	HY5DU56822BT-D43	256M	S	400	DIMM 1	PASS	21.8
1	Transcend	Moel	V58C22568045A75	512M	D	400	DIMM 1	PASS	23.2
3	Kingmax	KINGMAX	KDL389P4EA-50	512M	D	400	DIMM 1	PASS	18.2
1	Sellec	Sellec	DDR32M8AT-5	512M	D	400	DIMM 1	PASS	22.5
2	Kingmax	KINGMAX	KDL884T42A-05	256M	D	333	DIMM 1	PASS	26.4

Win 2000 800 x 600 x 16 bit							
AGP Model	Vendor	AGP Mode	Driver Version	3DMARK 2001E Search Mode	Quake III Demo 001		
					frames	seconds	fps
GEFORCE III	ELSA	4X	3.0.8.2	6924	1346	9.8	137.2
GEFORCE II IMX	GIGABYTE	4X	3.0.8.2	4145	1346	11.4	118.0
GEFORCE II MK200	MSI	4X	2.9.4.2	3559	1346	15.4	82.4
G550	MATROX	4X	25.86.320	2201	1346	21	64.0
GEFORCE II MK1400	PROLINK	4X	3.0.8.2	4424	1346	10.7	125.8
Win XP 1024 x 768 x 32 bit							
AGP Model	Vendor	AGP Mode	Driver Version	3DMARK 2001E Search Mode	Quake III Demo 001		
					frames	seconds	fps
GEFORCE II MK1400	MSI	4x	3.0.8.2	2942	1346	20.6	65.6
GEFORCE II MK200	WINFAST	4x	3.0.8.2	1300	1346	44.5	30.3
RADEON 8500LE	ATI	4x	6.13.10.6166	7870	1346	8.2	163.6
GEFORCE II IMX	GIGABYTE	4x	3.0.8.2	2484	1346	24.0	56.2
GEFORCE 4 MX140	MSI	4x	4.1.0.9	5647	1346	9.2	146.0
Win XP 800 x 600 x 16 bit							
AGP Model	Vendor	AGP Mode	Driver Version	3DMARK 2001E Search Mode	Quake III Demo 001		
					frames	seconds	fps
GEFORCE III T1500	WINFAST	4x	4.1.0.9	8670	1346	8.0	168.2
GEFORCE II IMX	MSI	4x	3.0.8.2	2920	1346	10.1	133.2
G 550	MATROX	4x	5.86.32.0	2400	1346	19.4	74.0
RADEON 9700	ATI	8x	6.13.10.6166	7624	1346	8.1	165.3
GEFORCE II MK200	PROLINK	4x	2.9.4.2	3784	1346	14.7	91.8

Chapter 4

BIOS Setup

Chapter 4. BIOS Setup

(Chapter 4 will be presented in CD version only.)

4.1 BIOS Support

This chapter discusses the Award BIOS Setup program built in the ROM BIOS. The Setup program allows the user to modify the basic system configuration. The modification is then stored in battery-backed RAM so that it can retain the setup information after the power is turned off. The Award BIOS installed in your computer system ROM (Read Only Memory) is a custom version of an industry standard BIOS. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports. This chapter is intended for guiding you through the process of configuring your system BIOS.

Plug and Play Support

This AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD(Extended System Configuration Data) write is also supported.

EPA Green PC Support

This AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

PCI Bus Support

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

APM Support

This AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management(APM) specification. Power management features are implemented via the System Management Interrupt(SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can be managed by this AWARD BIOS.

DRAM Support

DDR (Double Data Rate) are supported.

Setup Menu

In general, you use the arrow keys to highlight items of the Main BIOS Setup Menu, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

Note:

BIOS version 1.0 is for reference only. If there is a change in BIOS version, please use the actual version on the BIOS.

Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left(menu bar)
Right arrow	Move to the item on the right(menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+Key	Increase the numeric value or make changes
-Key	Decrease the numeric value or make changes
Esc Key	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
F1 Key	General help on Setup navigation keys.
F5 Key	Load previous values from CMOS
F6 Key	Load the fail-safe defaults from BIOS default table
F7 Key	Load the optimized defaults
F10 Key	Save all the CMOS changes and exit

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 the BIOS special enhanced features.

Advanced Chipset Features

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

Integrated Peripherals

This selection page includes all the items of the IDE hard drive and Programmed Input/Output features.

Power Management Setup

This setup page includes all the items of the power management features.

PnP/PCI Configurations

This setup page includes the user defined or default IRQ Setting.

PC Health Status

This page shows the hardware Monitor information of the system.

Frequency/Voltage Control

This setup page controls the CPU's clock and frequency ratio.

Load Fail-safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

These settings are for configuring a workable computer when something is wrong. If you cannot boot the computer successfully, select the BIOS Setup options and try to diagnose the problem after the computer boots. These settings do not provide optional performance.

Set Supervisor/User Password

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

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

4.3 Standard CMOS Features

This main option in the Standard CMOS Setup Menu is divided into 10 fields or items. Each field provides one or more setup choices. Use the arrow keys to highlight the field and then use the <PgUp> or <PgDn> keys to select the value or choice.

Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features

Date(mm:dd:yy)	Tue,Jun 6 2002	Item Help
Time (hh:mm:ss)	11:26:10	Menu Level Change the day, month,year and century.
▶IDE Primary Master	None	
▶IDE Primary Slave		
▶IDE Secondary Master		
▶IDE Secondary Master	None	
Drive A	1.44M,3.5 in	
Drive B	None	
Floppy 3 Mode Support	Disabled	
Video	EGA/VGA	
Halt On	All,But Keyboard	
Base Memory	640K	
Extended Memory	65472K	
Total Memory	1024K	

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

Main Menu Selections

Item	Options	Description
Date (mm : dd :yy)	Month Day Year	Set the system,date. Note that the 'Day' automatically changes when you set the data.
Time (hh : mm : SS)	Hour Minute Second	Select the hour, minute and second of the time.
IDE Primary Master	Options are in its sub menu.	Press<Enter> to enter sub menu.
IDE Primary/ Slave	Options are in its sub menu.	Press<Enter> to enter sub menu.
IDE Second- ary Master	Options are in its sub menu.	Press<Enter> to enter sub menu.
IDE Second- ary Slave	Options are in its sub menu.	Press<Enter> to enter sub menu
Drive A Drive B	None 360K,5.25in, 1.2M,5.25in 720K,3.5M 1.44M,3.5in 2.88M,3.5in	Select the type of floppy disk drive installed in your system.
Floppy 3 Mode Support	Disabled Driver A	Disable or support the 3rd floppy mode in Drive A
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.

Item	Options	Description
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/Key	Select the situation in which you want the BIOS to stop the POST process and notify.
Base Memory	(640K)	The amount of conventional memory detected during boot up.
Extended Memory	(65472K)	The amount of conventional memory detected during boot up.
Total Memory	(1024K)	The total memory available in system.

IDE Primary(Master/Slave)/Secondary(Master/Slave)

Press Enter on these items to show the following sub-menu:

Primary Master/Secondary

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master Access Mode	Auto Auto	Menu Level
Capacity	13022MB	
Cylinder	25232	
Head	16	
Precomp	0	
Landing Zone	25231	
Sector	61	

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

IDE HDD Auto-Detection

Press Enter on this item to let BIOS auto-detect your Hard Disk and show all the Primary Hard Disk Parameters (Capacity, Cylinder, Head, Precomp, Landing Zone, Sector) on the menu.

IDE Primary(Master/Slave)/Secondary(Master/Slave)

This item allows you to detect the Hard Disk in 3 ways.

- The Choices: Auto: BIOS Auto-detect HDD;
- None: No Hard Disk detected;
- Manual: Manually detect HDD

Access Mode

This item allows you to select the Access mode to the Hard Disk..

The Choices:

- CHS: Select the Cylinder, Head, Sector addressing mode to access Hard Disk;
- LBA: Select the Logical Block Addressing mode to access Hard Disk.
- Large: Select Large Mode to access Hard Disk;
- Auto: Allow BIOS to auto-access Hard Disk;

Capacity

Showing the capacity of Hard Disk in MB.

Cylinder

Showing the number of cylinder in the Hard Disk.

Head

Showing the number of heads in the Hard Disk.

Precomp

The number of Pre-compensation.

Landing Zone

Number of Landing zone in the Hard Disk.

Sector

The number of Sector in the Hard Disk.

4.4 Advanced BIOS Features

Phoenix - AwardBIOS CMOS Setup Utility Advanced BIOS Features

Virus Warning	Disabled	Item Help
CPU Internal Cache	Enabled	
External Cache	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	CD-ROM	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Disabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
X Typematic Rate (Chars/Sec)	6	
X Typematic Delay (Msec)	250	
Security Option	Setup	
OS Select For DRAM >64MB	Non-OS2	
HDD S.M.A.R.T. Capability	Disabled	
Video BIOS Shadow	Enabled	
EPA / (H/W Monitor) Show	H/W Monitor	

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

Virus Warning

This option allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and alarm beep.

The Choices:

Disabled(default), Enabled.

CPU Internal / External Cache

Allows you to Enable or Disable the CPU's L1 (Internal) / L2 (External) cache to provide better performance.

The choices:

Enabled(default); Disabled

Quick Power On Self Test

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

The choices:

Enabled(default); Disabled

First/Secondary/Third Boot Device

This BIOS attempts to load the operating system from the devices in the sequence selected in these items.

The Choices:

Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, LAN, USB-FDD, USB-Zip, USB-CDROM, USB-HDD, Disabled.

Boot Other Device

Allows user to set booting from other devices.

The Choices:

Enabled(default), Disabled.

Swap Floppy Drive

If the system has two floppy drives, you can swap the logical drive name assignments.

The Choices:

Disabled(default), Enabled.

Boot Up Floppy Seek

If enabled, this item allows BIOS to test floppy drives to determine whether they have 40 or 80 tracks.

The Choices:

Disabled(default), Enabled.

Boot Up NumLock Status

Select power on state for Numlock..

The Choices

On (default): Numpad is number keys;

Off: Numpad is arrow keys;

Gate A20 Option

Select if chipset or keyboard controller should control Gate A20.

The choices:

Normal: A pin in the keyboard controller controls Gate A20.

Fast (default): Lets chipset control Gate A20.

Typematic Rate Setting

Allows user to adjust the key stroke repeat rate.

The choices:

Enabled: Enabled this option to adjust the keystroke repeat rate; Disabled (default): Enabled.

Typematic Rate (Char/Sec)

Range between 6(**default**) and 30 characters per second. This option controls the speed of repeating keystrokes.

Typematic Delay (Msec)

This option sets the time interval for displaying the first and the second characters.

The Choices: 250(default), 500, 750, 1000.

Security Option

This category allows you to determine whether to use password access the system and Setup, or just Setup.

The choices:

System: To access system and BIOS Setup with correct password.

Setup (default): To access BIOS Setup with correct password.

OS Select For DRAM >64MB

Select the operating system that is running with greater than 64MB of RAM on the system.

The Choices: Non-OS2(default), OS2.

HD DS.M.A.R.T. Capability

Allows user to choose the Self-monitoring Analysis and Reporting Technology for Hard Disk Drive.

The choices: Disabled(default); Enabled

Video BIOS Shadow

Use this item to enable/disable the Video BIOS Shadow function.

The Choices: Enabled; Disabled

EPA/ (H/W Monitor) Show

Use this item to enable/disable the Environmental Protection Association (EPA)/ Hardware Monitor) logo on initiating screen..

The choices: H/W Monitor; EPA Logo

4.5 Advanced Chipset Features

This section allows you to configure the system based features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and external cache. It also coordinates communications of the PCI bus. It must be stated that these items should never be altered. The default settings are set up to provide the best operating conditions for your system. The time you might need to make any changes would be if you discover that data is lost while using your system.

Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features

▶ DRAM Clock/Drive Control	Press Enter	Item Help
▶ AGP & P2P Bridge Control	Press Enter	
▶ CPU & PCI Bus Control	Press Enter	
Memory Hole	Disabled	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	

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

DRAM Clock/Drive Control

Press Enter on this item to open the Sub-menu as shown below:

Phoenix - AwardBIOS CMOS Setup Utility
DRAM Clock/Drive Control

		Item Help
Current FSB Frequency	100MHz	
Current DRAM Frequency	100MHz	
DRAM Clock	By SPD	
DRAM Timing	Auto By SPD	
x DRAM CAS Latency	2.5	
x Bank Interleave	Disabled	
x Precharge to Active(Trp)	3T	
x Tras Non-DDR400/DDR400	7T	
x Active to CMD(Trcd)	3T	
DRAM Burst Length	4	
DRAM Command Rate	2T Command	
Write Recovery Time	3T	
tWTR for DDR400 ONLY	3T	

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

Current FSB Frequency

This item shows the current FSB Frequency

Current DRAM Frequency

This item shows the current DRAM Frequency

DRAM Clock

This item is to set the DRAM clock..

The Choices: By SPD; 100 MHz; 133 MHz; 166 MHz; 200 MHz

DRAM Timing

This item is to set the DRAM transaction timing.

The Choices: Auto by SPD; Turbo; Ultra; Manual

x DRAM CAS Latency

When DRAM Timing is set Manual, use this item to set the DRAM CAS Latency time. .

The Choices: 1.5; 2; 2.5; 3

x Bank Interleave

When DRAM Timing is set Manual, use this item to set the DRAM Bank Interleave.

The Choices: Disabled; 2 Bank; 4 Bank

x Precharge to Active(Trp)

When DRAM Timing is set Manual, use this item to set the DRAM Precharge to Active(Trp) cycle.

The Choices: 2T; 3T

x Tras Non-DDR400/DDR400

When DRAM Timing is set Manual, use this item to set the Tras Non-DDR400/DDR400 cycle.

The Choices: 7T; 10T

x Active to CMD(Trcd)

When DRAM Timing is set Manual, use this item to set the DRAM Active to CMD(Trcd) cycle.

The Choices: 3T; 2T

DRAM Burst Length

Use this item to set the DRAM Burst cycle Length.

The Choices: 4; 8

DRAM Command Rate

Use this item to set the DRAM Command Rate.

The Choices: 2T Command; 1T command

Write Recovery Time

Use this item to set the Write Recovery Time.

The Choices: 3T; 2T

AGP P2P Bridge Control

Press Enter on this item to open the Sub-menu as shown below:

Phoenix - AwardBIOS CMOS Setup Utility
AGP P2P Bridge Control

		Item Help
AGP Aperture Size	128M	
AGP Mode	4X	
AGP Driving Control	Auto	
x AGP Driving Value	DA	
AGP Fast Write	Enabled	
AGP Master 1 WS Write	Disabled	
AGP Master 1 WS Read	Disabled	
AGP 3.0 Calibration Cycle	Enabled	
DBI Output for AGP Trans.	Disabled	
VGA Share Memory Size	32M	
CPU Direct Access FB	Enabled	
Select Display Device	CRT	
Panel Type	07	
TV_Type	NTSC	
TV_Connector	CVBS	
TV_Layout	Default	
Dithering	Disabled	

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

AGP Aperture Size

This item is to set the AGP Aperture memory size.

The Choices: 256M; 128M; 64M; 32M; 16M; 8M; 4M

AGP Mode

This item is to set the AGP mode.

The Choices: 8X; 4X; 2X; 1X

AGP Driving Control

This item is to set the AGP Driving Control mode.

The Choices: Auto; Manual

x AGP Driving Time

When AGP Driving Control is set manual, use this item to set the AGP Driving address value.

The Choices: 00 ~ FF in 1h stepping

AGP Fast Write

This item is to enable / disable the AGP Fast Write function.

The Choices: Enabled; Disabled

AGP Master 1 WS Write

This item is to enable / disable the AGP Master 1 WS Write function.

The Choices: Enabled; Disabled

AGP Master 1 WS Read

This item is to enable / disable the AGP Master 1 WS Read function.

The Choices: Enabled; Disabled

AGP 3.0 Calibration Cycle

This item is to enable / disable the AGP 3.0 Calibration Cycle function.

The Choices: Enabled ; Disabled

DBI Output for AGP Trans.

This item is to auto-select / disable the DBI Output for AGP transmission.

The Choices: Auto; Disabled

VGA Share Memory Size

This item is to select the memory size shared with VGA.

The Choices: Disabled; 16M; 32M; 64M

CPU Direct Access FB

This item is to enable / disable the CPU Direct access FB.

Select Display Device

If TV-out card is on board, select display device with this item.

The Choices: CRT;LCD;CDT|LCD;TV;CRT+TV;LCD+TV;DVI;
CRT+DVI

Panel Type

Use this item to select display panel type.

Choices: 00;01;02;03;04;05;06;07;08;09;0A;0B;0C;0D;0E;0F

TV-Type

Use this item to select the TV-type.

The Choices: NTSC; PAL; PALM;PALN;PALNc;

TV-connector

Use this item to select TV-connector.

Choices: CVBS; S-video 0; R/G/B; Cr/Y/Cb; SDTV-R/G/B;
SDTV-Pr/Y/Pb; S-Video 1

TV-Layout

Use this item to select the TV-layout.

The Choices: Default; Comp. + S-video; S-video + S-vidoe ;
Comp. + R/G/B; Comp. + Y/Cb/Cr;
Comp. + SDTV-R/G/B; Comp. + SDTV-Y, Pb, Pr

Dithering

Use this item to disable / enable the dithering function.

The Choices: Disabled; Enabled

CPU & PCI Bus Control

Press Enter on this item to open the Sub-menu as shown below:

CPU & PCI Bus Control

PCI1 Master 0 WS Write	Enabled	Item Help
PCI2 Master 0 WS Write	Enabled	
PCI1 Post Write	Enabled	
PCI2 Post Write	Enabled	
VLink 8X Support	Enabled	
PCI Delay Transaction	Enabled	

PCI1/2 Master 0 WS Write

This item is to enable / disable the PCI1/2 Master 0 Wait State Write function.

The Choices: Enabled; Disabled

PCI1/2 Post Write

This item is to enable / disable the PCI1/2 POST Write function.

The Choices: Enabled; Disabled

VLink 8X Support

This item is to Enable / disable the VLink 8X Support.

The Choices: Enabled; Disabled

PCI Delay Transaction

This item is to Enable / disable the PCI Delay Transaction.

The Choices: Enabled; Disabled

Memory Hole

Use this item to enable or disable the Memory Hole.

The Choices: Disabled; 15M ~ 16M

System BIOS Cacheable

Use this item to enable / disable the System BIOS Cacheable function.

The choices: Enabled; Disabled

Video RAM Cacheabled

Use this item to enable / disable the Video BIOS Cacheable function.

The choices: Enabled; Disabled

4.6 Integrated Peripherals

Phoenix - AwardBIOS CMOS Setup Utility Integrated Peripherals

		Item Help
▶ VIA Onchip IDE Device	Press Enter	
▶ VIA Onchip PCI Device	Press Enter	
▶ Super IO Device	Press Enter	
Init Display First	PCI Slot	
IDE HDD Block Mode	Enabled	

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

►VIA OnChip IDE Device

Press Enter on this item to open the Sub-menu as shown below:

Phoenix - AwardBIOS CMOS Setup Utility VIA OnChip IDE Device

		Item Help
OnChip SATA	Enabled	
SATA Mode	RAID	
IDE DMA transfer access	Enabled	
OnChip IDE Channel0	Enabled	
OnChip IDE Channel1	Enabled	
IDE Prefetch Mode	Enabled	
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	

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

OnChip IDE Channel0

This item is to enable / disable the IDE Primary Master/Slave channel.

The choices: Enabled; Disabled

OnChip IDE Channel1

This item is to enable / disable the IDE Secondary Master/Slave channel.

The choices: Enabled; Disabled

IDE Prefetch Mode

This item is to enable / disable the IDE Prefetch Mode. If enabled, data will be prefetched into buffer during data access.

The choices: Enabled; Disabled

Primary Master/Slave PIO

If OnChip IDE Channel is enabled, this item is to select the IDE Primary Master/Slave PIO mode (Programmed Input Output Mode). Mode4 is the fastest mode.

The choices: Auto; Mode0; Mode1; Mode2; Mode3; Mode4

Secondary Master/Slave PIO

If OnChip IDE Channel1 is enabled, this item is to select the IDE Secondary Master/Slave PIO mode (Programmed Input Output Mode). Mode4 is the fastest mode.

The choices: Auto; Mode0; Mode1; Mode2; Mode3; Mode4

Primary Master/Slave UDMA

If OnChip IDE Channel0 is enabled, this item is to select the IDE Primary Master/Slave UDMA mode (Ultra Direct Memory Access Mode).

The choices: Auto; Disabled

Secondary Master/Slave UDMA

If OnChip IDE Channel0 is enabled, this item is to select the IDE Secondary Master/Slave UDMA mode (Ultra Direct Memory Access Mode).

The choices: Auto; Disabled

IDE HDD Block Mode

Use this item to enable or disable the IDE HDD Block mode.

The Choices: Disabled; Enabled

►VIA OnChip PCI Device

Press Enter on this item to open the Sub-menu as shown below:

Phoenix - AwardBIOS CMOS Setup Utility
VIA OnChip PCI Device

		Item Help
VIA-3058 AC97 Audio	Auto	
VIA-3068 MC97 Modem	Auto	
Onchip USB Controller	All Disabled	
USB 2.0 Support	Enabled	
USB Device Function	Disabled	
USB Keyboard Support	Enabled	
USB Mouse Support	Enabled	

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

USB 2.0 Support

This item is to enable/disable the USB 2.0 device support..

The choices: Enabled; Disabled

VIA-3058 AC97 Audio

This item is to autodetect or disable the VIA AC'97 Audio.

The choices: Auto; Disabled

VIA-3068 MC97 Modem

This item is to autodetect or disable the VIA MC'97 Modem.

The choices: Auto; Disabled

Onchip USB Controller

This item is to select the USB ports supported by Onchip USB Controller..

The choices: All Enabled; All Disabled;
1&2 USB Ports; 1&3 USB Ports;
1 USB Port

USB Keyboard/Mouse Support

This item is to enable/disable the USB Keyboard/Mouse function..

The choices: Enabled; Disabled

► Super IO Device

Press Enter on this item to open the Sub-menu as shown below:

Phoenix - AwardBIOS CMOS Setup Utility
SuperIO Device

		Item Help
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	
UART Mode Select	Normal	
RxD, TxD Active	Hi, Lo	
IR Transmission Delay	Enabled	
UR2 Duplex Mode	Half	
Use IR Pins	IR-Rx2Tx2	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	ECP	
EPP Mode Select	EPP1.7	
ECP Mode Use DMA	3	
Game Port Address	201	
MIDI Port Address	330	
MIDI Port IRQ	10	

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

Onboard FDC Controller

The choices: Enabled; Disabled

Onboard Serial Port 1/2

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: Auto; 3F8/IRQ4; 2F8/IRQ3; 3E8/IRQ4; 2E8/IRQ3; Disabled.

UART Mode Select

This item allows you to select which Infra Red(IR) function of the onboard I/O chip you wish to use.

The Choices: Normal(default), IrDA, ASKIR.

RxD' TxD Active

This item allows you to select the high /Low status of the RxD, TxD Active mode.

The Choices: Hi,Lo; Lo,Hi; Lo,Lo; Hi,Hi

IR Transmission delay

This item allows you to enable / disable the IR Transmission Delay function.

The Choices: Enabled; Disabled

UR2 Duplex Mode

This item allows you to select which Infra Red(IR) function of the onboard I/O chip you wish to use.

The Choices: Half (default), Full.

Use IR Pins

This item allows you to select the IR Pins.

The Choices: IR-Rx2Tx2; Rx2D2, Tx2D2

Onboard Parallel Port

This item allows you to select the Onboard Parallel Port .

The Choices: 378/IRQ7; 278/IRQ5; 3BC/IRQ7; Disabled

Parallel Port Mode

The choices are for Parallel Port Mode select:

SPP: Using Parallel port as Standard Parallel Port;

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;

Normal;

EPP Mode Select

The Choices: EPP1.7; EPP1.9

ECP Mode Use DMA

The Choices: 3, 1.

Game Port Address

The choices are for setting Game Port Address:
201 (default); 209; Disabled

MIDI Port Address

The choices are for setting MIDI Port Address:
290:300; 330 (default); Disabled.

MIDI Port IRQ

The choices are for setting MIDI Port IRQ:
10 (default); 5

Init Display First

Use this item to set the initial display type.
The Choices: Onboard; PCI Slot; AGP

Onboard LAN Device

Use this item to enable / disable the Onboard LAN
The Choices: Enabled / disabled

4.7 Power Management Setup

Phoenix - AwardBIOS CMOS Setup Utility Power Management Setup

ACPI Function	Enabled	Item Help
ACPI Suspend Type	S1(POS)	
Power Management Option	User Define	
HDD Power Down	Disabled	
Suspend Mode	Disabled	
Video Off Option	Suspend -> Off	
Video Off Method	V/H SYNC+Blank	
Modem Use IRQ	3	
Soft-off by PWR-BTTN	Instant-off	
PWRON After PWR-Fail	Off	
▶ IRQ/Event Activity Detect	Press Enter	

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

ACPI Function

The choices are for enabling or disabling the Advanced Configuration and Power Management (ACPI).

ACPI Suspend Type

The choices are for setting the suspend type under ACPI operating system.

S1(POS) (default): Power on Suspend.

S3(STR): Suspend to RAM.

Power Management Option

The choices are for setting the Power management mode:

User Define (default); Min Saving; Max Saving.

HDD Power Down

The Choices are for enabling or disabling the HDD Power Down function.

Disabled(default); 1Min~15 Min in 1 minute stepping

Suspend Mode

The Choices are for setting the length of suspend:

Disabled(default); 1Min~1hour.

Video Off Option

This field determines when to activate the video off feature for monitor power management.

The Choices: Always on; Suspend->off

Video Off Method

The choices are for determining the manner in which the monitor is blanked.

The choices:

V/H SYNC+Blank: Turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen: Writes blanks to the video buffer.

DPMS Support: Initial display power management signaling.

Modem Use IRQ

This determines the IRQ, which can be applied in Modem use.

The choices: 3; 4; 5; 7; 9; 10; 11; NA

Soft-Off by PWRBTN

Use this item to select the Soft-Off by Power Button mode.

The Choices: Instant-Off; Delay 4 Sec.

PWRON After PWR-Fail

Use this item to set the Power On after Power fail mode.

The Choices: Auto; On; Off

►IRQ/Event Activity Detect

Press Enter on this item to open the Sub-menu as shown below:

Phoenix - AwardBIOS CMOS Setup Utility
VIA OnChip IDE Device

		Item Help
PS/2 KB Wakeup Select	Hot key	
Power On by PS/2 KB	Disabled	
Power On by PS/2 MS	Disabled	
USB Resume from S3	Disabled	
Power On by USB	Disabled	
Power On By PME	Disabled	
Power On By WOL/ Ring	Disabled	
RTC Alarm Resume	Disabled	
X Date (of Month) Alarm	0	
X Time(hh:mm:ss) Alarm	0 : 0 : 0	
► IRQs Activity Monitoring	Press Enter	

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

VGA

Use this item to turn On or off the VGA.

The Choices: On; Off

LPT & COM

Use this item to select the LPT / COM support.

The Choices: LPT; COM; LPT/COM; None

HDD & FDD

Use this item to turn On or off the HDD / FDD

The Choices: On; Off

PCI Master

Use this item to turn On or off the PCI Master.

The Choices: On; Off

Power On by PS/2 KB Select

Use this item to select the PS/2 KB Wake up mode.

The choices: Hot Key; Password

Power On by PS/2 KB

If PS2KB Wakeup is set to Hot Key, use this item to select Hot Key.

The choices: Ctrl+1~12; Disabled; Any Key; Wake; Power

Power On by PS/2 MS

Use this item to enable / disable the PS2 Mouse Wake up.

The choices: Enabled; Disabled

Power On by USB

Use this item to enable / disable the USB KB/MS Wake up.

The choices: Enabled; Disabled

Power On By PME

Use this item to enable/disable the Power On by PME function.

Power On By WOL/Ring

Use this item to enable/disable the Power On by WOL/Ring function.

RTC Alarm Resume

Use this item to enable/disable the RTC Alarm Resume function.

Date: If RTC Alarm Resume is enabled, set the date with this item.

Time: If RTC Alarm Resume is enabled, set the time with this item.

►IRQs Activity Monitoring

Press Enter on this item to open the Sub-menu as shown below:

Phoenix - AwardBIOS CMOS Setup Utility
VIA OnChip IDE Device

		Item Help
Primary INTR	On	
IRQ3 (COM 2)	Disabled	
IRQ4 (COM 1)	Disabled	
IRQ5 (LPT 2)	Disabled	
IRQ6 (Floppy Disk)	Disabled	
IRQ7 (LPT 1)	Disabled	
IRQ8 (RTC Alarm)	Disabled	
IRQ9 (IRQ2 Redir)	Disabled	
IRQ10 (Reserved)	Disabled	
IRQ11 (Reserved)	Disabled	
IRQ12 (PS/2 Mouse)	Enabled	
IRQ13 (Coprocessor)	Disabled	
IRQ14 (Hard Disk)	Disabled	
IRQ15 (Reserved)	Disabled	

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

Primary INTR

Use this item to enable / disable the Primary Interrupt setup.

The choices: Enabled; Disabled

IRQ3(COM 2)

Use this item to enable / disable the IRQ3 for COM 2.

The choices: Enabled; Disabled

IRQ4(COM 1)

Use this item to enable / disable the IRQ4 for COM 1.

The choices: Enabled; Disabled

IRQ5(LPT 2)

Use this item to enable / disable the IRQ5 for LPT 2.

The choices: Enabled; Disabled

IRQ6(Floppy Disk)

Use this item to enable / disable the IRQ6 for Floppy Disk.

The choices: Enabled; Disabled

IRQ7(LPT1)

Use this item to enable / disable the IRQ7 for Floppy Disk.

The choices: Enabled; Disabled

IRQ8(RTCAlarm)

Use this item to enable / disable the IRQ8 for RTC Alarm.

The choices: Enabled; Disabled

IRQ9(IRQ2Redir)

Use this item to enable / disable the IRQ2 redirect.

The choices: Enabled; Disabled

IRQ10 (Reserved)

Use this item to enable / disable the reserved IRQ10.

The choices: Enabled; Disabled

IRQ11 (Reserved)

Use this item to enable / disable the reserved IRQ11.

The choices: Enabled; Disabled

IRQ12 (PS/2 Mouse)

Use this item to enable / disable the IRQ12 for PS/2 Mouse.

The choices: Enabled; Disabled

IRQ13 (Coprocessor)

Use this item to enable / disable the IRQ13 for Coprocessor.

The choices: Enabled; Disabled

IRQ14 (Hard Disk)

Use this item to enable / disable the IRQ14 for hard disk.

The choices: Enabled; Disabled

IRQ15 (Reserved)

Use this item to enable / disable the reserved IRQ15.

The choices: Enabled; Disabled

4.8 PnP/PCI Configurations

This section describes configuration of the PCI bus system. PCI or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself when communicating with the components on board. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

Phoenix - AwardBIOS CMOS Setup Utility PnP/PCI Configurations

		Item Help
Reset Configuration Data	Disabled	
Resources Controlled by x IRQ Resources	Auto(ESCD) Press Enter	
PCI/VGA Pallete Snoop	Disabled	

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

Reset Configuration Data

The system BIOS supports the PnP feature so the system needs to record which resource is assigned and proceeds to get rid of resource conflict. Every peripheral device has a node, which is called ESCD (Extended System Configuration Data. This node records which resources are assigned to it. If Disabled (Default) is chosen, the system ESCD will update only when the new configuration varies from the last one. If Enabled is chosen, the system is forced to update ESCDs and then is automatically reset to the “Disabled” mode.

Resources Controlled By

By Choosing “Auto(ESCD)”, the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral. By choosing “Manual”, the user will need to assign IRQ & DMA for add-on cards. Be sure that no IRQ/DMA and I/O port conflict exists.

X IRQ Resources :

Press Enter to configure the following Submenus

IRQ Resources

IRQ Resources		Item Help
IRQ-3 assigned to	: PCI Device	
IRQ-4 assigned to	: PCI Device	
IRQ-5 assigned to	: PCI Device	
IRQ-7 assigned to	: PCI Device	
IRQ-9 assigned to	: PCI Device	
IRQ-10 assigned to	: PCI Device	
IRQ-11 assigned to	: PCI Device	
IRQ-12 assigned to	: PCI Device	
IRQ-14 assigned to	: PCI Device	
IRQ-15 assigned to	: PCI Device	

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

IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

PCI/VGA Palette Snoop

Choose Disabled or Enabled. Some graphic controllers which are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the write access to the VGA palette and registers the snoop data. In PCI based systems, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Write.

In this case, the PCI VGA controller should not respond to the Write, it should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable this option.

The choices: Disabled (default); Enabled

4.9 PC Health Status

Phoenix - AwardBIOS CMOS Setup Utility

PC Health Status

		Item Help
System Temperature	()	
CPU Temperature	()	
FAN 1 Speed	()	
FAN 2 Speed	()	
Vcore	()	
Vcc 3.3V	()	
Vcc 5.0V	()	
Vcc 12.V	()	
Vbat	()	
Vsb 5.0V	()	

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

System/CPU Temp

This item shows the current System/CPU temperature.

CPUFAN1/SYSFAN2 Speed

This item shows the CPU/System fan speed running on board.

Vcc 3.3V/5.0V/12V/Vbat/Vsb 5.0

These items show the respective voltage running on board.

4.10 Frequency/Voltage Control

Phoenix - AwardBIOS CMOS Setup Utility Frequency/Voltage Control

Auto Detect PCI Clock	Enabled	Item Help
Spread Spectrum	Disabled	
CPU Clock	100MHz	

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

Auto Detect PCI CLK

This item allows you to enable/disable auto detect PCI CLOCK.
The Choices: Disabled; Enabled

Spread Spectrum

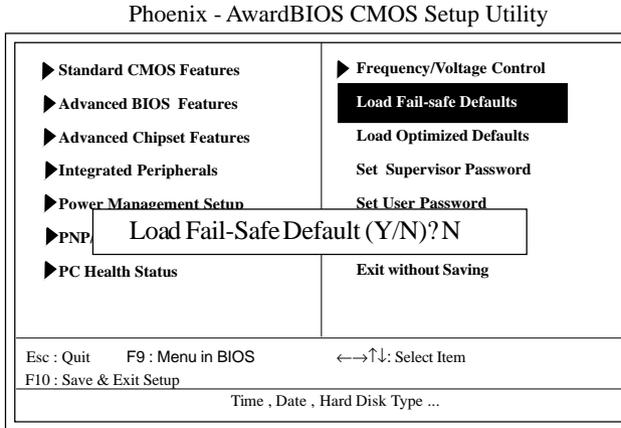
Allows you to enable / disable the Spread Spectrum function.
The Choices: Disabled; Enabled

CPU Clock

Allows you to set the CPU clock for next boot..
The Choices: 100MHz ~200MHz in 1MHz stepping

4.11 Load Fail-Safe Defaults

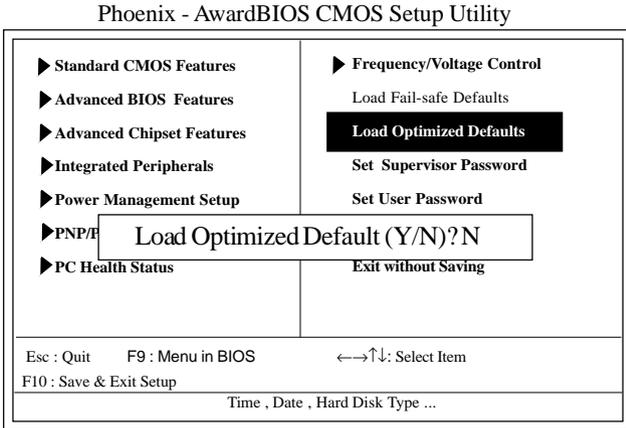
When you press <Enter> on this item, you get a confirmation dialog box with a message similar to below:



Pressing ‘Y’ loads the default values that are factory settings for optimal performance of system operations.

4.12 Load Optimized Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:



Pressing ‘Y’ loads the default values that are factory settings for optimal performance of system operations.

4.13 Set Supervisor / User Password

Phoenix - AwardBIOS CMOS Setup Utility

<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PNP/PCI ▶ PC Health Status 	<ul style="list-style-type: none"> ▶ Frequency/Voltage Control <ul style="list-style-type: none"> Load Fail-safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Exit without Saving
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Enter Password:</div>	
Esc : Quit F9 : Menu in BIOS ←→↑↓: Select Item F10 : Save & Exit Setup	
Time , Date , Hard Disk Type ...	

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

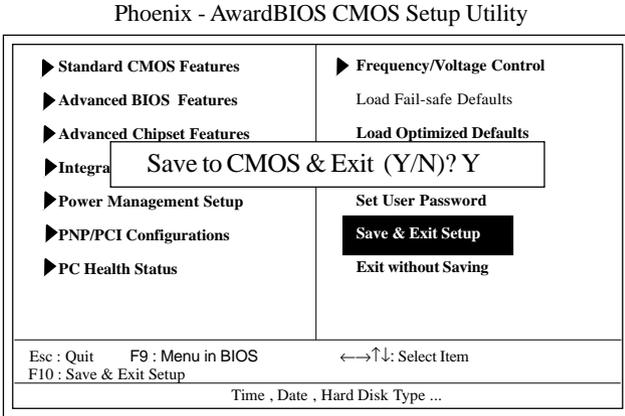
Enter Password (for Supervisor/User)

Type a password, up to eight characters, and press <Enter>. The password you type now will clear any 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 the password, just press <Enter> when you are prompted to enter a password. A message will confirm that you wish to disable the password. Once the password is disabled, the system will boot without asking user to enter a password.

Password for System or BIOS Setup

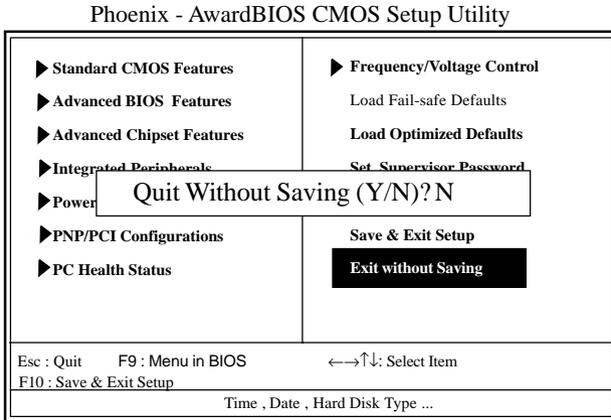
If you select “System” at the Security Option of BIOS Features Setup Menu, you will be prompted for the password every time when the system is rebooted, or any time when you try to enter Setup. If you select “Setup” at the Security Option of BIOS Features Setup Menu, you will be prompted only when you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

4.14 Save & Exit Setup



Typing “Y” will quit the Setup Utility and save the user setup value to RTC CMOS RAM.
Typing “N” will return to the Setup Utility.

4.15 Exit Without Saving



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

Typing “N” will return to the Setup Utility.