XPC User Guide

For the : SX58J3

Shuttle®

XPC Installation Guide

Copyright

Disclaimer

Trademarks

General Notice

Safety Information

Read the following precautions before setting up a Shuttle XPC.

CAUTION

Incorrectly replacing the battery may damage this computer. Replace only with the same or equivalent as recommended by Shuttle. Dispose of used batteries according to the manufacturer's instructions.

Laser compliance statement

The optical disc drive in this server is a laser product. The drive's classification label is lacated on the drive.

CLASS 1 LASER PRODUCT

CAUTION： INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.

Installation Notices

Do not place this device underneath heavy loads or in an unstable position.
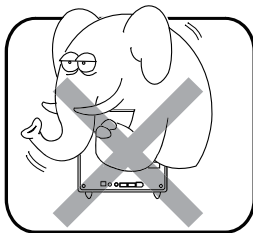
Do not expose this device to high levels of direct sunlight, high-humidity or wet conditions.
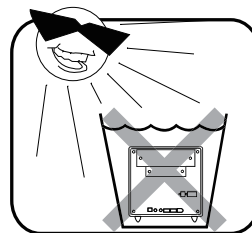
Do not use or expose this device around magnetic fields as magnetic interference may affect the performance of the device.
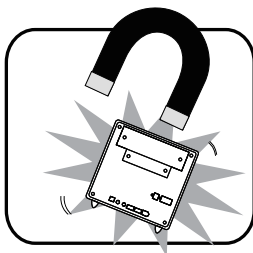
Do not block the air vents to this device or impede the airflow in any way.
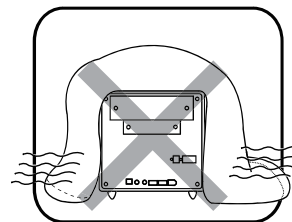
TABLE OF CONTENTS

Driver and Software Installation

■ Motherboard Driver CD

⚠ The CD contents attached in SX58J3 Series motherboard are subject to change without notice.

The Motherboard Driver CD contains all the motherboard drivers necessary to optimize the performance of this Shuttle Xvision in a Windows® OS. Install these drivers after installing Microsoft® Windows®.

Insert the attached CD into your CD-ROM drive. The CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in My Computer to bring up Shuttle Mainboard Software Setup screen.

Navigation Bar Description :

☞ Auto Install Driver/ Utility.

☞ User Manuals - Motherboard Manual, Quick Guide.

☞ Link to Shuttle Website - Link to shuttle website homepage.

☞ Browse this CD - Allows you to see contents of this CD.

■ User Manuals

☞ Motherboard Manual

☞ Quick Guide

Appendix

Starting BIOS

AMIBIOS has been integrated into many motherboards for over a decade. In the past, people often referred to the AMIBIOS setup menu as BIOS, BIOS setup, or CMOS setup.

American Megatrends refers to this setup as BIOS. Specifically, it is the name of the AMIBIOS8 BIOS setup utility. This chapter describes the basic navigation of the BIOS setup screens.

Enter the BIOS

To enter the BIOS setup screens, follow the steps below:

Step1. Power on the motherboard.

Step2. Press the <Delete> key on your keyboard when you see the following text prompt: **Press DEL to run Setup.**

Step3. After you press the <Delete> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Chipset and Power menus.

> ⚠ This manual describes the standard look of the BIOS setup screen. The motherboard manufacturer has the ability to change any and all of the settings described in this manual. This means that some of the options described in this manual do not exist in your motherboard's AMIBIOS.

> ⚠ In most cases, the <Delete> key is used to invoke the BIOS setup screen. There are a few cases that other keys are used, such as <F1>,<F2>, and so on.

BIOS Setup Menu

The main BIOS setup menu is the first screen that you can navigate. Each main BIOS setup menu option is described in this user's guide.

The Main BIOS setup menu screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured. Options is blue can be.

The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white.

Often a text message will accompany it.

⚠ AMIBIOS8 has default text messages built into it. The motherboard manufacture retains the option to include, leave out, or change any of these text messages. They can also add their own text messages. Because of this, many screen shots in this manual are different from your BIOS setup screen.

The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process. These keys include <F1>, <F10>, <Enter>, <ESC>, <Arrow> keys, and so on.

⚠ There is a hot key legend located in the right frame on most BIOS setup screens.

Hot Key	Description
→ Left ← Right	The Left and Right <Arrow> keys allow you to select a BIOS setup screen. For example: Main screen, Advanced screen, Chipset screen, and so on.
↑ Up ↓ Down	The Up and Down <Arrow> keys allow you to select an BIOS setup item or sub-screen.
+- Plus/Minus	The Plus and Minus <Arrow> keys allow you to change the field value of a particular setup item. For example: Date and Time.
Tab	The <Tab> key allows you to select BIOS setup fields.
F1	The <F1> key allows you to display the General Help screen. Press the <F1> key to open the General Help screen.
F10	The <F10> key allows you to save any changes you have made and exit BIOS Setup. Press the <F10> key to save your changes. Press the <Enter> key to save the configuration and exit. You can also use the <Arrow> key to select Cancel and then press the <Enter> key to abort this function and return to the previous screen.
ESC	The <Esc> key allows you to discard any changes you have made and exit the BIOS Setup. Press the <Esc> key to exit the BIOS setup without saving your changes. Press the <Enter> key to discard changes and exit. You can also use the <Arrow> key to select Cancel and then press the <Enter> key to abort this function and return to the previous screen.
Enter	The <Enter> key allows you to display or change the setup option listed for a particular setup item. The <Enter> key can also allow you to display the setup sub-screens.

⚠ The <F8> key on your keyboard is the Fail-Safe key. It is not displayed on the BIOS key legend by default. To set the Fail-Safe settings of the BIOS, press the <F8> key on your keyboard. It is located on the upper row of a standard 101 keyboard. The Fail-Safe settings allow the motherboard to boot up with the least amount of options set. This can lessen the probability of conflicting settings.

✎ Main Setup

When you first enter the BIOS Setup Utility, you will enter the Main setup screen.

You can always return to the Main setup screen by selecting the Main tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below.

```
                        BIOS SETUP UTILITY
  Main    Advanced    Boot    Security    Exit

  System Overview                              Use [ENTER], [TAB]
                                               or [SHIFT-TAB] to
  AMIBIOS                                      select a field.
  Version   :B02
  Build Date:02/09/10                          Use [+] or [-] to
                                               configure system Time.
  Processor

  Speed     :255MHz
  Count     :255

  System Memory
  Total Memory:2040MB                          ←       Select Screen
                                               ↑↓      Select Item
  System Time             [13:32:25]           +-      Change Field
  System Date             [Tue 02/09/2010]     Tab     Select Field
                                               F1      General Help
                                               F10     Save and Exit
                                               ESC     Exit


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```

System Time/System Date

Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

> ⚠ The time is in 24-hour format. For example, 5:30 A.M. appears as 05:30:00, and 5:30 P.M. as 17:30:00.

✎ **Advanced**

Select the Advanced tab from the BIOS setup screen to enter the Advanced BIOS Setup screen. You can select any of the items in the left frame of the screen, such as CPU Configuration, to go to the sub menu for that item.

You can display an Advanced BIOS Setup option by highlighting it using the <Arrow> keys. All Advanced BIOS Setup options are described in this section.

The Advanced BIOS Setup screen is shown below. The sub menus are described on the following pages.

```
                        BIOS SETUP UTILITY
  Main    Advanced    Boot    Security    Exit
 ┌──────────────────────────────────────────┬────────────────────────┐
 │ Advanced Settings                        │ Configure CPU.         │
 │ ───────────────────────────────────      │                        │
 │ WARNING: Setting wrong values in below sections                    │
 │          may cause system to malfunction.                          │
 │                                          │                        │
 │ ▶ CPU Configuration                      │                        │
 │ ▶ IDE Configuration                      │                        │
 │ ▶ USB Configuration                      │                        │
 │ ▶ OnBoard Device Configuration           │                        │
 │ ▶ Power Management Configuration         │                        │
 │ ▶ Hardware Health Configuration          │                        │
 │ ▶ Frequency Voltage Configuration        │                        │
 │                                          │  ←     Select Screen   │
 │                                          │  ↑↓    Select Item     │
 │                                          │  Enter Go to Sub Screen│
 │                                          │  F1    General Help    │
 │                                          │  F10   Save and Exit   │
 │                                          │  ESC   Exit            │
 └──────────────────────────────────────────┴────────────────────────┘
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```

CPU Configuration

You can use this screen to select options for the CPU Configuration Settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. A description of the selected item appears on the right side of the screen. The settings are described on the following pages. An example of the CPU Configuration screen is shown below.

> ⚠ The CPU Configuration setup screen varies depending on the installed processor.

```
 Advanced

 C1E Support              [Enabled]          This should be enabled
 Max CPUID Value Limit    [Disabled]         in order to enable or
 Intel(R) Virtualization Tech  [Enabled]     disable the "Enhanced
 Intel(R) HT Technology   [Enabled]          Halt State".
 Active Processor Cores   [All]
 Intel(R) TurboMode tech  [Enabled]




                                              ←     Select Screen
                                             ↑↓    Select Item
                                             +-    Change Option
                                             F1    General Help
                                             F10   Save and Exit
                                             ESC   Exit


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```

C1E Support

When enabled, the processor could be switched into "Enhanced Halt State" .

➢ The choice: Enabled or Disabled.

Max CPUID Value Limit

This item allows you to enable or disable the Max CPUID Value Limit. For Prescott CPU only, some OSes (ex. NT4.0) cannot handle the function with disable. This should be enabled in order to boot legacy OSes that cannot support CPUs with extended CPUID functions.

 Set Limit CPUID MaxVal to 3,Should Be "Disabled" for WinXp.

➤ The choice: Enabled or Disabled.

⚠ Some older O.S.'s (Win98,WinMe..) cannot handle a CPUID MaxVal greater than 3. Please choose "Enabled" if you use one of those O.S.
If your O.S. is WinXP or Win2000, we suggest you "Disabled" the item.

Intel(R) Virtualization Tech

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

➤ The choice: Enabled or Disabled.

⚠ CPU support, item appear.

Intel (R) HT Technology

This item allows you to enable or disable the Intel(R) Hyper -Threading Technolngy.
➤ The choice: Enabled or Disabled.

Active Processor Cores

This item allows you to determine how many cores to be enabled.

➤ The choice: All ,1 and 2.

Intel(R) TurboMode tech

This item allows you to enable or disable the Intel(R) TurboMode. Processor can switch between multiple frequency when needed.

➤ The choice: Enabled or Disabled.

IDE Configuration

You can use this screen to select options for the IDE Configuration Settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. A description of the selected item appears on the right side of the screen. The settings are described on the following pages. An example of the IDE Configuration screen is shown below.

```
                          BIOS SETUP UTILITY
        Advanced

  IDE Configuration                                   While entering setup,
                                                      BIOS auto detects the
                                                      presence of IDE
  ▶ eSATA 1 Channel        [Not Detected]             devices. This displays
  ▶ eSATA 2 Channel        [Not Detected]             the status of auto
  ▶ Serial ATA 1 Channel   [WDC WD2500JS-22MHB0]      detection of IDE
  ▶ Serial ATA 2 Channel   [Not Detected]             devices.
  ▶ Serial ATA 3 Channel   [Not Detected]
  ▶ Serial ATA 4 Channel   [Not Detected]

  Hard Disk Write Protect      [Disabled]
  IDE Detect Time Out (Sec)    [35]
  SATA Mode                    [IDE]               ←    Select Screen
  LEGACY Mode Support          [Disabled]          ↑↓   Select Item
                                                   Enter Go to Sub Screen
                                                   F1   General Help
                                                   F10  Save and Exit
                                                   ESC  Exit



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```
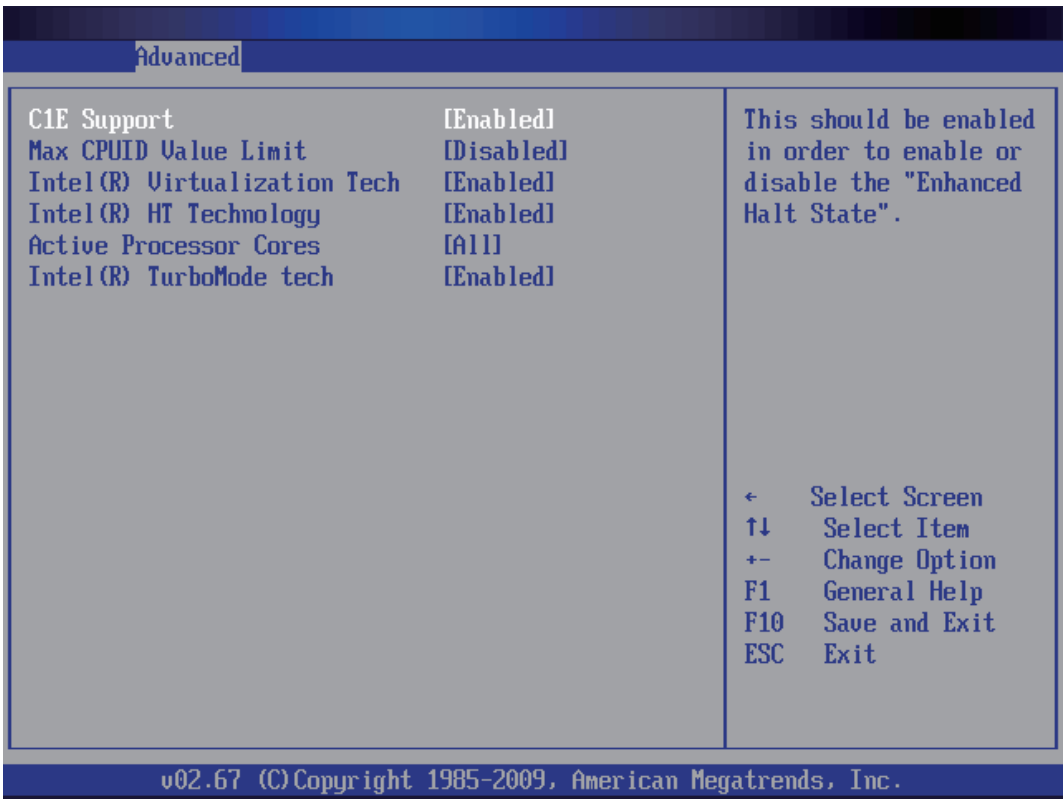
Hard Disk Write Protect

Set this option to protect the hard disk drive from being overwritten.
The Optimal and Fail-Safe default setting is Disabled.

Disabled:Set this value to allow the hard disk drive to be used normally. Read, write, and erase functions can be performed to the hard disk drive. This is the default setting.

Enabled:Set this value to prevent the hard disk drive from being erased.

➢ The choice: Enabled, Disabled.

IDE Detect Time Out (Sec)

Set this option to stop the AMIBIOS from searching for IDE devices within the specified number of seconds. Basically, this allows you to fine-tune the settings to allow for faster boot times. Adjust this setting until a suitable timing that can detect all IDE disk drives attached is found.

The Optimal and Fail-Safe default setting is 35.

➢ The choice: 0, 5, 10, 15, 20, 25, 30, 35.

SATA Mode

This item allows you to set the SATA Mode.
➢The choice: IDE , AHCI or RAID.

LEGACY Mode Support

Certain OS is not supported under Native mode.
➢The choice: Enabled or Disabled.

****

Press <Enter> to access the sub menu for the IDE drives.

The screen is shown below.

```
                         BIOS SETUP UTILITY
       Advanced

                                               Select the type
                                               of device connected
                                               to the system.
   Device    :Not Detected


   Type                       [Auto]
   LBA/Large Mode             [Auto]
   S.M.A.R.T.                 [Auto]




                                         ←     Select Screen
                                         ↑↓    Select Item
                                         +-    Change Option
                                         F1    General Help
                                         F10   Save and Exit
                                         ESC   Exit


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```
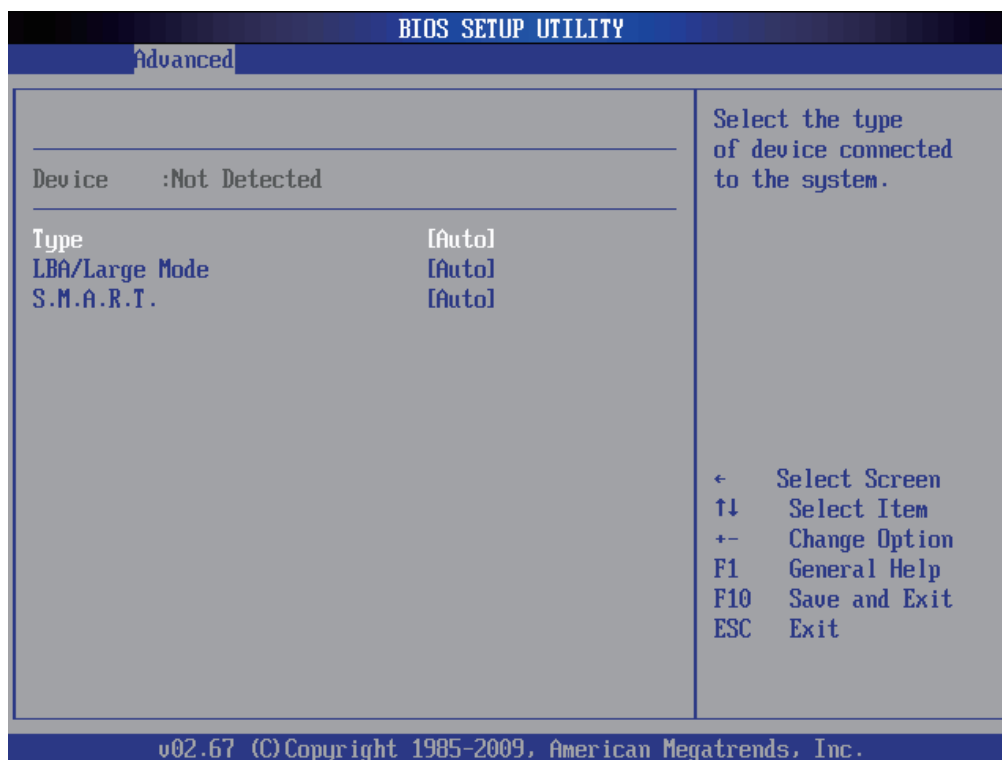
Type

This option sets the type of device that the AMIBIOS attempts to boot from after the Power-On Self-Test (POST) has completed.

➢ The choice: Not Installed,Auto,CD,ARMD.

LBA/Large Mode

LBA (Logical Block Addressing) is a method of addressing data on a disk drive. In LBA mode, the maximum drive capacity is 137 GB.

➢ The choice: Disabled,Auto.

⚠ For drive capacities over 137 GB, your AMIBIOS must be equipped with 48-bit LBA mode addressing. If not, contact your motherboard manufacturer or install an ATA/133 IDE controller card that supports 48-bit LBA mode.

S.M.A.R.T.

Self-Monitoring Analysis and Reporting Technology (SMART) feature can help predict impending drive failures.

➢ The choice: Auto,Enabled,Disabled.

USB Configuration

You can use this screen to select options for the USB Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages.

The screen is shown below.

```
                    BIOS SETUP UTILITY
   Advanced

 USB Configuration                               Options
 _____

 USB 2.0 Controller          [Enabled]          Enabled
 USB 2.0 Controller Mode     [HiSpeed]          Disabled
 Legacy USB Support          [Enabled]

 USB Devices Enabled :
   2 Keyboards, 1 Mouse, 1 Hub, 2 Drives

 ▶ USB Mass Storage Device Configuration


                                                 ←      Select Screen
                                                 ↑↓     Select Item
                                                 +-     Change Option
                                                 F1     General Help
                                                 F10    Save and Exit
                                                 ESC    Exit


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```
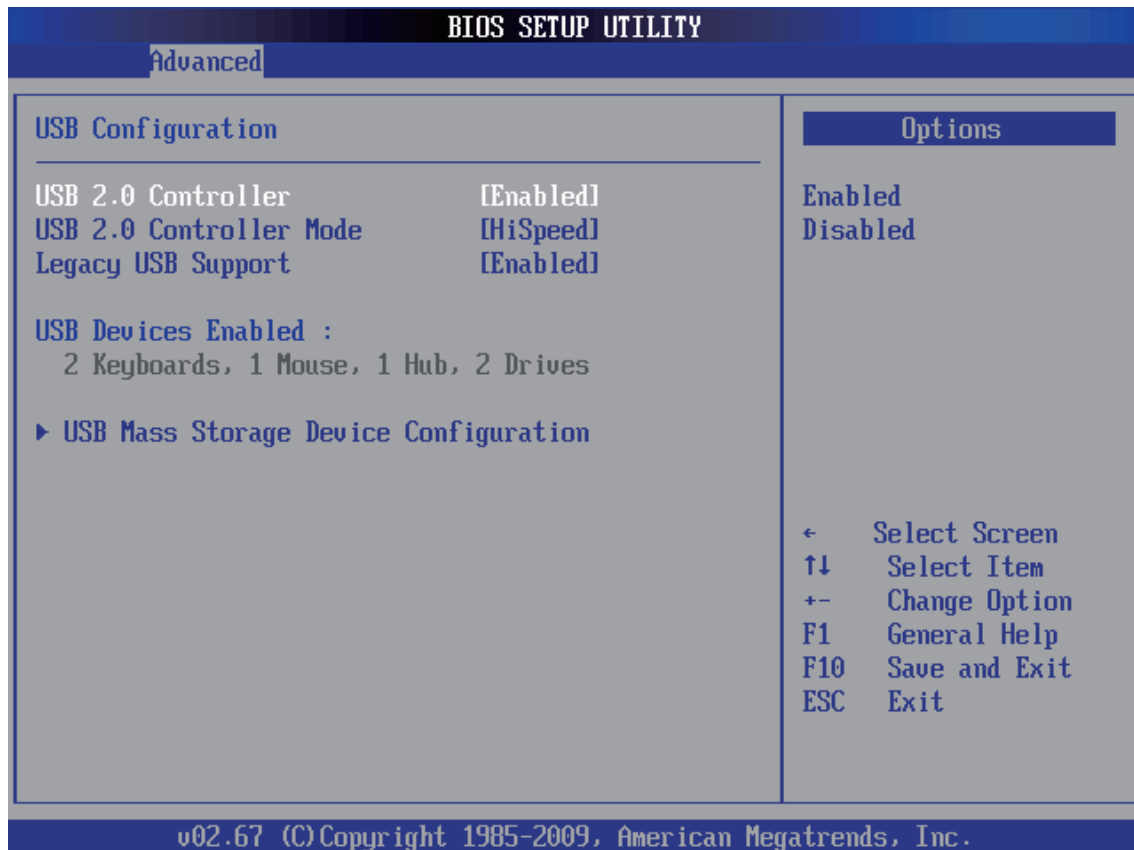
USB 2.0 Controller

This item allows you to enable or disable the USB 2.0 Controller.

➢ The choice: Enabled or Disabled.

USB 2.0 Controller Mode

Configures the USB 2.0 Controller in HiSpeed(480 Mbps) or FullSpeed(12Mbps).

➢ The choice: HiSpeed or FullSpeed.

Legacy USB Support

Enables support for legacy USB. AUTO option disables legacy support if no USB devices are connected.

➢ The choice: Disabled, Enabled or Auto.

USB Mass Storage Device Configuration

Option are in its sub-menu.

Press<Enter>to enter the sub-menu of detailed options.

USB Mass Storage Reset Delay

It enables you to set the number of seconds the POST waits for the USB mass storage device after the start unit command is sent.

➢ The choice: 10 Sec, 20 Sec, 30 Sec, 40 Sec.

Device #1

Read only.

Emulation Type

If Auto, USB devices less than 530 MB will be emulated as Floppy and remaining as hard drive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD (Ex. ZIP drive)..

➢ The choice: Auto, Floppy, Forced, FDD, Hard Disk, CDROM.

Onboard Device Configuration

You can use this screen to select options for the Onboard Device Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.

```
                        BIOS SETUP UTILITY
    Advanced

 OnBoard Device Configuration                        Options

 High Definition Audio       [Enabled]          Enabled
 Onboard LAN1 Function       [Enabled]          Disabled
 Onboard LAN2 Function       [Enabled]
 Onboard LAN Boot ROM        [Disabled]

 Serial Port1 Address        [3F8/IRQ4]
 Serial Port2 Address        [2F8/IRQ3]
 Parallel Port Address       [378]
   Parallel Port Mode        [EPP+ECP]
     ECP Mode DMA Channel     [DMA3]
   Parallel Port IRQ         [IRQ7]            ←     Select Screen
                                               ↑↓    Select Item
                                               +-    Change Option
                                               F1    General Help
                                               F10   Save and Exit
                                               ESC   Exit


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```
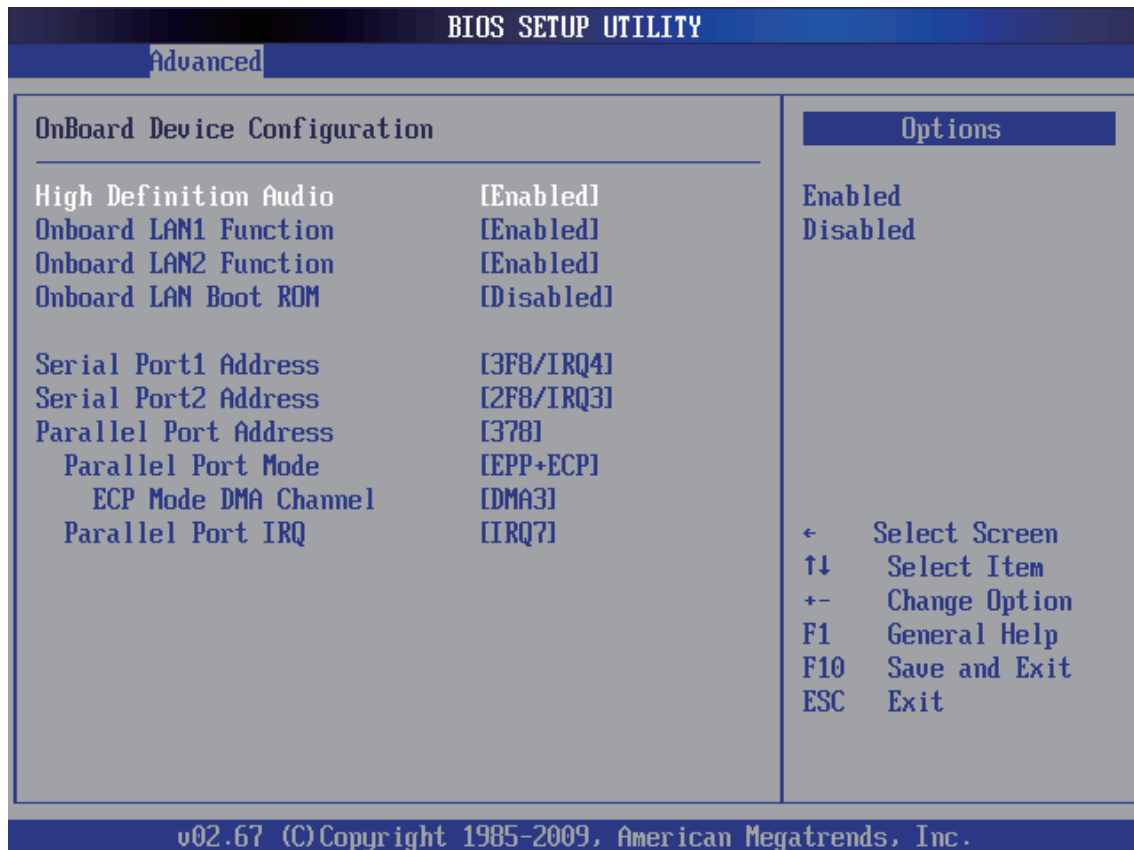
High Definition Audio

This item allows you to enable or disable the High Definition Audio.

➢ The choice: Enabled, Disabled.

Onboard LAN1 Function

This item allows you to enable or disable the onboard LAN1 Function.

➢ The choice: Enabled, Disabled.

Onboard LAN2 Function

This item allows you to enable or disable the onboard LAN2 Function.

➢ The choice: Enabled, Disabled.

<u>Onboard LAN Boot Rom</u>

This item allows you to set the Initiate Graphic Adapter.

➢ The choice: PCI , PCIEx.

<u>Serial Port1/Port2 Address</u>

These options are used to assign the I/O address and interrupt request (IRQ) for the onboard serial port 1 and port 2.

➢ The choice: Disabled, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, and 2E8/IRQ3.

<u>Parallel Port Address</u>

The option is used to assign the I/O address for the onboard parallel port.

➢ The choice: Disabled, 378, 278, and 3BC.

<u>Parallel Port Mode</u>

Select an operating mode for the onboard parallel (printer) port.

➢ The choice: Normal, EPP, ECP, and EPP+ECP.

<u>ECP Mode DMA Channel</u>

Select an operating mode for the ECP Mode DMA Channel.

➢ The choice: DMA0 , DMA1 and DMA3.

<u>Parallel Port IRQ</u>

This item allows you to determine onboard parallel port interrupt request (IRQ).

➢ The choice: IRQ5 and IRQ7.

These Serial Port1/Port2 and Parallel Port items appear when plug in COM Port card (Optional Device).

⚠️ These Serial Port1/Port2 and Parallel Port items appear when plug in COM Port card (Optional Device).

Power Management Configuration

You can use this screen to select options for the Power Management Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.

```
                    BIOS SETUP UTILITY
     Advanced

 Power Management Configuration                          Select the ACPI
 ─────────────────────────────────────                  state used for
 Suspend mode                    [S3 (STR)]              System Suspend.
 Repost Video on S3 Resume       [No]

 PowerOn Functions from S4/S5    [Enabled]
 Resume On LAN                   [Disabled]
 Resume On Ring                  [Disabled]
 Resume On RTC Alarm             [Disabled]
 Restore on AC Power Loss        [Power Off]


                                                         ←     Select Screen
                                                         ↑↓    Select Item
                                                         +-    Change Option
                                                         F1    General Help
                                                         F10   Save and Exit
                                                         ESC   Exit


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```
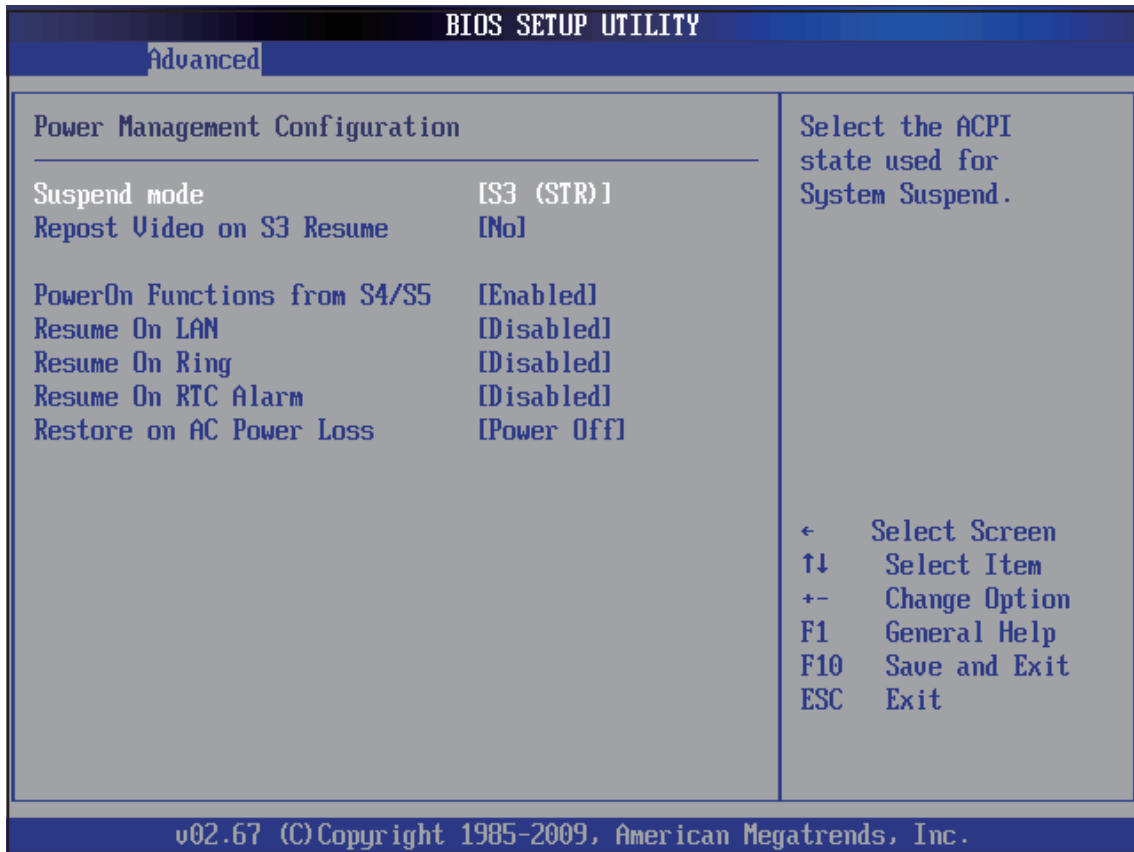
Suspend mode

Select the ACPI state used for System Suspend.

➢ The choice: S1 (POS), S3 (STR).

Repost Video on S3 Resume

Determines whether to invoke VGA BIOS POST on S3/STR resume.

➢ The choice: Yes, No.

PowerOn Functions From S4/S5

This item allows you to enable/disable the Power On Function From S4/S5 .

➢ The choice: Enabled, Disabled.

Resume On LAN

This item allows you to enable/disable the Resume On LAN .

➢ The choice: Enabled, Disabled.

Resume On Ring

This item allows you to enable/disable Resume On Ring.

➢ The choice: Enabled, Disabled.

Resume On RTC Alarm

This item allows you to set Resume On RTC Alarm.

➢ The choice: Enabled, Disabled.

RTC Alarm Pate (Days)

This item Selects the alarm Pate (day of the month).

➢ Key in: "+" or "-" to select.

System Time

Time (hh:mm:ss)Alarm.

This item Selects the alarm time.

➢ [hh]: Key in a DEC number: Min=0 ,Max=23.

➢ [mm/ss]: Key in a DEC number: Min=0 ,Max=59.

Restore on AC Power Loss

This item allows you to set Restore on AC Power Loss.

➢ The choice: Power Off , Power On.

Hardware Health Configuration

You can use this screen to select options for the Hardware Health Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.

```
                         BIOS SETUP UTILITY
        Advanced

 Hardware Health Configuration                    Fan confiruration
                                                  mode setting
 CPU Fan Speed Control        [ Smart Fan Mode]

 System Temperature           :25°C/77°F
 IOH Temperature              :61°C/141°F
 CPU Temperature              :36°C/96°F

 CPU Fan Speed                :N/A
 System Fan                   :4927 RPM

 CPU Core                     :1.236 V
 CPU VTT                      :1.176 V         ←     Select Screen
 DRAM                         :1.500 V         ↑↓    Select Item
 IOH                          :1.104 V         +-    Change Option
 ICH                          :1.500 V         F1    General Help
                                               F10   Save and Exit
                                               ESC   Exit



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```
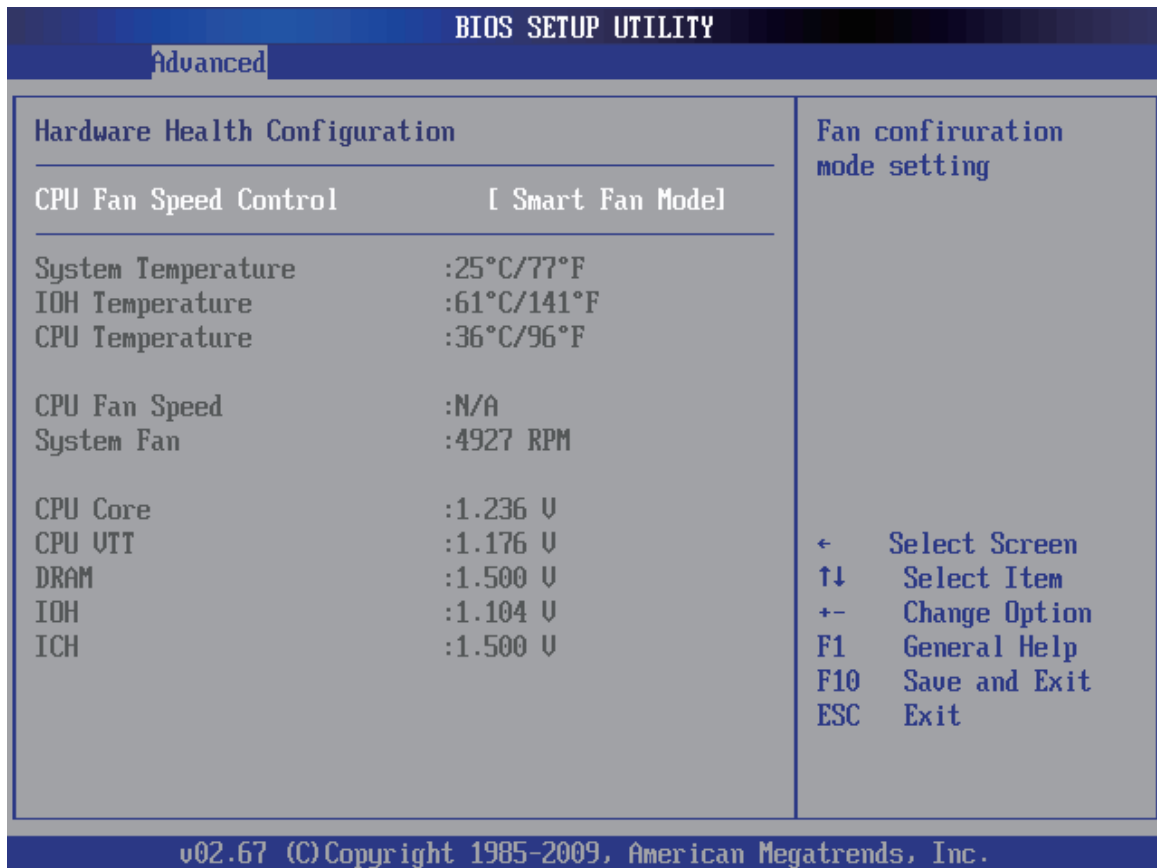
CPU Fan Speed Control

Here you can set the CPU Fan Speed.

➢ The choice: Smart Fan Mode, Ultra-Low Speed, Low Speed, Mid Speed, or Full Speed.

Frequency Voltage Configuration

You can use this screen to select options for the Frequency Voltage Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.

```
                    Advanced

 User Habit Function          [Enabled]        ▲   Allows User to Save
 ▶ User Habit Auto Set                             or Load Frequency/
 Spread Spectrum              [Enabled]            Voltage Functions
                                                   All set.

 ****** Main Over Clocking Set ******
 OC Function                  [Default]
 Intel(R) SpeedStep(tm) tech  [Enabled]
 DRAM Ratio                   [Auto]
 Selected DRAM Frequency:DDR3-1066

 ******** Memory Timing Set *********
 DRAM_tCL                     [Auto]
 DRAM_tRCD                    [Auto]            ←     Select Screen
 DRAM_tRP                     [Auto]            ↑↓    Select Item
 DRAM_tRAS                    [Auto]            Enter Go to Sub Screen
 DRAM_tRRD                    [Auto]            F1    General Help
 DRAM_tWR                     [Auto]            F10   Save and Exit
 DRAM_tWTR                    [Auto]            ESC   Exit
 DRAM_tRTP                    [Auto]
 DRAM_tRFC                    [Auto]            ▼

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```
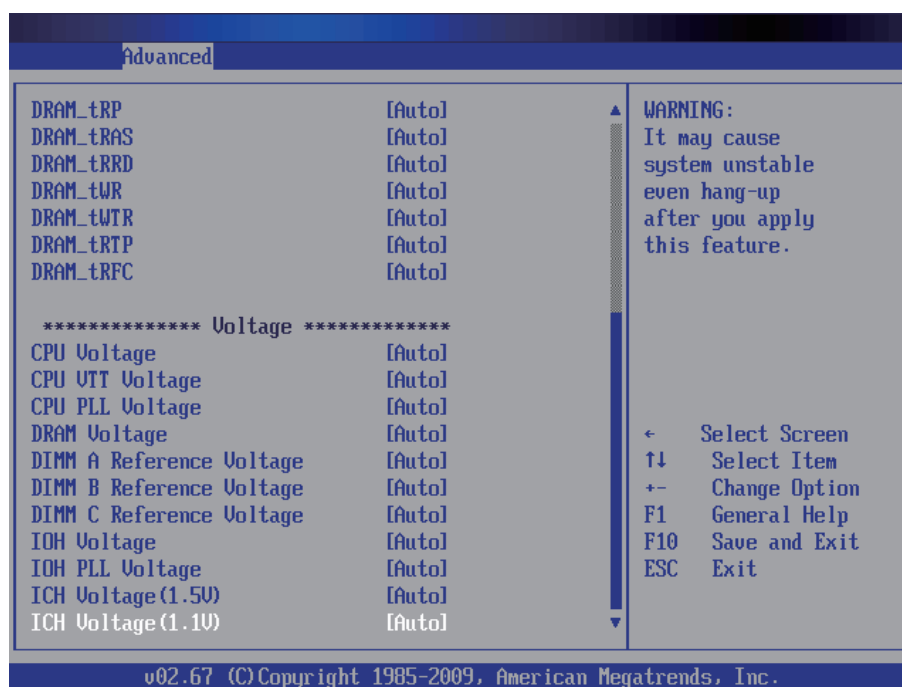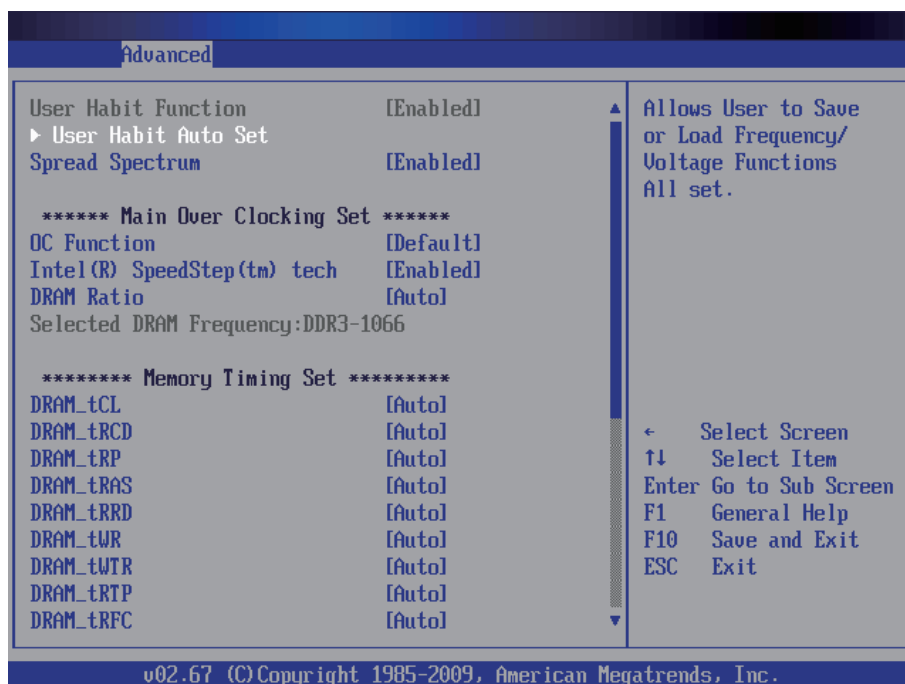
```
                    Advanced

 DRAM_tRP                     [Auto]           ▲   WARNING:
 DRAM_tRAS                    [Auto]               It may cause
 DRAM_tRRD                    [Auto]               system unstable
 DRAM_tWR                     [Auto]               even hang-up
 DRAM_tWTR                    [Auto]               after you apply
 DRAM_tRTP                    [Auto]               this feature.
 DRAM_tRFC                    [Auto]


 ************** Voltage **************
 CPU Voltage                  [Auto]
 CPU VTT Voltage              [Auto]
 CPU PLL Voltage              [Auto]
 DRAM Voltage                 [Auto]           ←     Select Screen
 DIMM A Reference Voltage     [Auto]           ↑↓    Select Item
 DIMM B Reference Voltage     [Auto]           +-    Change Option
 DIMM C Reference Voltage     [Auto]           F1    General Help
 IOH Voltage                  [Auto]           F10   Save and Exit
 IOH PLL Voltage              [Auto]           ESC   Exit
 ICH Voltage(1.5V)            [Auto]
 ICH Voltage(1.1V)            [Auto]           ▼

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```

User Habit Auto Set

Options are in its sub-menu.

Press ＜Enter＞ to enter the sub-menu of detailed options.

Spread Spectrum

This item allows you to set Spread Spectrum.

➤ The choice: Enabled, Disabled.

---- Main Over Clocking Set ----

OC Function

Intel XMP provides a simple and robust high performance profiles,

DDR3 based memory solution.

➤ The choice: Default, Manual, DOC or XMP.

eXtreme Memory Profile

➤ The choice: The choice: Disabled, Profile1 or Profile2

⚠️   If DRAM support, Profile1 and Profile2 appear.

CPU DOC Set

This item allows you to set CPU DOC Set.
➤The choice: 3%, 5%, 7%, 10%, 15% or 20% .

CPU DOC Sensitivity

This item allows user to adjust the sensitivity of DOC.
➤The choice: Low, Medium, High or Aggressive.

CPU Clock Ratio

This item allows the user to adjust CPU Clock Ratio.
➤The Choice: 12X～60X.

BCLK

This item allows the user to adjust Base Clock.
 Min: 100 Max: 250
➤Key in a DEC number: (Between Min and Max.)

DRAM Ratio

This item allows you to enable or disable the DRAM Clock Ratio.
➤The choice: Auto, 3, 4 , 5 or 6.

DRAM Frequency

This item Show DRAM frequency.

Uncore Clock Ratio

This item allows you to enable/disable Uncore Clock Ratio
➢The Choice: Auto, 6 ～ 15.

QPI Link Data Rate

This item allows you to enable/disable QPI Link Data Rate.
➢The choice: Auto, 4.800GT, 5.866GT, or 6.400GT.

PCIEX Clock Set

This item allows you to set PCIEX Clock Set.
➢The choice: 100MHz～150MHz.

---- Memory Tining Set ----

DRAM_tCL

This item allows you to set DRAM_tCL.
➢The choice: Auto,5, 6, 7, 8, 9 or 10.

DRAM_tRCD

This item allows you to set DRAM_tRCD.
➢The choice: Auto,5, 6, 7, 8, 9 or 10.

DRAM_tRP

This item allows you to set DRAM_tRP.
➢The choice: Auto,5, 6, 7, 8, 9 or 10.

DRAM_tRAS

This item allows you to set DRAM_tRAS.
➢The choice: Auto or 14 ～ 28.

DRAM_tRRD

This item allows you to set DRAM_tRRD.
➢The Choice: Auto,5～11.

DRAM_tWR

This item allows you to set DRAM_tWR.
➢The Choice: Auto, 3～15.

DRAM_tWTR

This item allows you to set DRAM_tWTR.

➢The Choice: Auto,4～15.

DRAM_tRTP

This item allows you to set DRAM_tRTP.

➢The Choice: Auto,4～13.

DRAM_tRFC

This item allows you to set DRAM_tRFC.

➢The Choice: Auto, 40, 41, 42, 43～100.

**************   Voltage   **************

> ⚠ Over voltage may destroy the devices like CPU, DRAM or Chipset!!

CPU Voltage

This item allows you to set CPU Voltage.

➢The choice: Auto,＋50mV～＋300mV.

CPU VTT Voltage

This item allows you to set CPU VTT Voltage.

➢The choice: Default ,＋50mV～＋300mV.

CPU PLL Voltage

This item allows you to set CPU PLL Voltage.

➢The Choice: Default ,1.850V～2.100V.

DRAM Voltage

This item allows you to set DRAM Voltage.

➢The choice:1.550V～1.800V.

DIMM A Reference Voltage

This item allows you to set DIMM A Reference Voltage.

➢The choice: -157.5mv～＋200mv.

DIMM B Reference Voltage

This item allows you to set DIMM B Reference Voltage.

➢The choice: -157.5mv～＋200mv.

DIMM C Reference Voltage

This item allows you to set DIMM C Reference Voltage.

➢The choice: -157.5mv～＋200mv.

IOH Voltage

This item allows you to set IOH PLL Voltage.

➢The choice: 1.150V～1.400V.

IOH PLL Voltage

This item allows you to set IOH Voltage .

➢The choice: Auto, 1.850V ～ 2.100V.

ICH Voltage (1.5V)

This item allows you to set ICH Voltage(1.5V) .

➢The choice: 1.550V～1.800V.

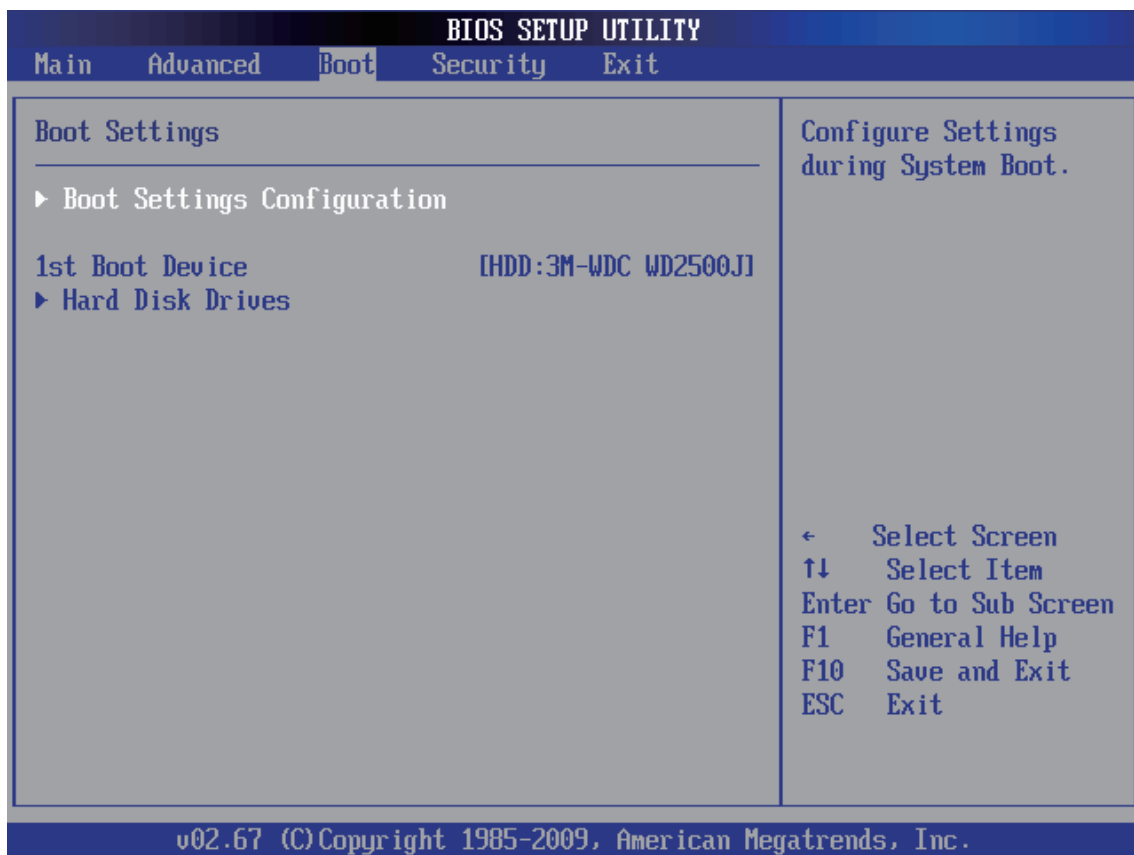ICH Voltage (1.1V)

This item allows you to set ICH Voltage(1.1V) .

➢The choice: 1.150V～1.400V.

✎ Boot

Select the Boot tab from the BIOS setup screen to enter the Boot BIOS Setup screen. You can select any of the items in the left frame of the screen, such as Boot Settings Configuration, to go to the sub menu for that item.
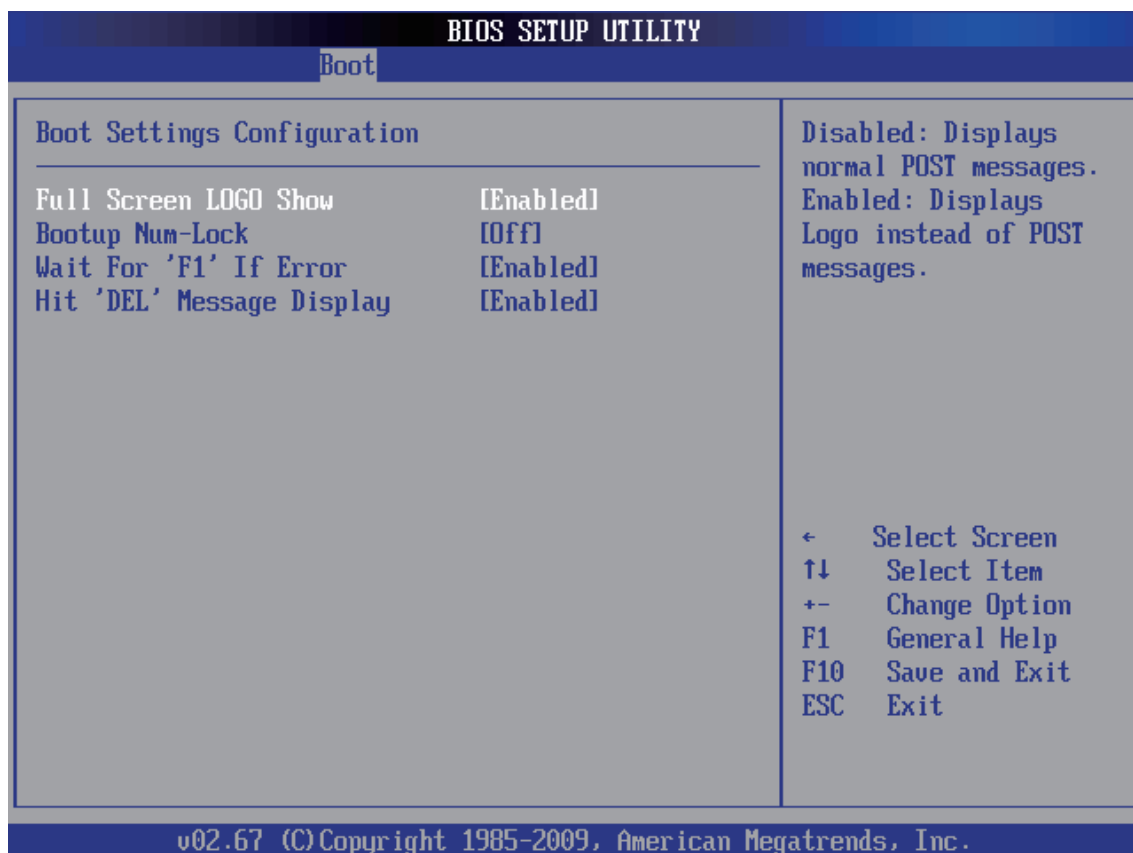
You can display an Boot BIOS Setup option by highlighting it using the <Arrow> keys. All Boot BIOS Setup options are described in this section.

The Boot BIOS Setup screen is shown below. The sub menus are described on the following pages.

```
                          BIOS SETUP UTILITY
  Main    Advanced    Boot    Security    Exit

  Boot Settings                                  Configure Settings
  ─────────────────────────────────             during System Boot.
  ▶ Boot Settings Configuration

  1st Boot Device            [HDD:3M-WDC WD2500J]
  ▶ Hard Disk Drives



                                                 ←     Select Screen
                                                 ↑↓    Select Item
                                                 Enter Go to Sub Screen
                                                 F1    General Help
                                                 F10   Save and Exit
                                                 ESC   Exit


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```

Boot Settings Configuration

You can use this screen to select options for the Boot Settings Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.

```
                    BIOS SETUP UTILITY
        Boot

Boot Settings Configuration                    Disabled: Displays
                                               normal POST messages.
Full Screen LOGO Show       [Enabled]          Enabled: Displays
Bootup Num-Lock             [Off]              Logo instead of POST
Wait For 'F1' If Error      [Enabled]          messages.
Hit 'DEL' Message Display   [Enabled]




                                               ←      Select Screen
                                               ↑↓     Select Item
                                               +-     Change Option
                                               F1     General Help
                                               F10    Save and Exit
                                               ESC    Exit


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```

Full Screen LOGO Show

This item allows you to enable/disable the Full Screen LOGO Show.
Disabled: Displays normal POST messages.
Enabled: Displays Logo instead of POST messages.

➢ The choice: Enabled, Disabled.

Boottup Nnum-Lock

Select Power-on state for Nnumlock.

➢ The choice: On or Off.

Wait For 'F1' If Error

This item allows you to enable or disable the Wait For 'F1' If Error.

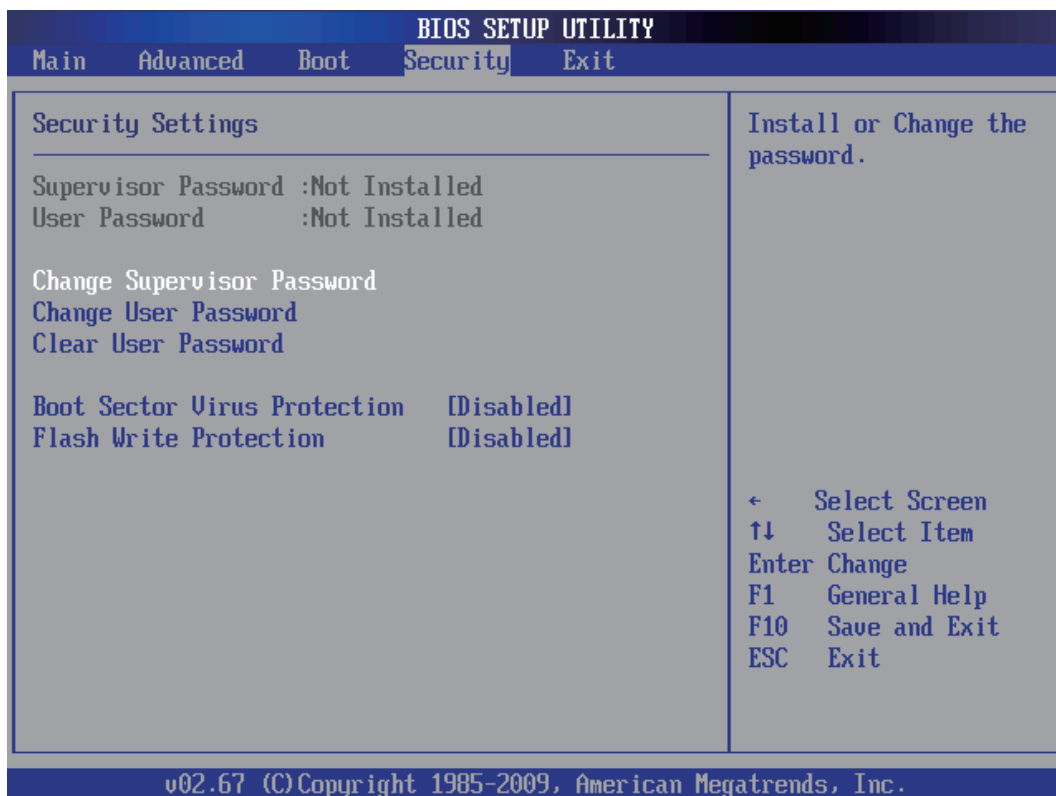➢ The choice: Enabled, Disabled.

Hit 'DEL' Message Display

This item allows you to enable or disable the Hit 'DEL' Message Display.

➢ The choice: Enabled, Disabled.

✎ Security

Select the Security tab from the BIOS setup screen to enter the Security BIOS Setup screen. You can display an Security BIOS Setup option by highlighting it using the <Arrow> keys. All Security BIOS Setup options are described in this section.

The Security Setup screen is shown below. The sub menus are documented on the following pages.

```
                          BIOS SETUP UTILITY
  Main    Advanced    Boot    Security    Exit

  Security Settings                              Install or Change the
  ─────────────────────────────────             password.
  Supervisor Password :Not Installed
  User Password       :Not Installed

  Change Supervisor Password
  Change User Password
  Clear User Password

  Boot Sector Virus Protection    [Disabled]
  Flash Write Protection          [Disabled]


                                               ←     Select Screen
                                               ↑↓     Select Item
                                               Enter  Change
                                               F1     General Help
                                               F10    Save and Exit
                                               ESC    Exit


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```

Supervisor Password

Indicates whether a supervisor password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

User Password

Indicates whether a user password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

Change Supervisor Password

Select Change Supervisor Password from the Security Setup menu and press <Enter>.

Enter New Password:

appears. Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears. The password is stored in NVRAM after BIOS completes.

Change User Password

Select Change User Password from the Security Setup menu and press <Enter>.

Enter New Password:

appears. Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears. The password is stored in NVRAM after BIOS completes.

Clear User Password

Select Clear User Password from the Security Setup menu and press <Enter>.

Clear New Password

[Ok] [Cancel]

appears. Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears. The password is stored in NVRAM after BIOS completes.

Boot Sector Virus Protection

This option is near the bottom of the Security Setup screen. The Optimal and Fail-Safe default setting is Disabled.

[Disabled] Set this value to prevent the Boot Sector Virus Protection. This is the default setting.

[Enabled] Select Enabled to enable boot sector protection. Bios displays a warning when any program (or virus) issues a Disk Format command or attempts to write to the boot sector of the hard disk drive. If enabled, the following appears when a write is attempted to the boot sector. You may have to type N several times to prevent the boot sector write.

Boot Sector Write!

Possible VIRUS: Continue (Y/N)? _

The following appears after any attempt to format any cylinder, head, or sector of any hard disk drive via the BIOS INT 13 Hard disk drive Service:

Format!!!

Possible VIRUS: Continue (Y/N)? _

➢ The choice: Enabled or Disabled.

Flash Write Protection

Choose [Enabled] to avoid virus destroy BIOS. If you want to flash BIOS, you must set it [Disabled].
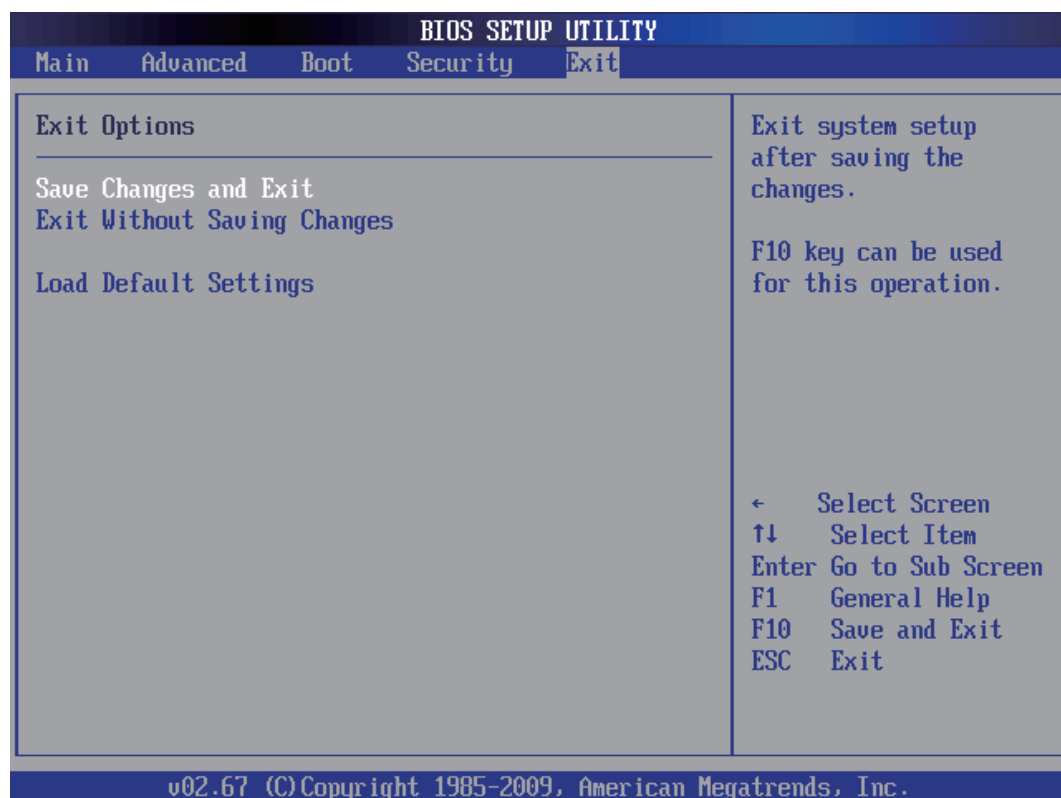
➢ The choice: Enabled or Disabled.

✎ Exit

Select the Exit tab from the BIOS setup screen to enter the Exit BIOS Setup screen.

You can display an Exit BIOS Setup option by highlighting it using the <Arrow> keys. All Exit BIOS Setup options are described in this section.

The Exit BIOS Setup screen is shown below.

```
                         BIOS SETUP UTILITY
  Main    Advanced    Boot    Security    Exit

  Exit Options                                  Exit system setup
                                                after saving the
  Save Changes and Exit                         changes.
  Exit Without Saving Changes
                                                F10 key can be used
  Load Default Settings                         for this operation.




                                                ←     Select Screen
                                                ↑↓    Select Item
                                                Enter Go to Sub Screen
                                                F1    General Help
                                                F10   Save and Exit
                                                ESC   Exit


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```

Save Changes and Exit

When you have completed the system configuration changes, select this option to leave BIOS Setup and reboot the computer so the new system configuration parameters can take effect.

Select "Save Changes and Exit" from the Exit menu and press <Enter>.

Save Configuration Changes and Exit Now?

[Ok] [Cancel]

appears in the window. Select Ok to save changes and exit.

Exit without Saving Changes

Select "Exit without Saving Changes" from the Exit menu and press <Enter>.

Select Ok to discard changes and Exit.

Load Optimal Defaults

BIOS automatically sets all BIOS Setup options to a complete set of default settings when you Select this option. The Optimal settings are designed for maximum system performance, but may not work best for all computer applications. In particular, do not use the Optimal BIOS Setup options if your computer is experiencing system configuration problems.

Select Load Optimal Defaults from the Exit menu and press <Enter>.

Select Ok to load optimal defaults.