MOTHERBOARD

K7Upgrade-600

User Manual

Version 1.1
Published August 2004
Copyright©2004 ASRock INC. All rights reserved.

Copyright Notice:

No part of this manual may be reproduced, transcribed, transmitted, or translated in any language, in any form or by any means, except duplication of documentation by the purchaser for backup purpose, without written consent of ASRock Inc.
Products and corporate names appearing in this manual may or may not be registered trademarks or copyrights of their respective companies, and are used only for identification or explanation and to the owners' benefit, without intent to infringe.

Disclaimer:

Specifications and information contained in this manual are furnished for informational use only and subject to change without notice, and should not be constructed as a commitment by ASRock. ASRock assumes no responsibility for any errors or omissions that may appear in this manual.
With respect to the contents of this manual, ASRock does not provide warranty of any kind, either expressed or implied, including but not limited to the implied warranties or conditions of merchantability or fitness for a particular purpose.
In no event shall ASRock, its directors, officers, employees, or agents be liable for any indirect, special, incidental, or consequential damages (including damages for loss of profits, loss of business, loss of data, interruption of business and the like), even if ASRock has been advised of the possibility of such damages arising from any defect or error in the manual or product.

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 interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

ASRock Website: http://www.asrock.com

Contents

1. Introduction 5
   1.1 Package Contents 5
   1.2 Specifications 6
   1.3 Motherboard Layout 8
   1.4 ASRock I/O 9
2. Installation 10
   Pre-installation Precautions 10
   2.1 CPU Installation 11
   2.2 Installation of CPU Fan and Heatsink 11
   2.3 Installation of Memory Modules (DIMM) 12
   2.4 Expansion Slots (K8 Bridge, PCI, and AGP Slots) 13
   2.5 Jumpers Setup 15
   2.6 Onboard Headers and Connectors 17
   2.7 Serial ATA (SATA) Hard Disks Installation 20
   2.8 Hot Plug and Hot Swap Functions for SATA HDDs 20
   2.9 Making An SATA Driver Diskette 21
3. BIOS Setup (K7Upgrade-600) 22
   3.1 BIOS Setup Utility 22
      3.1.1 BIOS Menu Bar 22
      3.1.2 Legend Bar 22
   3.2 Main Menu 23
   3.3 Advanced, Security, Power, Boot, and Exit Menus 26
      3.3.1. Advanced BIOS Setup Menu 26
      3.3.2. Security Setup Menu 31
      3.3.3. Power Setup Menu 32
      3.3.4. Boot Setup Menu 33
      3.3.5. Exit Menu 34
4. BIOS SETUP UTILITY (754BRIDGE) 35
   4.1 Introduction 35
      4.1.1 BIOS Menu Bar 35
      4.1.2 Navigation Keys 36
   4.2 Main Screen 36
   4.3 Advanced Screen 37
      4.3.1 CPU Configuration 37
      4.3.2 Chipset Configuration 39
      4.3.3 ACPI Configuration 40
      4.3.4 IDE Configuration 41
      4.3.5 PCIPnP Configuration 43

4.3.6 Floppy Configuration 44
4.3.7 Super IO Configuration 44
4.3.8 USB Configuration 45
4.4 Hardware Health Event Monitoring Screen 46
4.5 Boot Screen 46
4.5.1 Boot Settings Configuration 47
4.5.2 Boot Device Priority 47
4.6 Security Screen 48
4.7 Exit Screen 48

5. Software Support 50

5.1 Install Operating System 50
5.2 Support CD Information 50
5.2.1 Running Support CD 50
5.2.2 Drivers Menu 50
5.2.3 Utilities Menu 50
5.2.4 Contact Information 50

1. Introduction

Thank you for purchasing ASRock ***K7Upgrade-600*** motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

In this manual, chapter 1 and 2 contain introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contain the configuration guide to BIOS setup and information of the Support CD.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest memory and CPU support lists on ASRock website as well. ASRock website http://www.asrock.com

1.1 Package Contents

ASRock ***K7Upgrade-600*** Motherboard
(ATX Form Factor: 12.0-in x 8.2-in, 30.5 cm x 20.8 cm)
ASRock ***K7Upgrade-600*** Quick Installation Guide
ASRock ***K7Upgrade-600*** Support CD
One 80-conductor Ultra ATA 66/100/133 IDE Ribbon Cable
One Ribbon Cable for a 3.5-in Floppy Drive
One Serial ATA (SATA) Data Cable
One Serial ATA (SATA) HDD Power Cable(Optional)
One ASRock I/O Shield
One Jumper Cap Remover

1.2 Specifications

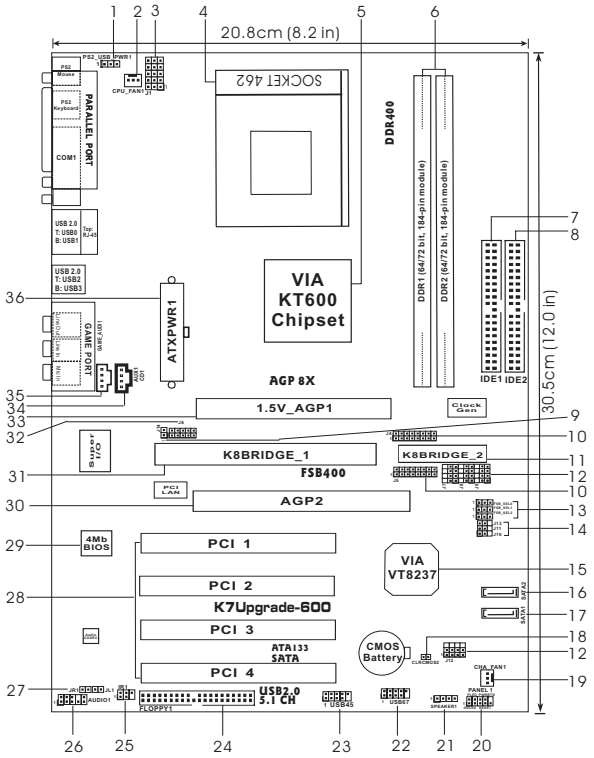
Platform:	ATX Form Factor: 12.0-in x 8.2-in, 30.5 cm x 20.8 cm
CPU:	462-Pin Socket Supporting AMD Athlon™ / Athlon™ XP / Duron™ / 32-bit Sempron™ Processor
Chipsets:	North Bridge: VIA KT600, FSB @ 400 MHz South Bridge: VIA VT8237, supports USB 2.0, ATA 133, SATA 1.5Gb/s
Memory:	2 DDR DIMM Slots: DDR1, DDR2 Support PC3200 (DDR400) / PC2700 (DDR333) / PC2100 (DDR266), Max. 2GB
IDE:	IDE1: ATA 133 / Ultra DMA Mode 6 IDE2: ATA 133 / Ultra DMA Mode 6 Support up to 4 IDE devices
Serial ATA:	2 SATA connectors Support 1.5Gb/s data transfer rate
Floppy Port:	Supports up to 2 floppy disk drives
Audio:	5.1 channels AC'97 Audio
LAN:	Speed: 802.3u (10/100 Ethernet), supports Wake-On-LAN
Hardware Monitor:	CPU Temperature Sensing Motherboard Temperature Sensing CPU Overheat Shutdown to Protect CPU Life (ASRock U-COP)(see **CAUTION 1**) CPU Fan Tachometer Chassis Fan Tachometer Voltage Monitoring: +12V, +5V, +3.3V, Vcore
K8 Bridge:	Supports CPU upgrade from AMD K7 462-Pin CPU to AMD K8 754-Pin CPU (see **page 14** for details)
PCI slots:	4 slots with PCI Specification 2.3
AGP slots:	2 AGP slots, support 1.5V, 8X/4X AGP card (see **CAUTION 2**) 1.5V_AGP1 supports for K7 AGP Interface AGP2 supports for K8 AGP Interface
USB 2.0:	8 USB 2.0 ports: include 4 ready-to-use USB 2.0 ports on the rear panel, plus two on-board headers supporting 4 extra USB 2.0 ports (see **CAUTION 3**)
ASRock I/O:	1 PS/2 mouse port, 1 PS/2 keyboard port,

	1 serial port: COM1,
	1 parallel port: ECP/EPP support,
	4 ready-to-use USB 2.0 ports,
	1 RJ-45 port,
	Audio Jack: Line In / Line Out / Microphone
BIOS:	AMI BIOS
	Supports “Plug and Play”
	ACPI 1.1 compliance wake up events
	SMBIOS 2.3.1 support
	CPU frequency stepless control
	(only for advanced users’ reference, see **CAUTION 4**)
OS:	Microsoft® Windows® 98SE / ME / 2000 / XP compliant

CAUTION!

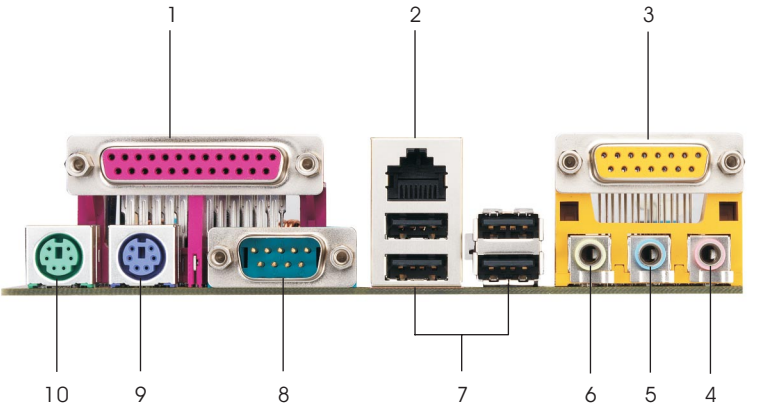
1. While CPU overheat is detected, the system will automatically shutdown. Before you resume the system, please check if the CPU fan on the motherboard functions properly and unplug the power cord, then plug it back again. To improve heat dissipation, remember to spray thermal grease between the CPU and the heatsink when you install the PC system.
2. Do NOT use a 3.3V AGP card on the AGP slot of this motherboard! It may cause permanent damage!
3. Power Management for USB 2.0 works fine under Microsoft® Windows® XP SP1 / 2000 SP4. It may not work properly under Microsoft® Windows® 98 / ME. Please refer to Microsoft® official document at http://www.microsoft.com/whdc/hwdev/bus/USB/USB2support.mspx
4. Although this motherboard offers stepless control, it is not recommended to perform over clocking. Frequencies other than the recommended CPU bus frequencies may cause the instability of the system or damage the CPU. The CPU host frequency of this motherboard is determined by the jumper-setting. To perform over-clocking, you must set the FSB jumper according to your AMD CPU before you use the “Manual” option as the FSB setting in BIOS setup. Please check page 26 for details.

1.3 Motherboard Layout



1 PS2_USB_PWR1 Jumper
2 CPU Fan Connector (CPU_FAN1)
3 J1 Jumper (5 x 3-Pin)
4 CPU Socket
5 North Bridge Controller
6 184-pin DDR DIMM Slots (DDR1-2)
7 Primary IDE Connector (IDE1, Blue)
8 Secondary IDE Connector (IDE2, Black)
9 J14 Jumper (3 sets of 1 x2-Pin)
10 J4/ J5 Jumpers (8 x 2-Pin)
11 Future CPU Bridge (K8BRIDGE_2)
12 J7/ J8/ J9/ J12 Jumpers (4 sets of 4 x 3-Pin)
13 FSB Select Jumpers
(FSB_SEL0, FSB_SEL1, FSB_SEL2)
14 J11/ J13/ J16 Jumpers (3 sets of 1 x 3-Pin)
15 South Bridge Controller
16 Secondary Serial ATA Connector (SATA2)
17 Primary Serial ATA Connector (SATA1)
18 Clear CMOS Jumper (CLRCMOS2)
19 Chassis Fan Connector (CHA_FAN1)
20 System Panel Header (PANEL1)
21 Chassis Speaker Header (SPEAKER1)
22 USB 2.0 Header (USB67, Blue)
23 USB 2.0 Header (USB45, Blue)
24 Floppy Connector (FLOPPY1)
25 Infrared Module Header (IR1)
26 Front Panel Audio Header (AUDIO1)
27 JR1 / JL1 Jumpers
28 4 x PCI Slots (PCI1- 4)
29 Flash Memory
30 AGP Slot (AGP2)
31 Future CPU Bridge (K8BRIDGE_1)
32 J6 Jumper (5 x 2-Pin)
33 AGP Slot (1.5V_AGP1)
34 Internal Audio Connector: CD1 (Black)
35 Internal Audio Connector: AUX1 (White)
36 ATX Power Connector (ATXPWR1)

1.4 ASRock I/O™



1	Parallel Port	6	Line Out (Lime)
2	RJ-45 Port	7	USB 2.0 Ports
3	Game Port	8	Serial Port (COM1)
4	Microphone (Pink)	9	PS/2 Keyboard Port (Purple)
5	Line In (Light Blue)	10	PS/2 Mouse Port (Green)

2. Installation

K7Upgrade-600 is an ATX form factor (12.0-in x 8.2-in, 30.5 cm x 20.8 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded anti-static pad or in the bag that comes with the component.
5. When placing screws into the screw holes to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

2.1 CPU Installation

Step 1. Unlock the socket by lifting the lever up to a 90° angle.

Step 2. Position the CPU directly above the socket such that its marked corner matches the base of the socket lever.

Step 3. Carefully insert the CPU into the socket until it fits in place.

The CPU fits only in one correct orientation. DO NOT force the CPU into the socket to avoid bending of the pins.

Step 4. When the CPU is in place, press it firmly on the socket while you push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked.

Step 1

Step 2, 3

Step 4

2.2 Installation of CPU Fan and Heatsink

After you install the CPU into this motherboard, it is necessary to install a larger heatsink and cooling fan to dissipate heat. You also need to spray thermal grease between the CPU and the heatsink to improve heat dissipation. Make sure that the CPU and the heatsink are securely fastened and in good contact with each other. Then connect the CPU fan to the CPU FAN connector (CPU_FAN1, see Page 8, No. 2). For proper installation, please kindly refer to the instruction manuals of the CPU fan and the heatsink.

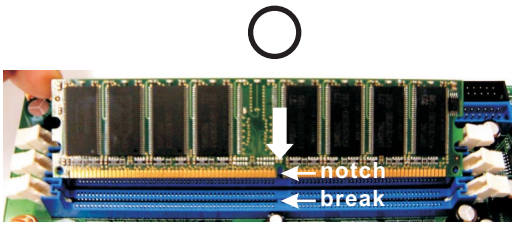
2.3 Installation of Memory Modules (DIMM)

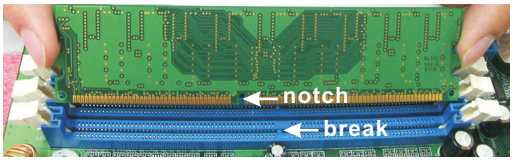
K7Upgrade-600 motherboard provides two 184-pin DDR (Double Data Rate) DIMM slots.

Please make sure to disconnect power supply before adding or removing DIMMs or the system components.

Step 1. Unlock a DIMM slot by pressing the retaining clips outward.

Step 2. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.





The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

Step 3. Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated.

2.4 Expansion Slots (K8 Bridge, PCI Slots, and AGP Slots)

There are 1 set of K8 Bridge, 4 PCI slots, and 2 AGP slots (the slot 1.5V_AGP1 supports for K7 AGP Interface, and the slot AGP2 supports for K8 AGP Interface) on ***K7Upgrade-600*** motherboard.

K8 Bridge

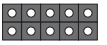
(Orange-Colored Bridge (K8BRIDGE_1) + Brown-Colored Bridge (K8BRIDGE_2)):

The set of K8 Bridge allows you to upgrade your AMD 462-Pin CPU to AMD 754-Pin CPU by installing an add-on ASRock **754Bridge** (optional) into this K8 Bridge on ***K7Upgrade-600*** motherboard. Before you upgrade the AMD 462-Pin CPU to the AMD 754-Pin CPU, it is necessary to adjust the jumper settings for those required jumpers on ***K7Upgrade-600*** motherboard. Please refer to the table below for the correct jumper settings.

The orange-colored Bridge (K8BRIDGE_1) is not an AGP slot, and the brown-colored Bridge (K8BRIDGE_2) is not an AMR slot! Please do NOT insert any AGP card into the orange-colored Bridge (K8BRIDGE_1) and AMR card into the brown-colored Bridge (K8BRIDGE_2)! It may cause permanent damage to the hardware!

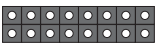
<table>
<tr><th rowspan="2">CPU Type</th><th colspan="2">Jumper Settings</th></tr>
<tr><th>2-Pin Jumpers</th><th>3-Pin Jumpers</th></tr>
<tr><td rowspan="2">462-Pin CPU
(Default)</td><td>J14
(page 8, No. 9)

(1 x 2-pin; short)

J6
(page 8, No. 32)
 
(5 x 2-pin; short)</td><td>J12
(page 8, No. 12)

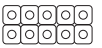
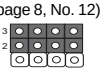
(4 x 3-pin; short pin1, pin2)

J7 / J8 / J9
(page 8, No. 12)

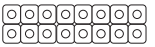
(4 x 3-pin; short pin1, pin2)</td></tr>
<tr><td>J4 / J5
(page 8, No. 10)
 
(8 x 2-pin; short)</td><td>J11 / J13 / J16
(page 8, No. 14)

(1 x 3-pin; short pin1, pin2)</td></tr>
<tr><td rowspan="2">754-Pin CPU
(Using an add-on ASRock 754 Bridge)</td><td>J14
(page 8, No. 9)

(1 x 2-pin; open)

J6
(page 8, No. 32)
 
(5 x 2-pin; open)</td><td>J12
(page 8, No. 12)
 
(4 x 3-pin; short pin2, pin3)

J7 / J8 / J9
(page 8, No. 12)

(4 x 3-pin; short pin2, pin3)</td></tr>
<tr><td>J4 / J5
(page 8, No. 10)
 
(8 x 2-pin; open)</td><td>J11 / J13 / J16
(page 8, No. 14)

(1 x 3-pin; short pin2, pin3)</td></tr>
</table>

NOTE

When adjusting the jumper settings, you may use the tool, Jumper Cap Remover, to help you removing the jumper caps more easily. This Jumper Cap Remover is bundled in your motherboard package, and please follow the “Jumper Cap Remover Instruction” to use it properly.

PCI slots: PCI slots are used to install expansion cards that have the 32-bit PCI interface.

AGP slots: The AGP slots are used to install a graphics card. Please insert the AGP card with K7 AGP Interface into the slot 1.5V_AGP1 (see page 8 No. 33), or insert the AGP card with K8 AGP Interface into the slot AGP2 (see page 8 No. 30). Please do not install AGP cards into the slot 1.5V_AGP1 and the slot AGP2 at the same time. It may cause permanent damage to the hardware.

Please do NOT use a 3.3V AGP card on the AGP slot of this motherboard! It may cause permanent damage! For the voltage information of your AGP card, please check with the AGP card vendors.

Installing an expansion card

Step 1. Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2. Remove the system unit cover (if your motherboard is already installed in a chassis).

Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

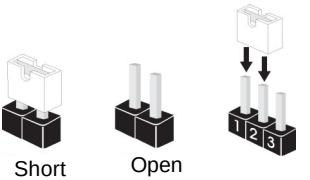
Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 5. Fasten the card to the chassis with screws.

Step 6. Replace the system cover.

2.5 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is “Short”. If no jumper cap is placed on pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when jumper cap is placed on these 2 pins.



Jumper	Setting	
PS2_USB_PWR1 (see p.8, No. 1)		Short pin2, pin3 to enable +5VSB (standby) for PS/2 or USB wake up events.

Note: To select +5VSB, it requires 2 Amp and higher standby current provided by power supply.

JR1 / JL1
(see p.8, No. 27)

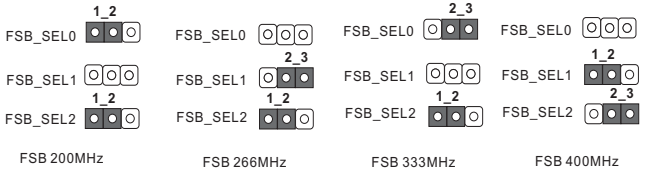
Note: If the jumpers JL1 and JR1 are short, both the front panel and the rear panel audio connectors can work.

Clear CMOS
(CLRCMOS2)
(see p.8, No. 18)

2-pin jumper

Note: CLRCMOS2 allows you to clear the data in CMOS. The data in CMOS includes system setup information such as system password, date, time, and system setup parameters. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short the Clear CMOS jumper for 5 seconds. After shorting the Clear CMOS jumper, please remove the jumper cap. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action.

FSB_SEL0
FSB_SEL1
FSB_SEL2
(see p.8, No. 13)

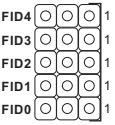


Note: The setting of the CPU front side bus frequency of this motherboard is by means of the adjustment of jumper-setting. To perform over clocking, you must set the FSB jumper according to your AMD CPU before you use the “Manual” option as the FSB setting in BIOS setup. Please follow the figures above to set the CPU front side bus frequency.

CPU Multiplier Jumper

(J1, 5 x 3-pin)

(see p.8, No. 3)

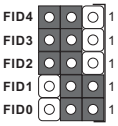


Note: The set of CPU Multiplier Jumper is only for advanced users to adjust the multiplier of CPU. Please follow the table below to adjust the multiplier of CPU. However, the system will work well without the adjustment of multiplier. You do not have to adjust the multiplier for normal usage.

Multiplier	FID0	FID1	FID2	FID3	FID4
5x	2-3	2-3	1-2	2-3	2-3
5.5x	1-2	2-3	1-2	2-3	2-3
6x	2-3	1-2	1-2	2-3	2-3
6.5x	1-2	1-2	1-2	2-3	2-3
7x	2-3	2-3	2-3	1-2	2-3
7.5x	1-2	2-3	2-3	1-2	2-3
8x	2-3	1-2	2-3	1-2	2-3
8.5x	1-2	1-2	2-3	1-2	2-3
9x	2-3	2-3	1-2	1-2	2-3
9.5x	1-2	2-3	1-2	1-2	2-3
10x	2-3	1-2	1-2	1-2	2-3
10.5x	1-2	1-2	1-2	1-2	2-3
11x	2-3	2-3	2-3	2-3	2-3
11.5x	1-2	2-3	2-3	2-3	2-3
12x	2-3	1-2	2-3	2-3	2-3
12.5x	1-2	1-2	2-3	2-3	2-3
13x	2-3	2-3	1-2	2-3	1-2
13.5x	1-2	2-3	1-2	2-3	1-2
14x	2-3	1-2	1-2	2-3	1-2
15x	2-3	2-3	2-3	1-2	1-2
16x	2-3	1-2	2-3	1-2	1-2
16.5x	1-2	1-2	2-3	1-2	1-2
17x	2-3	2-3	1-2	1-2	1-2
18x	1-2	2-3	1-2	1-2	1-2
19x	1-2	2-3	2-3	2-3	1-2
20x	1-2	1-2	2-3	2-3	1-2
21x	1-2	1-2	1-2	2-3	1-2
22x	1-2	2-3	2-3	1-2	1-2
23x	2-3	1-2	1-2	1-2	1-2
24x	1-2	1-2	1-2	1-2	1-2

For example, "Athlon XP 2000+" is an 1666MHz CPU: 12.5 (Multiplier) X 133MHz (External frequency) = 1666MHz

FID jumpers setting:



The jumper caps are not provided by ASRock. Please understand that ASRock does not guarantee and support the adjustment of multiplier. These jumpers setting may not apply to all multiplier-locked or even some unlocked AMD CPU. Frequencies other than the recommended CPU bus frequencies may cause the instability of the system or damage the CPU.

2.6 Onboard Headers and Connectors

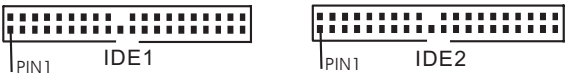
Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

FDD Connector
(33-pin FLOPPY1)
(see p.8, No. 24)

Note: Make sure the red-striped side of the cable is plugged into Pin1 side of the connector.

Primary IDE Connector (Blue)
(39-pin IDE1, see p.8, No. 7)

Secondary IDE Connector (Black)
(39-pin IDE2, see p.8, No. 8)



connect the blue end to the motherboard

connect the black end to the IDE devices

80-conductor ATA 66/100/133 cable

Note: If you use only one IDE device on this motherboard, please set the IDE device as “Master”. Please refer to the instruction of your IDE device vendor for the details. Besides, to optimize compatibility and performance, please connect your hard disk drive to the primary IDE connector (IDE1, blue) and CD-ROM to the secondary IDE connector (IDE2, black).

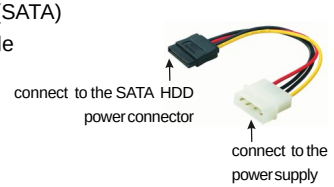
Serial ATA Connectors
(SATA1: see p.8, No. 17)
(SATA2: see p.8, No. 16)

These two Serial ATA (SATA) connectors support SATA data cables for internal storage devices. The current SATA interface allows up to 1.5 Gb/s data transfer rate.

Serial ATA (SATA) Data Cable

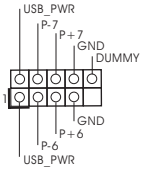
Either end of the SATA data cable can be connected to the SATA hard disk or the SATA connector on the motherboard.

Serial ATA (SATA)
Power Cable
(Optional)



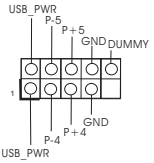
Please connect the black end of SATA power cable to the power connector on the drive. Then connect the white end of SATA power cable to the power connector of the power supply.

USB 2.0 Header
(9-pin USB67)
(see p.8, No. 22)



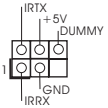
ASRock I/O provides you 4 ready-to-use USB 2.0 ports on the rear panel. If the rear USB ports are not sufficient, this USB 2.0 header is available to support 4 extra USB 2.0 ports.

USB 2.0 Header
(9-pin USB45)
(see p.8, No.23)



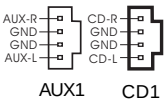
ASRock I/O provides you 4 ready-to-use USB 2.0 ports on the rear panel. If the rear USB ports are not sufficient, this USB 2.0 header is available to support 4 extra USB 2.0 ports.

Infrared Module Header
(5-pin IR1)
(see p.8, No. 25)



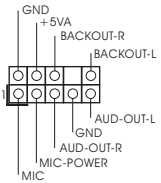
This header supports an optional wireless transmitting and receiving infrared module.

Internal Audio Connectors
(4-pin CD1, 4-pin AUX1)
(CD1: see p.8, No. 34)
(AUX1: see p.8, No. 35)



These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, DVD-ROM, TV tuner card, or MPEG card.

Front Panel Audio Header
(9-pin AUDIO1)
(see p.8, No. 26)

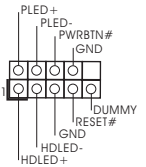


This is an interface for the front panel audio cable that allows convenient connection and control of audio devices.

System Panel Header

(9-pin PANEL1)

(see p.8, No. 20)

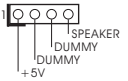


This header accommodates several system front panel functions.

Chassis Speaker Header

(4-pin SPEAKER 1)

(see p.8, No. 21)

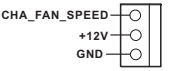


Please connect the chassis speaker to this header.

Chassis Fan Connector

(3-pin CHA_FAN1)

(see p.8, No. 19)

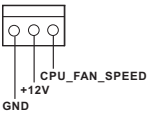


Please connect the chassis fan cable to this connector and match the black wire to the ground pin.

CPU Fan Connector

(3-pin CPU_FAN1)

(see p.8, No. 2)

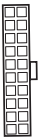


Please connect the CPU fan cable to this connector and match the black wire to the ground pin.

ATX Power Connector

(20-pin ATXPWR1)

(see p.8, No. 36)



Please connect an ATX power supply to this connector.

2.7 Serial ATA (SATA) Hard Disks Installation

This motherboard supports Serial ATA (SATA) hard disks and RAID functions. You may install SATA hard disks on this motherboard for internal storage devices. This section will guide you to install the SATA hard disks.

STEP 1: Install the SATA hard disks into the drive bays of your chassis.
STEP 2: Connect the SATA power cable to the SATA hard disk.
STEP 3: Connect one end of the SATA data cable to the motherboard's SATA connector.
STEP 4: Connect the other end of the SATA data cable to the SATA hard disk.

2.8 Hot Plug and Hot Swap Functions for SATA HDDs

K7Upgrade-600 motherboard supports Hot Plug and Hot Swap functions for SATA Devices.

What is Hot Plug Function?

If the SATA HDDs are NOT set for RAID configuration, it is called "Hot Plug" for the action to insert and remove the SATA HDDs while the system is still power-on and in working condition. However, please note that it cannot perform Hot Plug if the OS has been installed into the SATA HDD.

What is Hot Swap Function?

If SATA HDDs are built as RAID1 then it is called "Hot Swap" for the action to insert and remove the SATA HDDs while the system is still power-on and in working condition.

2.9 Making An SATA Driver Diskette

If you want to install Windows 2000 or Windows XP on your SATA HDDs, you will need to make an SATA driver diskette before you start the OS installation.

STEP 1: Insert the ASRock Support CD into your optical drive to boot your system. (Do NOT insert any floppy diskette into the floppy drive at this moment!)

STEP 2: During POST at the beginning of system boot-up, press <F11> key, and then a window for boot devices selection appears. Please select CD-ROM as the boot device.

STEP 3: When you see the message on the screen, "Do you want to generate Serial ATA driver diskette [YN]?", press <Y>.

STEP 4: Then you will see these messages,

Please insert a diskette into the floppy drive.
WARNING! Formatting the floppy diskette will
lose ALL data in it!
Start to format and copy files [YN]?

Please insert a floppy diskette into the floppy drive, and press <Y>.

STEP 5: The system will start to format the floppy diskette and copy SATA drivers into the floppy diskette.

Once you have the SATA driver diskette ready, you may start to install Windows 2000 / Windows XP on your system directly without setting the RAID configuration on your system, or you may start to use "VT8237 SATA RAID BIOS" to set RAID 0 / RAID 1 / JBOD configuration before you install the OS. Before you start to configure the RAID function, you need to check the installation guide in the Support CD for proper configuration. Please refer to the document in the Support CD, "Guide to SATA Hard Disks Installation and RAID Configuration", which is located in the folder at the following path:

.. \ SATA RAID BIOS

You may also set the RAID configuration by using "VIA RAID Tool" in Windows environment. Please refer to the document in the Support CD, "Guide to VIA RAID Tool", which is located in the folder at the following path:

.. \ VIA RAID Tool

3. BIOS Setup (K7Upgrade-600)

3.1 BIOS Setup Utility

This section explains how to use the BIOS Setup Utility to configure your system. The Flash Memory on the motherboard stores the BIOS Setup Utility. You may run the BIOS Setup when you start up the computer. Please press <F2> during the Power-On-Self-Test (POST) to enter the BIOS Setup Utility, otherwise, POST will continue with its test routines.

If you wish to enter the BIOS Setup after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart the system by turning the system off and then back on.

The BIOS Setup Utility is designed to be user-friendly. It is a menu-driven program, which allows you to scroll through its various sub-menus and select among the predetermined choices.

Because the BIOS software is constantly being updated, the following BIOS setup screens and descriptions are for reference purpose only, and may not exactly match what you see on your screen.

3.1.1 BIOS Menu Bar

The top of the screen has a menu bar with the following selections:

MAIN	Sets up the basic system configuration
ADVANCED	Sets up the advanced features
SECURITY	Sets up the security features
POWER	Configures Power Management features
BOOT	Configures the default system device that is used to locate and load the Operating System
EXIT	Exits the current menu or the BIOS Setup

To access the menu bar items, press the right or left arrow key on the keyboard until the desired item is highlighted.

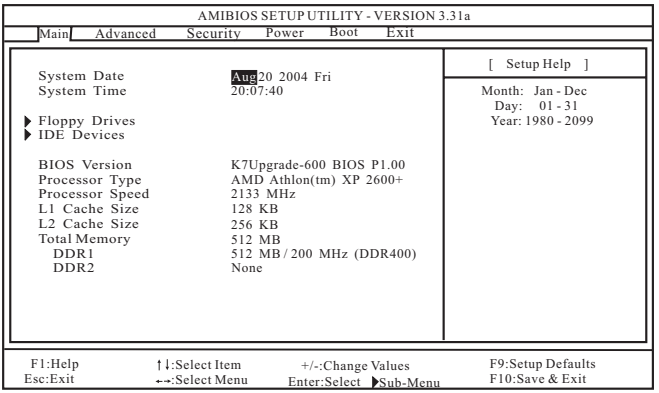
3.1.2 Legend Bar

At the bottom of the Setup Screen is a legend bar. The following table lists the keys in the legend bar with their corresponding functions.

Navigation Key(s)	Function Description
<F1>	Displays the General Help Screen
<ESC>	Jumps to the Exit menu or returns to the upper menu from the current menu
↑/ ↓	Moves cursor up or down between fields
←/ →	Selects menu to the left or right
+ / -	Increases or decreases values
<Enter>	Brings up a selected menu for a highlighted field
<F9>	Loads all the setup items to default value
<F10>	Saves changes and exits Setup

3.2 Main Menu

When you enter the BIOS Setup Utility, the following screen appears.



System Date [Month/Day/Year]

Set the system date that you specify. Valid values for month, day, and year are Month: (Jan to Dec), Day: (1 to 31), Year: (up to 2099). Use ↑↓ keys to move between the Month, Day, and Year fields.

System Time [Hour:Minute:Second]

Set the system to the time that you specify. Use ↑↓ ←→ keys to move between the Hour, Minute, and Second fields.

Floppy Drives

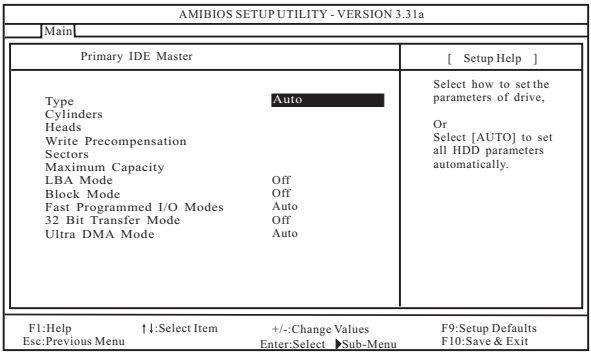
Use this to set the type of floppy drives installed.

IDE Devices

Use this to configure IDE devices.

TYPE

To set the type of the IDE device, first, please select “IDE Devices” on Main menu and press <Enter> to get into the sub-menu. Then, select among “Primary IDE Master”, “Primary IDE Slave”, “Secondary IDE Master”, and “Secondary IDE Slave” to make configuration of its type. Below are the configuration options.



[USER]: It allows user to manually enter the number of cylinders, heads, and sectors per track for the drive.

Before attempting to configure a hard disk drive, make sure you have the correct configuration information supplied by the drive manufacturer. Incorrect settings may cause the system to fail to recognize the installed hard disk.

[Auto]: Select [Auto] to automatically detect hard disk drive. If auto-detection is successful, the BIOS Setup automatically fills in the correct values for the remaining fields on this sub-menu. If the auto-detection fails, it may due to that the hard disk is too old or too new. If the hard disk was already formatted on an older system, the BIOS Setup may detect incorrect parameters. In these cases, select [User] to manually enter the IDE hard disk drive parameters.

After entering the hard disk information into BIOS, use a disk utility, such as FDISK, to partition and format the new IDE hard disk drives. This is necessary so that you can write the data into or read the data from the installed hard disk. Please make sure to set the partition of the Primary IDE hard disk drives to make them active.

[CD/DVD]: This is used for IDE CD/DVD drives.

[ARMD]: This is used for IDE ARMD (ATAPI Removable Media Device), such as MO.

Cylinders

This is used to configure the number of cylinders. Refer to the drive documentation to determine the correct value.

Heads

This is used to configure the number of read/write heads. Refer to the drive documentation to determine the correct values.

Write Pre-compensation

Enter Write Pre-compensation sector. Refer to the drive documentation to determine the correct value.

Sectors

This is used to configure the number of sectors per track. Refer to the drive documentation to determine the correct value.

Maximum Capacity

This field shows the drive's maximum capacity as calculated by the BIOS based on the drive information you entered.

LBA Mode

This allows user to select the LBA mode for a hard disk > 512 MB under DOS and Windows; for Netware and UNIX user, select [Off] to disable the LBA mode.

Block Mode

Set the block mode to [On] will enhance hard disk performance by reading or writing more data during each transfer.

Fast Programmed I/O Modes

This allows user to set the PIO mode to enhance hard disk performance by optimizing the hard disk timing.

32 Bit Transfer Mode

It allows user to enable 32-bit access to maximize the IDE hard disk data transfer rate.

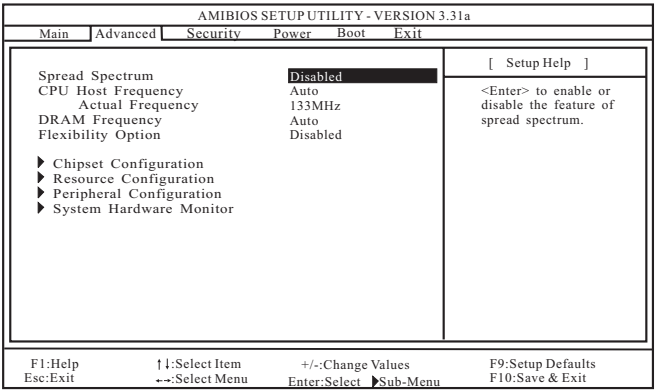
Ultra DMA Mode

Ultra DMA capability allows improved transfer speeds and data integrity for compatible IDE devices. Set to [Disabled] to suppress Ultra DMA capability.

3.3 Advanced, Security, Power, Boot, and Exit Menus

This section will introduce you the following BIOS Setup menus: “Advanced,” “Security,” “Power,” “Boot,” and “Exit.”

3.3.1. Advanced BIOS Setup Menu



Spread Spectrum

This field should always be [Disabled] for better system stability.

CPU Host Frequency

[Auto]

It is recommended to select this option, which will let the CPU host frequency of this motherboard determined by the jumper-setting.

[Manual]

This allows user to set CPU host frequency manually. However, because the CPU host frequency of this motherboard is determined by the jumper-setting, you must set the FSB jumper adjustment according to your AMD CPU before you use this “Manual” option as the FSB setting in BIOS setup to perform over clocking. This is not recommended unless you thoroughly know the feature. Wrong setup may cause problems during operation.

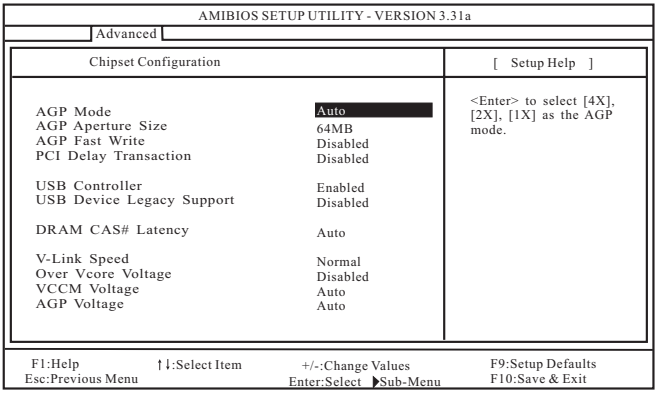
DRAM Frequency

If set to [Auto], the motherboard will detect the inserted memory module(s) and automatically assign appropriate frequency. You may select other value as operating frequency: [133MHz (DDR266)], [166MHz (DDR333)], [200MHz (DDR400)].

Flexibility Option

The default value of this option is [Disabled]. It will allow better tolerance for memory compatibility when it is set to [Enabled].

Chipset Configuration



AGP Mode

This feature will be set to [Auto] as default.

AGP Aperture Size

It refers to a section of the PCI memory address range used for graphics memory. It is recommended to leave this field at the default value unless the installed AGP card's specification requires other sizes.

AGP Fast Write

This allows you to enable or disable the feature of AGP fast write protocol support.

PCI Delay Transaction

Enable PCI Delay Transaction feature will free the PCI Bus when the CPU is accessing 8-bit ISA cards. Disable this feature when using ISA cards that are not PCI 2.1 compliant.

USB Controller

Use this to enable or disable the use of USB controller.

USB Device Legacy Support

Use this to enable or disable the support to emulate legacy I/O devices such as mouse, keyboard,... etc.

DRAM CAS# Latency

This is used to adjust the means of memory accessing. Configuration options: [Auto], [2T], [2.5T], [3T]. It is recommended to leave this field as [Auto] unless the installed DRAM's specification requires other value.

V-Link Speed

This feature allows you to speed up the V-Link speed. The default value is [Normal].

Over Vcore Voltage

This feature allows you to increase the CPU Vcore voltage with two levels. The default value is [Disabled].

It is not recommended to enable “Over Vcore Voltage” feature. Doing so may cause CPU damage.

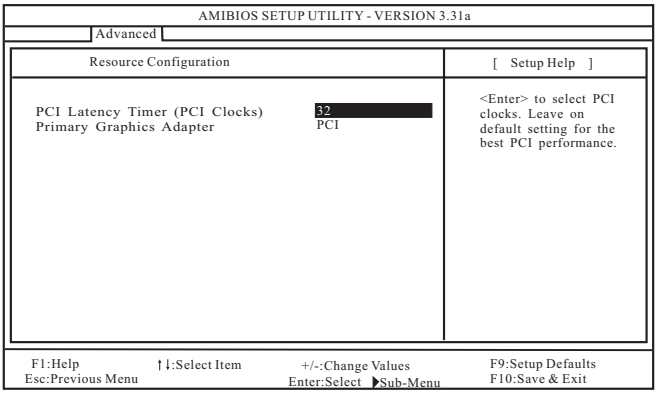
VCCM Voltage

This item allows you to adjust DRAM voltage. Configuration options: [Auto], [High], and [Low]. The default value is [Auto].

AGP Voltage

This item allows you to adjust AGP voltage. Configuration options: [Auto], [High], and [Low]. The default value is [Auto].

Resource Configuration



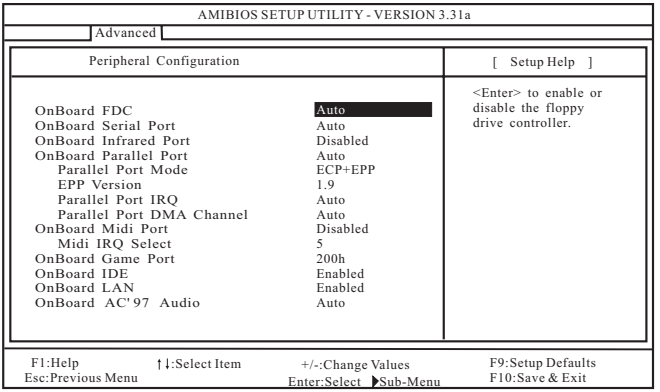
PCI Latency Timer (PCI Clocks)

The default is 32. It is recommended to keep the default value unless the installed PCI expansion cards’ specifications require other settings.

Primary Graphics Adapter

Select PCI or AGP as the primary graphics adapter if both PCI VGA and AGP card are installed.

Peripheral Configuration



OnBoard FDC

Use this to enable or disable floppy drive controller.

OnBoard Serial Port

Use this to set addresses for the onboard serial ports or disable serial ports. Configuration options: [Auto], [Disabled], [3F8 / IRQ4 / COM1], [2F8 / IRQ3 / COM2], [3E8 / IRQ4 / COM3], [2E8 / IRQ3 / COM4].

OnBoard Infrared Port:

You may select [Auto] or [Disabled] for this onboard infrared port feature.

OnBoard Parallel Port

Select Parallel Port address or disable Parallel Port. Configuration options: [Auto], [Disabled], [378], [278].

Parallel Port Mode

Set the operation mode of the parallel port. The default value is [ECP+EPP]. If this option is set to [ECP+EPP], it will show the EPP version in the following item, “EPP Version”.

OnBoard Midi Port

Select address for Midi Port or disable Midi Port. Configuration options: [Disabled], [330], [300].

Midi IRQ Select

Use this to select Midi IRQ. Configuration options: [5], [10], [11].

OnBoard Game Port

Select address for Game Port or disable Game Port. Configuration options: [Disabled], [200h], [208h].

OnBoard IDE

This allows you to enable or disable the onboard IDE controller.

OnBoard LAN

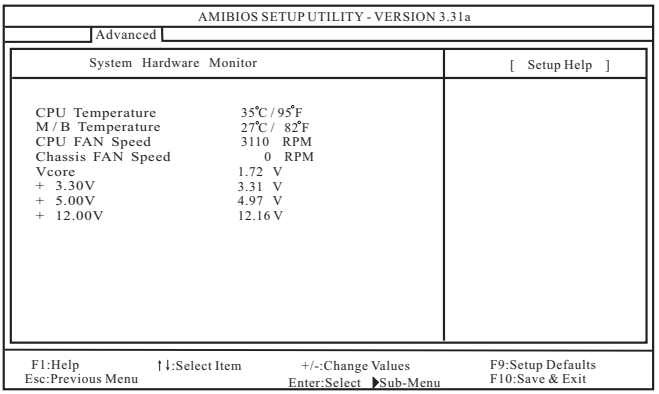
This allows you to enable or disable the onboard LAN feature.

OnBoard AC'97 Audio

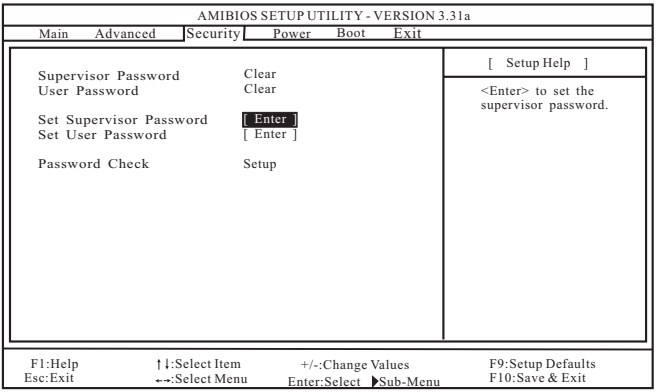
Select [Disabled], [Auto] or [Enabled] for the onboard AC'97 Audio feature.

System Hardware Monitor

You may check the status of the hardware on your system. It allows you to monitor the parameters for CPU temperature, Motherboard temperature, CPU fan speed, and critical voltage.



3.3.2. Security Setup Menu



Supervisor Password: This field shows the status of the Supervisor Password.

[Clear]: No password has been set.

[Set]: Supervisor password has been set.

User Password: This field shows the status of the User Password.

[Clear]: No password has been set.

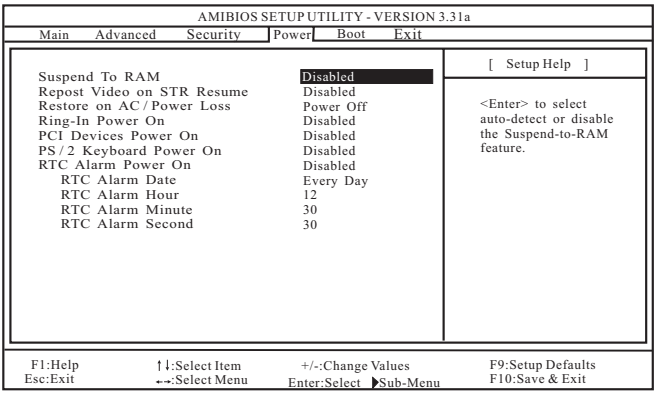
[Set]: User password has been set.

Set Supervisor Password: Press <Enter> to set the Supervisor Password. Valid password can be a 1 to 6 alphanumeric characters combination. If you already have a password, you need to enter your current password first in order to create a new password.

Set User Password: Press <Enter> to set the User Password. Valid password can be a 1 to 6 alphanumeric characters combination. If you already have a password, you need to enter your current password first in order to create a new password.

Password Check: Select the check point for “Password Check”. Configuration options: [Setup], [Always]. If [Setup] option is selected, the “Password Check” is performed before BIOS setup. If [Always] option is selected, the “Password Check” is performed before both boot-up and BIOS setup.

3.3.3. Power Setup Menu



Suspend to RAM

This field allows you to select whether to auto-detect or disable the Suspend-to-RAM feature. Select [Auto] will enable this feature if the system supports it.

Repost Video on STR Resume

This feature allows you to repost video on STR resume. It is recommended to enable this feature under Microsoft® Windows® 98 / ME.

Restore on AC/Power Loss

This allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers.

Ring-In Power On

Use this to enable or disable Ring-in signals to turn on the system from the power-soft-off mode.

PCI Devices Power On

Use this to enable or disable PCI devices to turn on the system from the power-soft-off mode.

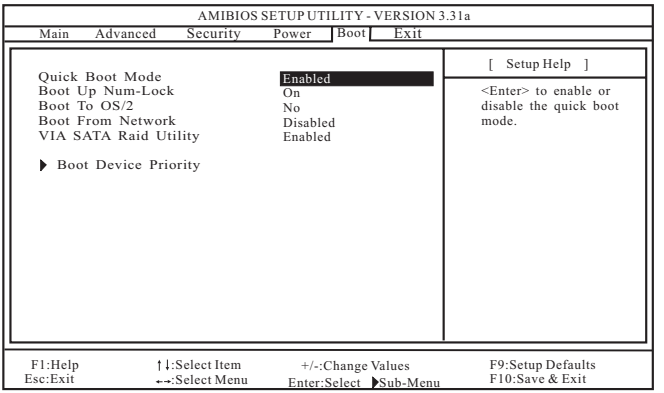
PS/2 Keyboard Power On

Use this to enable or disable PS/2 keyboard to turn on the system from the power-soft-off mode.

RTC Alarm Power On

Use this to enable or disable RTC (Real Time Clock) to power on the system. If [Enable] is selected, you must fill the RTC Alarm Date / Hour / Minute / Second sub-fields with the actual wake up time you desire.

3.3.4. Boot Setup Menu



Quick Boot Mode

Enable this mode will speed up the boot-up routine by skipping memory retestings.

Boot Up Num-Lock

If this is enabled, it will automatically activate the Numeric Lock function after boot-up.

Boot To OS/2

This enables boot-up to OS/2 operating system.

Boot From Network

Use this to enable or disable “boot from network” feature.

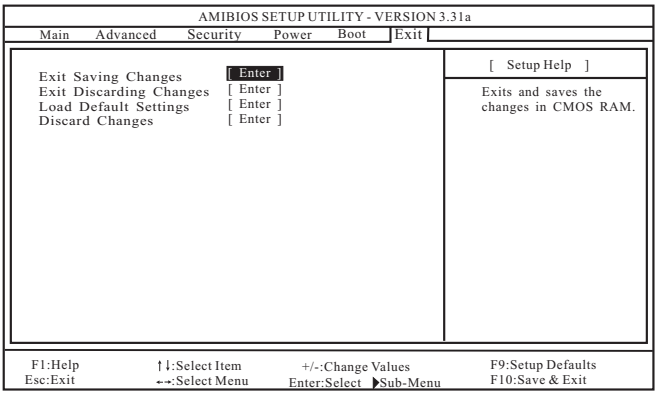
VIA SATA Raid Utility

Use this to enable or disable VIA VT8237 SATA Raid BIOS Utility during POST.

Boot Device Priority

This allows you to set the boot device priority.

3.3.5. Exit Menu



Exit Saving Changes

After you enter the sub-menu, the message “Save current settings and exit” will appear. If you press <ENTER>, it will save the current settings and exit the BIOS SETUP Utility.

Exit Discarding Changes

After you enter the submenu, the message “Quit without saving changes” will appear. If you press <ENTER>, you will exit the BIOS Setup Utility without making any changes to the settings.

Load Default Settings

After you enter the submenu, the message “Load default settings” will appear. If you press <Enter>, it will load the default values for all the setup configuration.

Discard Changes

After you enter the sub-menu, the message “Load setup original values” will appear. If you press <ENTER>, original values will be restored and all changes are discarded.

4. BIOS SETUP UTILITY (754Bridge)

4.1 Introduction

This section explains how to use the BIOS SETUP UTILITY to configure your system. The Flash Memory on the motherboard stores the BIOS SETUP UTILITY. You may run the BIOS SETUP UTILITY when you start up the computer. Please press <F2> during the Power-On-Self-Test (POST) to enter the BIOS SETUP UTILITY, otherwise, POST will continue with its test routines.

If you wish to enter the BIOS SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the BIOS software is constantly being updated, the following BIOS setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

4.1.1 BIOS Menu Bar

The top of the screen has a menu bar with the following selections:

Main	To set up the system time/date information
Advanced	To set up the advanced BIOS features
H/W Monitor	To display current hardware status
Boot	To set up the default system device to locate and load the Operating System
Security	To set up the security features
Exit	To exit the current screen or the BIOS SETUP UTILITY

Use < ‖ö> key or < ‖ä> key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen.

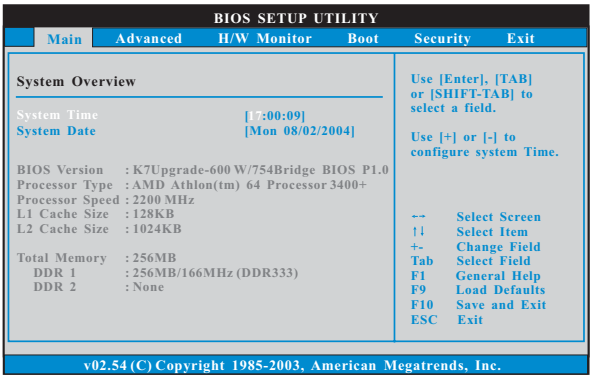
4.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

Navigation Key(s)	Function Description
¡ö/ ¡ú	Moves cursor left or right to select Screens
¡ô/ ¡õ	Moves cursor up or down to select items
+ / -	To change option for the selected items
<Enter>	To bring up the selected screen
<F1>	To display the General Help Screen
<F9>	To load optimal default values for all the settings
<F10>	To save changes and exit the BIOS SETUP UTILITY
<ESC>	To jump to the Exit Screen or exit the current screen

4.2 Main Screen

When you enter the BIOS SETUP UTILITY, the Main screen will appear and display the system overview



System Time [Hour:Minute:Second]

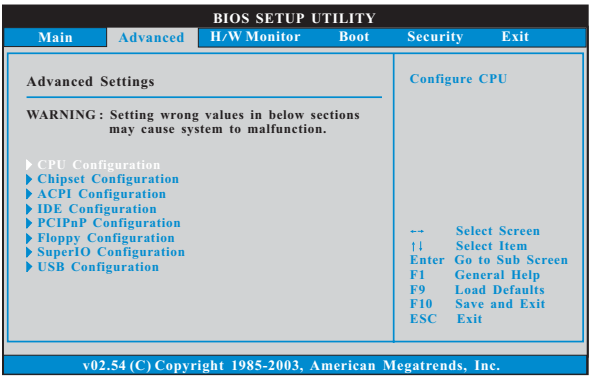
Use this item to specify the system time.

System Date [Day Month/Date/Year]

Use this item to specify the system date.

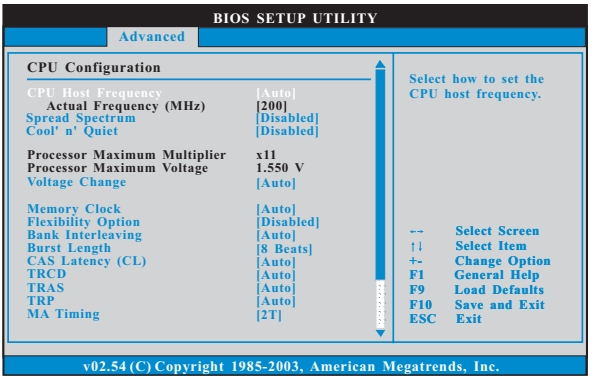
4.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, ACPI Configuration, IDE Configuration, PCIPnP Configuration, Floppy Configuration, SuperIO Configuration, and USB Configuration.



Setting wrong values in this section may cause the system to malfunction.

4.3.1 CPU Configuration



CPU Host Frequency

While entering setup, BIOS auto detects the present CPU host frequency of this motherboard. The actual CPU host frequency will show in the following item.

Spread Spectrum

This item should always be [Disabled] for better system stability.

Cool 'n' Quiet

Use this item to enable or disable AMD's Cool 'n' Quiet™ technology.

Processor Voltage

This item will show when "Multiplier/Voltage Change" is set to [Manual]; otherwise, it will be hidden. You may set the value from [1.550V] down to [0.800V]. However, for safety and system stability, it is not recommended to adjust the value of this item.

Memory Clock

This item can be set by the code using [Auto]. You can set one of the standard values as listed: [133 MHz (DDR266)], [166 MHz (DDR333)], [200 MHz (DDR400)].

Flexibility Option

The default value of this option is [Disabled]. It will allow better tolerance for memory compatibility when it is set to [Enabled].

Bank Interleaving

Interleaving allows memory accesses to be spread out over banks on the same node, or accross nodes, decreasing access contention.

Burst Length

Burst length can be set to 8 or 4 beats.

CAS Latency (CL)

Use this item to adjust the means of memory accessing. Configuration options: [Auto], [2.0], [3.0], and [2.5].

TRCD

Use this item to adjust the RAS#-active to CAS#-ready/write Delay of memory accessing.

TRAS

Use this item to adjust the Minimum RAS# Active time of memory accessing.

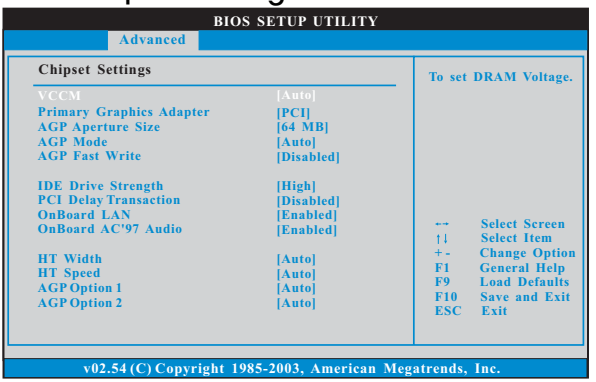
TRP

Use this item to adjust the Row Precharge time of memory accessing.

MA Timing

Use this to adjust values for MA timing. Configuration options: [2T], [1T]. The default value is [2T].

4.3.2 Chipset Configuration



VCCM

Use this to select VCCM voltage. Configuration options are [Auto], [High], and [Low]. The default value is [Auto].

Primary Graphics Adapter

This item will switch the PCI Bus scanning order while searching for video card. It allows you to select the type of Primary VGA in case of multiple video controllers.

AGP Aperture Size

It refers to a section of the PCI memory address range used for graphics memory. It is recommended to leave this field at the default value unless the installed AGP card's specifications requires other sizes.

AGP Mode

The default value of this feature is set to [Auto]. If you install an 8X-AGP card on this motherboard, you may select [Auto], [8X] or [4X] as the AGP mode. If the installed AGP card is a 4X-AGP card, then you may set the AGP mode as [Auto], [4X], [2X], or [1X].

AGP Fast Write

This allows you to enable or disable the feature of AGP fast write protocol support.

IDE Driving Strength

Select [Lowest], [Normal], [High], [Highest] for IDE driving strength.

PCI Delay Transaction

Enable PCI Delay Transaction feature will free the PCI Bus when the CPU is accessing 8-bit ISA cards. Disable this feature when using ISA cards that are not PCI 2.1 compliant.

OnBoard LAN

This allows you to enable or disable the onboard LAN feature.

OnBoard AC'97 Audio

Select [Enabled] or [Disabled] for the onboard AC'97 Audio feature.

HT Width

You may set the HyperTransport width as [8 bit], [16 bit] or [Auto]. The default value is [Auto].

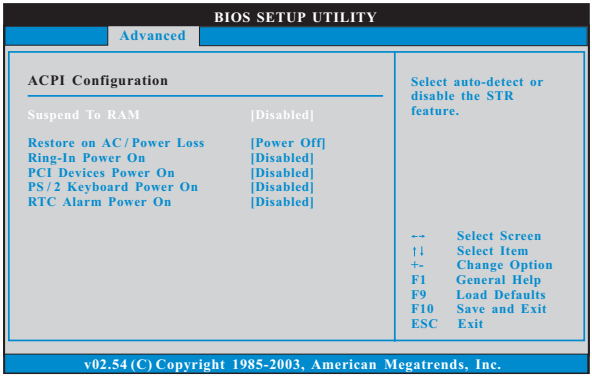
HT Speed

You may set the HyperTransport speed as [Auto], [200 MHz], [400 MHz], [600 MHz], or [800 MHz]. The default value is [Auto].

AGP Option 1 / AGP Option 2

Reserved for AGP Card access adjusting.

4.3.3 ACPI Configuration



Suspend to RAM

Use this item to select whether to auto-detect or disable the Suspend-to-RAM feature. Select [Auto] will enable this feature if the OS supports it. If you set this item to [Disabled], the function "Restore on AC/Power Loss" will be hidden.

Restore on AC/Power Loss

Use this item to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power installed AGP card's specifications requires other sizes.

Ring-In Power On

Use this item to enable or disable Ring-In signals to turn on the system from the power-soft-off mode.

PCI Devices Power On

Use this item to enable or disable PCI devices to turn on the system from the power-soft-off mode.

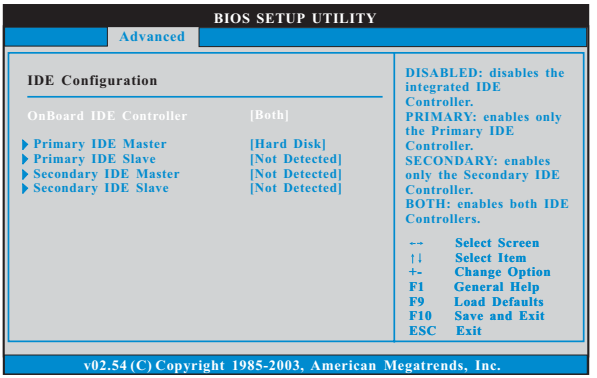
PS/2 Keyboard Power On

Use this item to enable or disable PS/2 keyboard to turn on the system from the power-soft-off mode.

RTC Alarm Power On

Use this item to enable or disable RTC (Real Time Clock) to power on the system.

4.3.4 IDE Configuration

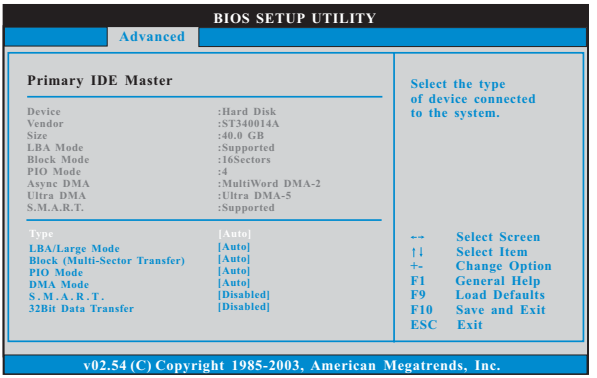


OnBoard IDE Controller

You may enable either the primary IDE channel or the secondary IDE channel. Or you may enable both the primary and the secondary IDE channels by selecting [Both]. Set to [Disabled] will disable the both. Configuration options: [Disabled], [Primary], [Secondary], [Both].

IDE Device Configuration

You may set the IDE configuration for the device that you specify. We will use the “Primary IDE Master” as the example in the following instruction, which can be applied to the configurations of “Primary IDE Slave”, “Secondary IDE Master”, and “Secondary IDE Slave” as well.



TYPE

Use this item to configure the type of the IDE device that you specify. Configuration options: [Not Installed], [Auto], [CD/DVD], and [ARMD].

[Not Installed]: Select [Not Installed] to disable the use of IDE device.

[Auto]: Select [Auto] to automatically detect the hard disk drive.

After selecting the hard disk information into BIOS, use a disk utility, such as FDISK, to partition and format the new IDE hard disk drives. This is necessary so that you can write or read data from the hard disk. Make sure to set the partition of the Primary IDE hard disk drives to active.

[CD/DVD]: This is used for IDE CD/DVD drives.

[ARMD]: This is used for IDE ARMD (ATAPI Removable Media Device), such as MO.

LBA/Large Mode

Use this item to select the LBA/Large mode for a hard disk > 512 MB under DOS and Windows; for Netware and UNIX user, select [Disabled] to disable the LBA/Large mode.

Block (Multi-Sector Transfer)

The default value of this item is [Auto]. If this feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer.

PIO Mode

Use this item to set the PIO mode to enhance hard disk performance by optimizing the hard disk timing.

DMA Mode

DMA capability allows the improved transfer-speed and data-integrity for compatible IDE devices.

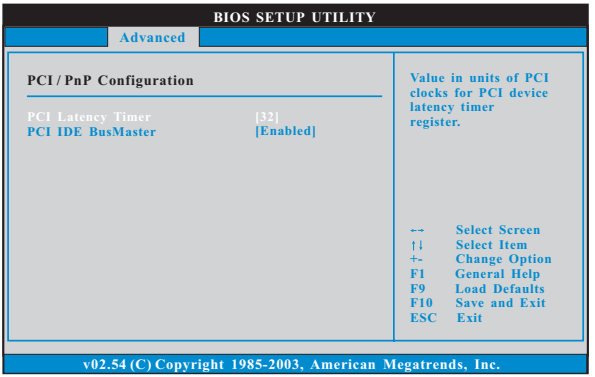
S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled], [Auto], [Enabled].

32-Bit Data Transfer

Use this item to enable 32-bit access to maximize the IDE hard disk data transfer rate.

4.3.5 PCIPnP Configuration



PCI Latency Timer

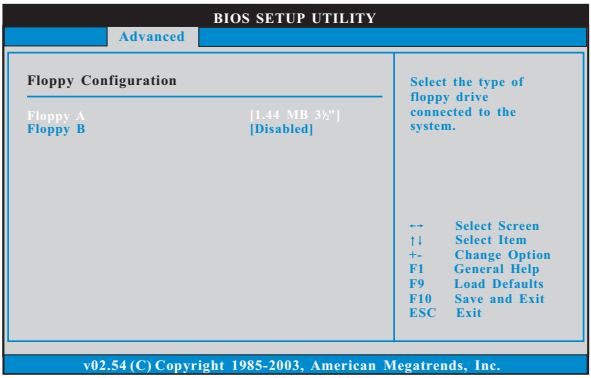
The default value is 32. It is recommended to keep the default value unless the installed PCI expansion cards' specifications require other settings.

PCI IDE BusMaster

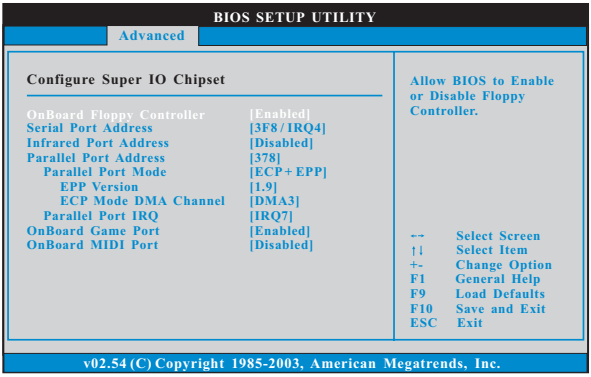
Use this item to enable or disable the PCI IDE BusMaster feature.

4.3.6 Floppy Configuration

In this section, you may configure the type of your floppy drive.



4.3.7 Super IO Configuration



OnBoard Floppy Controller

Use this item to enable or disable floppy drive controller.

Serial Port Address

Use this item to set the address for the onboard serial port or disable it.

Configuration options: [Disabled], [3F8 / IRQ4], [2F8 / IRQ3], [3E8 / IRQ4], [2E8 / IRQ3].

Infrared Port Address

Use this item to set the address for the onboard infrared port or disable it. Configuration options: [Disabled], [2F8 / IRQ3], and [2E8 / IRQ3].

Parallel Port Address

Use this item to set the address for the onboard parallel port or disable it. Configuration options: [Disabled], [378], and [278].

Parallel Port Mode

Use this item to set the operation mode of the parallel port. The default value is [ECP+EPP]. If this option is set to [ECP+EPP], it will show the EPP version in the following item, "EPP Version". Configuration options: [Normal], [Bi-Directional], and [ECP+EPP].

EPP Version

Use this item to set the EPP version. Configuration options: [1.9] and [1.7].

ECP Mode DMA Channel

Use this item to set the ECP mode DMA channel. Configuration options: [DMA0], [DMA1], and [DMA3].

Parallel Port IRQ

Use this item to set the IRQ for the parallel port. Configuration options: [IRQ5] and [IRQ7].

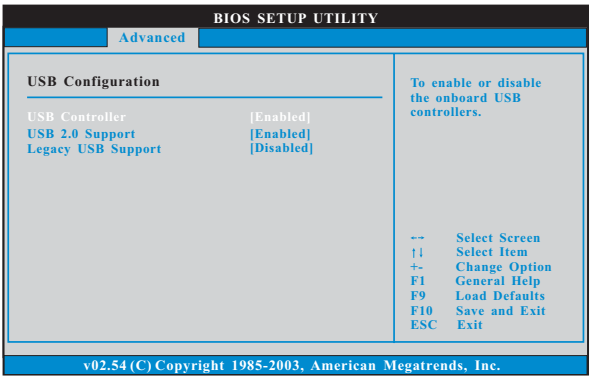
OnBoard Game Port

Use this item to enable the Game Port or disable it.

OnBoard MIDI Port

Use this itme to select the address for the MIDI Port or disable it. Configuration options: [Disabled], [300], and [330].

4.3.8 USB Configuration



USB Controller

Use this item to enable or disable the use of USB controller.

USB 2.0 Support

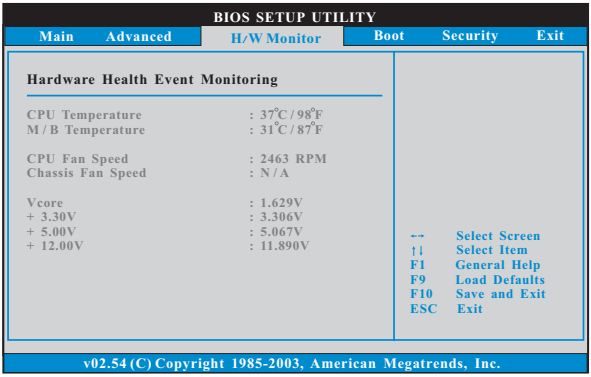
Use this item to enable or disable the USB 2.0 support.

Legacy USB Support

Use this item to enable or disable the support to emulate legacy I/O devices such as mouse, keyboard,... etc. Or you may select [Auto] so that the system will start to auto-detect; if there is no USB device connected, "Auto" option will disable the legacy USB support.

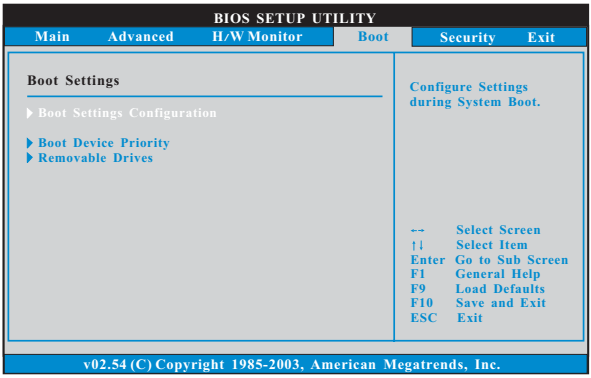
4.4 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.

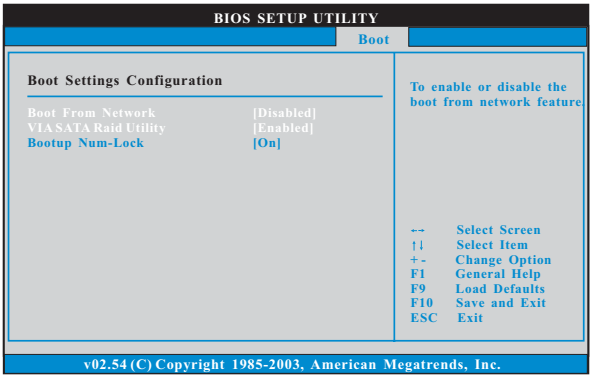


4.5 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.



4.5.1 Boot Settings Configuration



Boot From Network

Use this item to enable or disable the Boot From Network feature.

VIA SATA Raid Utility

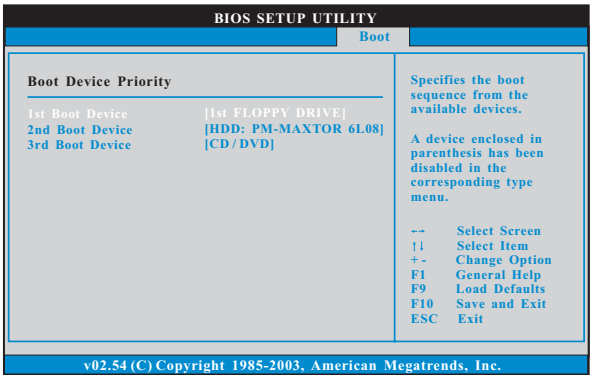
Use this item to enable or disable VIA VT8237 SATA Raid BIOS Utility during post.

Boot Up Num-Lock

If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

4.5.2 Boot Device Priority

In this section, you may specify the boot sequence from the available devices in your system.

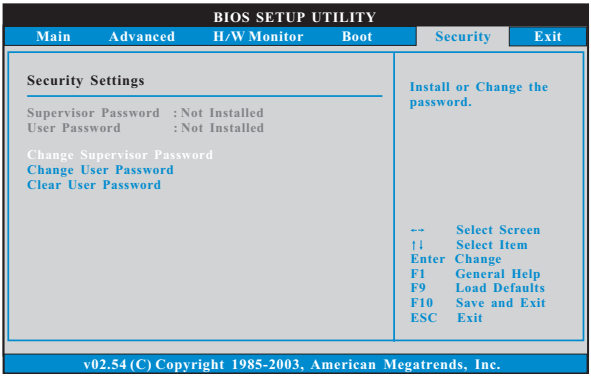


Likewise, you may also specify the boot sequence from the available devices

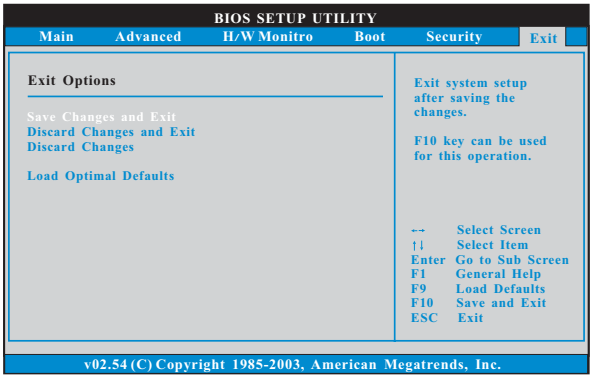
for the hard disk drives, the removable drives, and the CD/DVD drives.

4.6 Security Screen

In this section, you may set or change the supervisor/user password for the system. For the user password, you may also clear it.



4.7 Exit Screen



Save Changes and Exit

When you select this option, it will pop-out the following message, "Save configuration changes and exit setup?" Select [OK] to save the changes and exit the BIOS SETUP UTILITY.

Discard Changes and Exit

When you select this option, it will pop-out the following message, "Discard changes and exit setup?" Select [OK] to exit the BIOS SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, it will pop-out the following message, "Discard changes?" Select [OK] to discard all changes.

Load Optimal Defaults

When you select this option, it will pop-out the following message, "Load optimal defaults?" Select [OK] to load the default values for all the setup configurations.

5. Software Support

5.1 Install Operating System

This motherboard supports various Microsoft® Windows® operating systems: 98 SE / ME / 2000 / XP. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer to your OS documentation for more information.

5.2 Support CD Information

The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard features.

5.2.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu did not appear automatically, locate and double click on the file "ASSETUP.EXE" from the BIN folder in the Support CD to display the menus.

5.2.2 Drivers Menu

The Drivers Menu shows the available devices drivers if the system detects installed devices. Please install the necessary drivers to activate the devices.

5.2.3 Utilities Menu

The Utilities Menu shows the applications software that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

5.2.4 Contact Information

If you need to contact ASRock or want to know more about ASRock, welcome to visit ASRock's website at http://www.asrock.com; or you may contact your dealer for further information.