

BIOS User Guide

H61MHV2

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BIOS Update

The BIOS can be updated using either of the following utilities:

- **BIOSTAR BIO-FLASHER:** Using this utility, the BIOS can be updated from a file on a hard disk, a USB drive (a flash drive or a USB hard drive), or a CD-ROM.
- **BIOSTAR BIOS Update Utility:** It enables automated updating while in the Windows environment. Using this utility, the BIOS can be updated from a file on a hard disk, a USB drive (a flash drive or a USB hard drive), or a CD-ROM, or from the file location on the Web.

BIOSTAR BIO-FLASHER

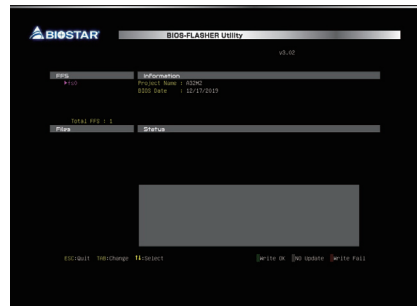
Note

- » This utility only allows storage device with FAT32/16 format and single partition.
- » Shutting down or resetting the system while updating the BIOS will lead to system boot failure.

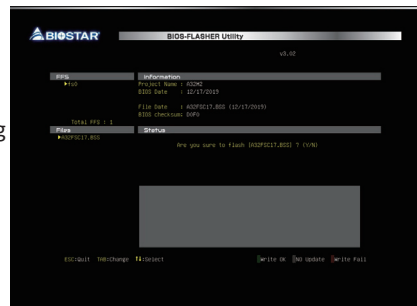
Updating BIOS with BIOSTAR BIO-FLASHER

1. Go to the website to download the latest BIOS file for the motherboard.
2. Then, copy and save the BIOS file into a USB flash (pen) drive. (Only supported FAT/FAT32 format)
3. Insert the USB pen drive that contains the BIOS file to the USB port.
4. Power on or reset the computer and then press <F12> during the POST process.

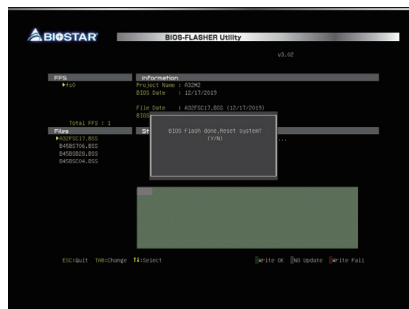
5. After entering the POST screen, the BIOS-FLASHER utility pops out. Choose <fs0> to search for the BIOS file.



6. Select the proper BIOS file, and a message asking if you are sure to flash the BIOS file. Click “Yes” to start updating BIOS.



7. A dialog pops out after BIOS flash is completed, asking you to restart the system. Press the <Y> key to restart system.



8. While the system boots up and the full screen logo shows up, press key to enter BIOS setup.

After entering the BIOS setup, please go to the <Save & Exit>, using the <Restore Defaults> function to load Optimized Defaults, and select <Save Changes and Reset> to restart the computer. Then the BIOS Update is completed.

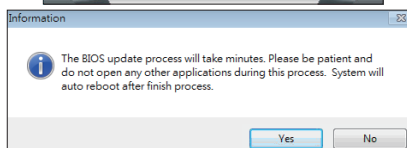
BIOS Update Utility (through the Internet)

1. Installing BIOS Update Utility from the DVD Driver.
2. Please make sure the system is connected to the internet before using this function.

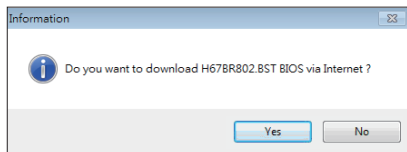
3. Launch BIOS Update Utility and click the "Online Update" button on the main screen.



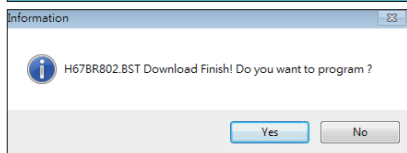
4. An open dialog will show up to request your agreement to start the BIOS update. Click "Yes" to start the online update procedure.



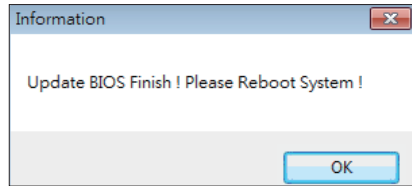
5. If there is a new BIOS version, the utility will ask you to download it. Click "Yes" to proceed.



6. After the download is completed, you will be asked to program (update) the BIOS or not. Click "Yes" to proceed.



7. After the updating process is finished, you will be asked you to reboot the system. Click “OK” to reboot.



8. While the system boots up and the full screen logo shows up, press key to enter BIOS setup.

After entering the BIOS setup, please go to the <Save & Exit>, using the <Restore Defaults> function to load Optimized Defaults, and select <Save Changes> and <Reset> to restart the computer. Then, the BIOS Update is completed.

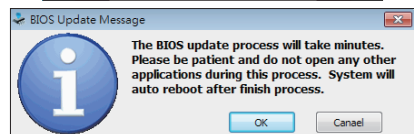
BIOS Update Utility (through a BIOS file)

1. Installing BIOS Update Utility from the DVD Driver.
2. Download the proper BIOS from <http://www.biostar.com.tw/>

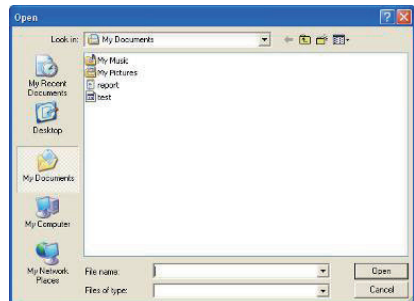
3. Launch BIOS Update Utility and click the “Update BIOS” button on the main screen.



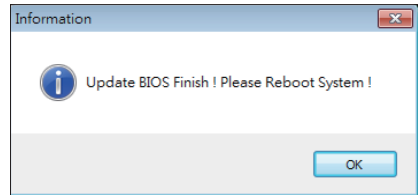
4. A warning message will show up to request your agreement to start the BIOS update. Click “OK” to start the update procedure.



5. Choose the location for your BIOS file in the system. Please select the proper BIOS file, and then click on “Open”. It will take several minutes, please be patient.



6. After the BIOS Update process is finished, click on “OK” to reboot the system.

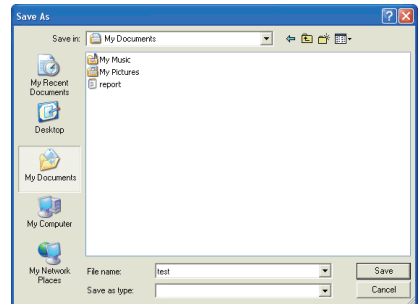


7. While the system boots up and the full screen logo shows up, press key to enter BIOS setup.

After entering the BIOS setup, please go to the <Save & Exit>, using the <Restore Defaults> function to load Optimized Defaults, and select <Save Changes and Reset> to restart the computer. Then, the BIOS Update is completed.

Backup BIOS

Click the Backup BIOS button on the main screen for the backup of BIOS, and select a proper location for your backup BIOS file in the system, and click “Save”.



UEFI BIOS Setup

Introduction

The purpose of this manual is to describe the settings in the AMI UEFI BIOS Setup program on this motherboard. The Setup program allows users to modify the basic system configuration and save these settings to NVRAM.

UEFI BIOS determines what a computer can do without accessing programs from a disk. This system controls most of the input and output devices such as keyboard, mouse, serial ports and disk drives. BIOS activates at the first stage of the booting process, loading and executing the operating system. Some additional features, such as virus and password protection or chipset fine-tuning options are also included in UEFI BIOS.

The rest of this manual will to guide you through the options and settings in UEFI BIOS Setup.

Plug and Play Support

This AMI UEFI BIOS supports the Plug and Play Version 1.0A specification.

EPA Green PC Support

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

ACPI Support

AMI ACPI UEFI BIOS support Version 1.0/2.0 of Advanced Configuration and Power interface specification (ACPI). It provides ASL code for power management and device configuration capabilities as defined in the ACPI specification, developed by Microsoft, Intel and Toshiba.

PCI Bus Support

This AMI UEFI BIOS also supports Version 2.3 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

Using Setup

When starting up the computer, press during the **Power-On Self-Test (POST)** to enter the UEFI BIOS setup utility.

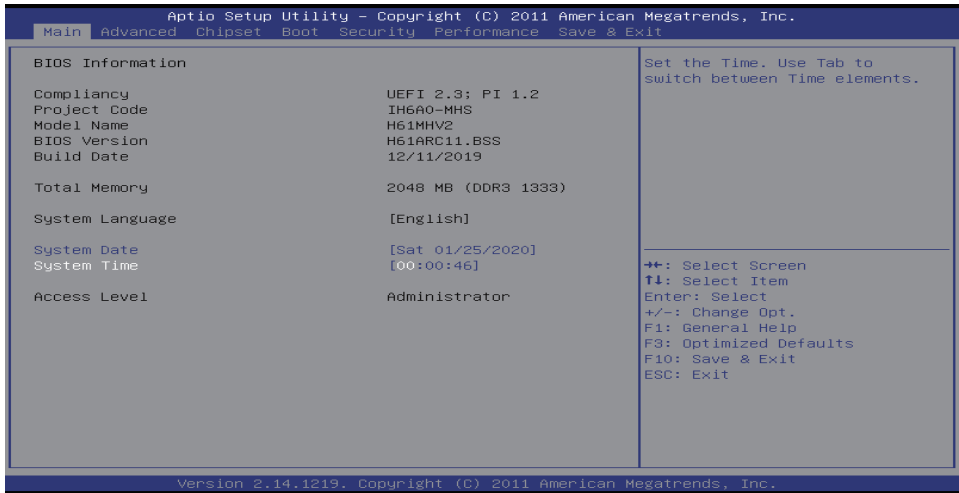
In the UEFI BIOS setup utility, you will see **General Help** description at the top right corner, and this is providing a brief description of the selected item. **Navigation Keys** for that particular menu are at the bottom right corner, and you can use these keys to select item and change the settings.

Note

- » *The default UEFI BIOS settings apply for most conditions to ensure optimum performance of the motherboard. If the system becomes unstable after changing any settings, please load the default settings to ensure system's compatibility and stability. Use Load Setup Default under the Exit Menu.*
 - » *For better system performance, the UEFI BIOS firmware is being continuously updated. The UEFI BIOS information described in this manual is for your reference only. The actual UEFI BIOS information and settings on board may be slightly different from this manual.*
 - » *The content of this manual is subject to be changed without notice. We will not be responsible for any mistakes found in this user's manual and any system damage that may be caused by wrong-settings.*
-

1. Main Menu

Once you enter AMI UEFI BIOS Setup Utility, the Main Menu will appear on the screen providing an overview of the basic system information.



BIOS Information

It shows system information including UEFI BIOS version, Project Code, Model Name, Build Date and etc.

Total Memory

Shows system memory size, VGA shard memory will be excluded.

System Language

Choose the system default language.

System Date

Set the system date. Note that the 'Day' automatically changes when you set the date.

System Time

Set the system internal clock.

Access Level

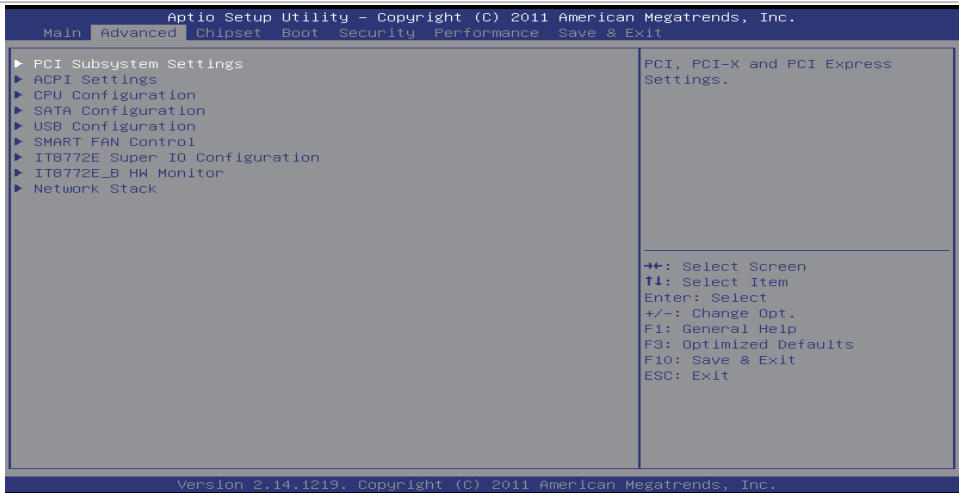
Shows the access level of current user.

2. Advanced Menu

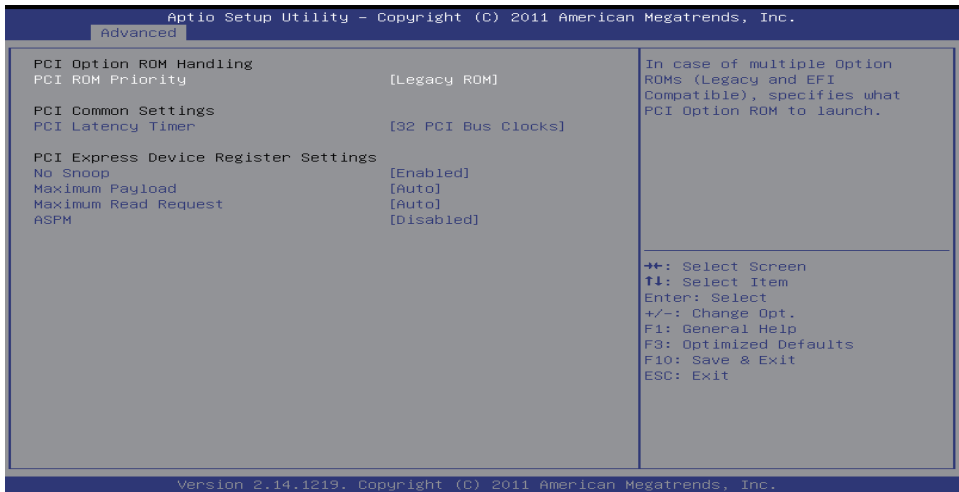
The Advanced Menu allows you to configure the settings of CPU, Super I/O, Power Management, and other system devices.

Note

» Beware of that setting inappropriate values in items of this menu may cause system to malfunction.



PCI Subsystem Settings



PCI ROM Priority

In case of multiple option ROMs (Legacy and EFI Compatible), specifies what PCI option to launch.
Options: Legacy ROM (Default) / EFI Compatible ROM

PCI Latency Timer

This item value to be programmed into PCI Latency Timer Register.

Options: 32 PCI Bus Clocks (Default) / 64 PCI Bus Clocks / 96 PCI Bus Clocks / 128 PCI Bus Clocks / 160 PCI Bus Clocks / 192 PCI Bus Clocks / 224 PCI Bus Clocks / 248 PCI Bus Clocks

No Snoop

This item enables or disables PCI Express Device No Snoop option.

Options: Enabled (Default) / Disabled

Maximum Payload

This item allows you to set Maximum Payload of PCI Express Device or allow system BIOS to select the value.

Options: Auto (Default) / 128 Bytes / 256 Bytes / 512 Bytes / 1024 Bytes / 2048 Bytes / 4096 Bytes

Maximum Read Request

This item allows you to set Maximum Read Request Size of PCI Express Device or allow System BIOS to select the value.

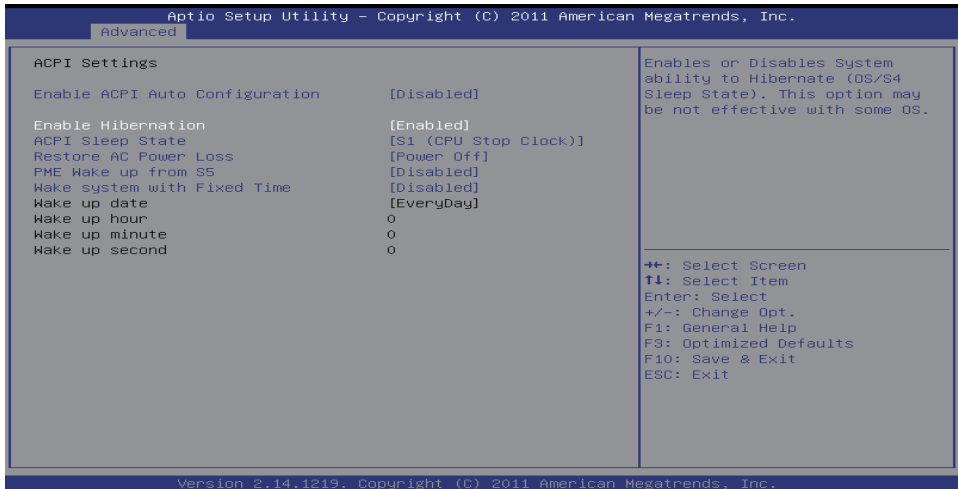
Options: Auto (Default) / 128 Bytes / 256 Bytes / 512 Bytes / 1024 Bytes / 2048 Bytes / 4096 Bytes

ASPM

This item PCI Express Active State Power Management settings.

Options: Disabled (Default) / Auto / Force L0s

ACPI Settings



Enable ACPI Auto Configuration

The item enables or disables BIOS ACPI Auto Configuration.

Options: Disabled (Default) / Enabled

Enable Hibernation

The item enables or disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.

Options: Enabled (Default) / Disabled

ACPI Sleep State

This item select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.

Options: S1 (CPU Stop Clock) (Default) / Suspend Disabled

Restore AC Power Loss

The item specify what state to go to when power is re-applied after a power failure.

Options: Power Off (Default) / Power On / Last State

PME Wake up from S5

The item enables the system to wake from S5 using PME event.

Options: Disabled (Default) / Enabled

Wake system with Fixed Time

This item enables or disables the system to wake on by alarm event. When this item is enabled, the system will wake on the hr::min::sec specified.

Options: Disabled (Default) / Enabled

Wake up date

You can choose which date the system will boot up.

Wake up hour / Wake up minute / Wake up second

You can choose the system boot up time, input hour, minute and second to specify.

CPU Configuration

This item shows CPU Information.

```

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
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Advanced

CPU Configuration
-----
Intel(R) Core(TM) i5-2500T CPU @ 2.30GHz
CPU Signature                206a7
Microcode Patch              26
CPU Speed                    2300 MHz
Processor Cores               4
Intel HT Technology           Not Supported
Intel VT-x Technology         Supported
L1 Data Cache                 32 kB x 4
L1 Code Cache                 32 kB x 4
L2 Cache                      256 kB x 4
L3 Cache                      6144 kB

Active Processor Cores        [All]
Limit CPUID Maximum           [Disabled]
Execute Disable Bit           [Enabled]
Intel Virtualization Technology [Disabled]
Hardware Prefetcher           [Enabled]
Adjacent Cache Line Prefetch  [Enabled]
CPU C3 Report                 [Enabled]
CPU C6 report                  [Enabled]

Number of cores to enable in
each processor package.

+-: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F3: Optimized Defaults
F10: Save & Exit
ESC: Exit

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Active Processor Cores

This item number of cores to enable in each processor package.

Options: A11 (Default)

Limit CPUID Maximum

This item enables or disables for windows XP.

Options: Disabled (Default) / Enabled

Execute Disable Bit

This item enables or disables XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3.)

Options: Enabled (Default) / Disabled

Intel Virtualization Technology

This item enables or disables a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Options: Disabled (Default) / Enabled

Hardware Prefetcher

This item enables or disables to turn on/off the Mid Level Cache (L2) streamer prefetcher.

Options: Enabled (Default) / Disabled

Adjacent Cache Line Prefetch

This item enables or disables to turn on/off prefetching of adjacent cache lines.

Options: Enabled (Default) / Disabled

CPU C3 Report

This item enables or disables CPU C3 (ACPI C2) report to OS.

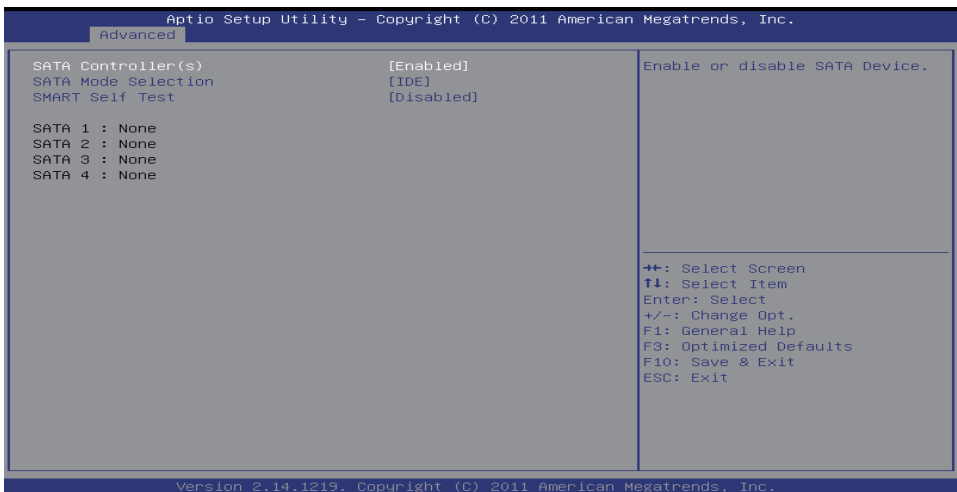
Options: Enabled (Default) / Disabled

CPU C6 Report

This item enables or disables CPU C6 (ACPI C3) report to OS.

Options: Enabled (Default) / Disabled

SATA Configuration



SATA Controller(s)

This item enables or disables Serial ATA Device.

Options: Enabled (Default) / Disabled

SATA Mode Selection

This item determines how SATA controller(s) operate.

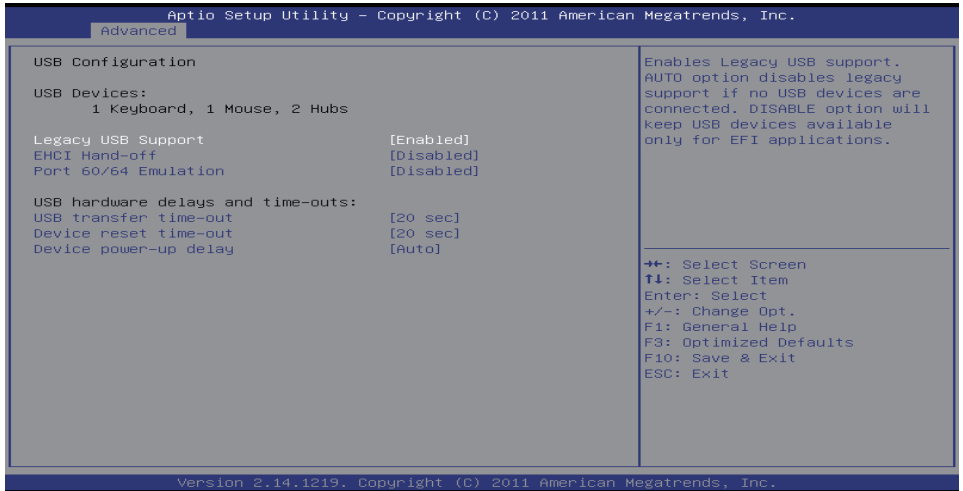
Options: IDE (Default) / AHCI

SMART Self Test

This item run SMART Self Test on all HDDs during POST.

Options: Disabled (Default) / Enabled

USB Configuration



Legacy USB Support

The item enables or disables Legacy USB Support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.

Options: Enabled (Default) / Disabled / Auto

EHCI Hand-off

This is a workaround for OSES without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.

Options: Disabled (Default) / Enabled

Port 60/64 Emulation

The item enable or disable Port 60/64 Emulation. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSES.

Options: Disabled (Default) / Enabled

USB transfer time-out

The time-out value for Control, Bulk, and Interrupt transfers.

Options: 20 sec (Default) / 1 sec / 5 sec / 10 sec

Device reset time-out

The item sets USB mass storage device Start Unit command time-out.

Options: 20 sec (Default) / 10 sec / 30 sec / 40 sec

Device power-up delay

Maximum time the device will take before it properly reports itself to the Host Controller. "Auto" uses default value: for a Root port it is 100ms, for a Hub port the delay is taken from Hub descriptor.

Options: Auto (Default) / Manual

Note

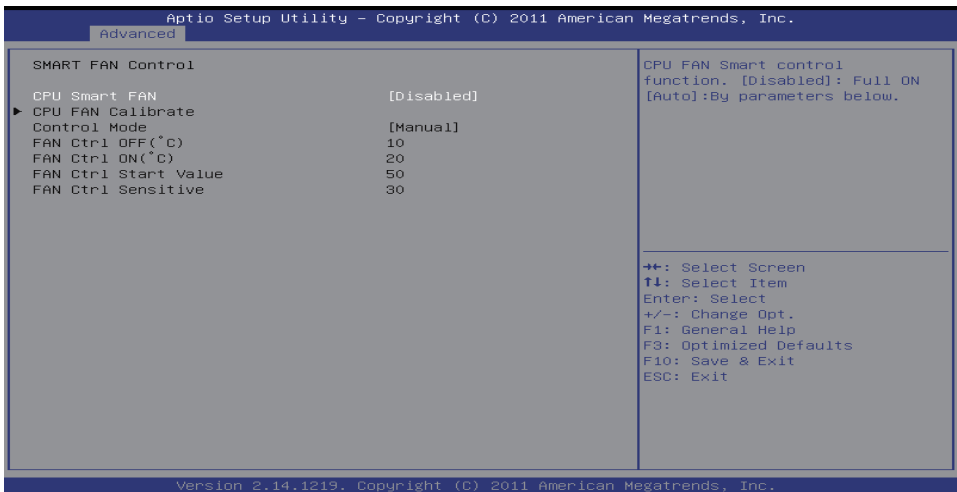
» The following items appear only when you set the Device power-up delay function to [Manual].

Device power-up delay in seconds

Delay range is 1 ~ 40 seconds, in one second increments.

Options: 5 (Default)

Smart Fan Control



CPU Smart Fan

This item allows you to control the CPU Fan Smart function.

Options: Disabled (Default) / Auto

Note

» The following items appear only when you set the Smart Fan function to [Auto].

CPU Fan Calibrate

Press [ENTER] to calibrate CPU Fan speed.

Control Mode

This item provides several operation modes of the fan.

Options: Manual / Quiet / Aggressive

Fan Ctrl OFF(°C)

When CPU temperature is lower than this value, the CPU fan will keep lowest RPM.

Options: 10 (°C) (default)

Fan Ctrl On(°C)

When CPU temperature is higher than this value, the CPU fan controller will turn on.

Options: 20 (°C) (Default)

Fan Ctrl Start Value

This item sets CPU FAN Start Speed Value.

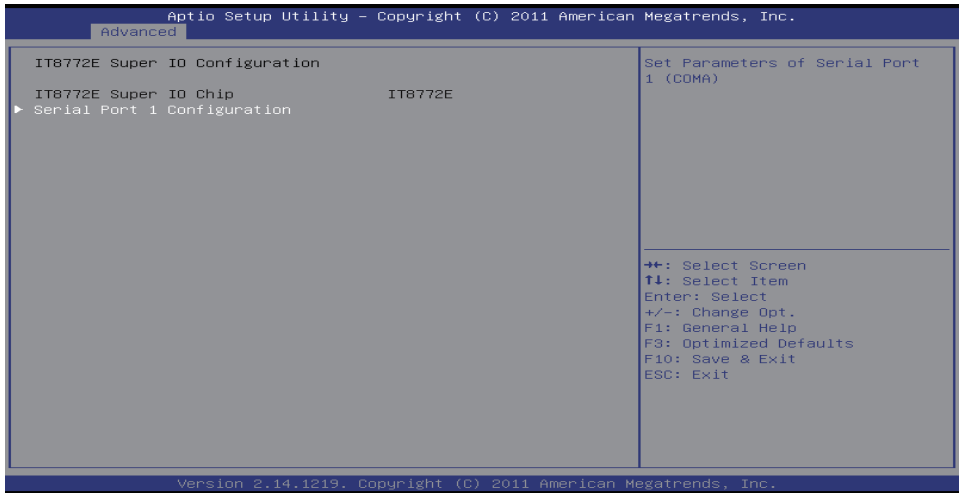
Options: 50 (Default)

Fan Ctrl Sensitive

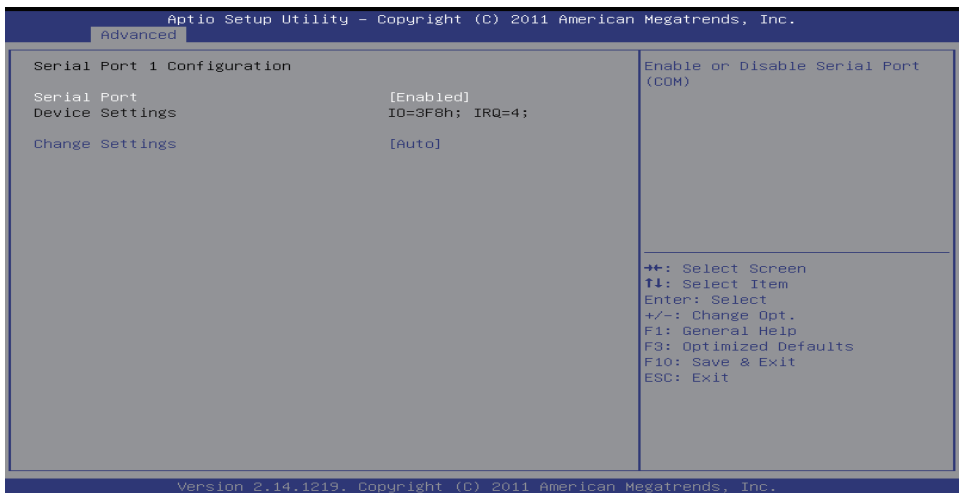
The number is bigger, the Fan speed is higher.

Options: 30 (Default)

Super IO Configuration



Serial Port 1 Configuration



Serial Port

This item enabled or Disabled Serial Port (COM).

Options: Enabled (Default) / Disabled

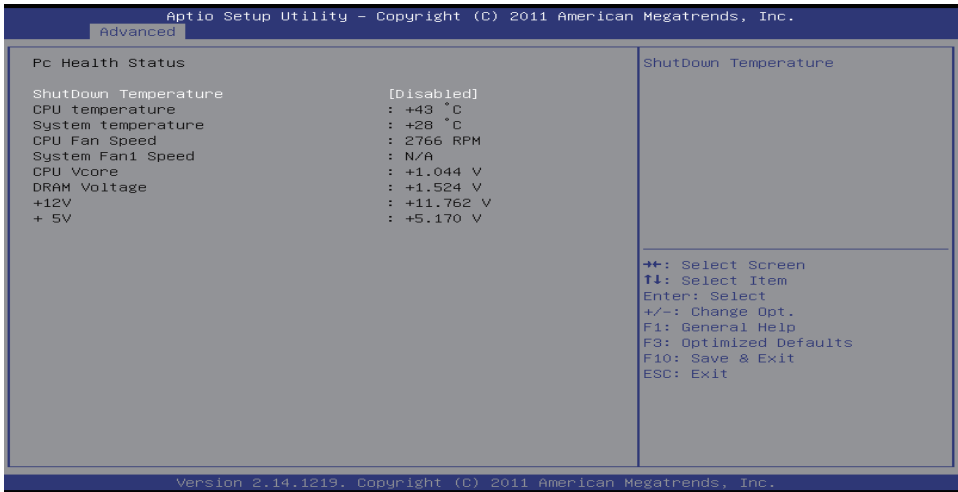
Change Settings

This item select an optimal settings for Super IO Device.

Options: Auto (Default) / IO=3F8h; IRQ=4 / IO=3F8h; IRQ=3,4,5,6,7,10,11,12 / IO=2F8h;

IRQ=3,4,5,6,7,10,11,12 / IO=3E8h; IRQ=3,4,5,6,7,10,11,12 / IO=2E8h; IRQ=3,4,5,6,7,10,11,12

H/W Monitor

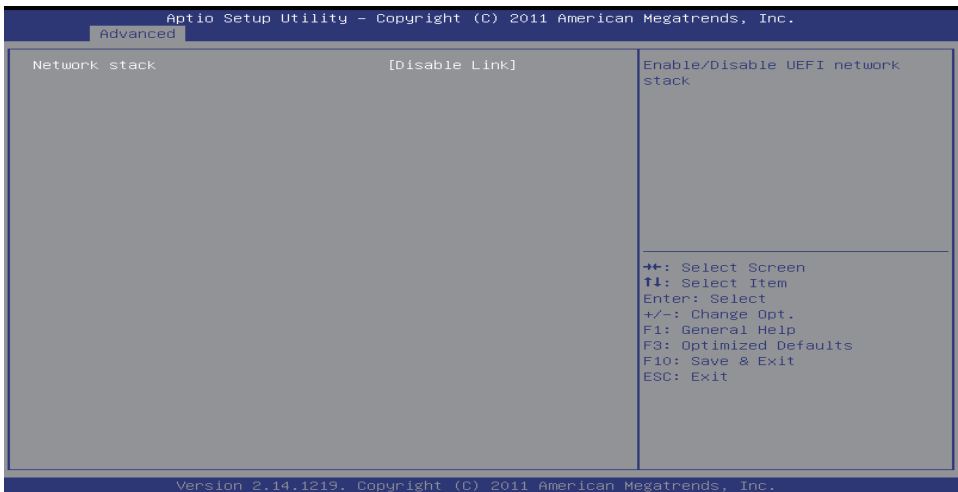


Shutdown Temperature

This item allows you to set up the CPU shutdown Temperature.

Options: Disabled (Default) / 70°C/158°F / 75°C/167°F / 80°C/176°F / 85°C/185°F / 90°C/194°F

Network Stack Configuration



Network Stack

This item enables or disables UEFI network stack.

Options: Disabled Link (Default) / Enabled

Note

» *The following items appear only when you set the Network Stack function to [Enabled]*

IPv4 PXE Support

This item enables or disables IPv4 PXE Boot Support. If disabled IPv4 PXE boot option will not be created.

Options: Enabled (Default) / Disabled Link

IPv6 PXE Support

This item enables or disables IPv6 PXE Boot Support. If disabled IPv6 PXE boot option will not be created.

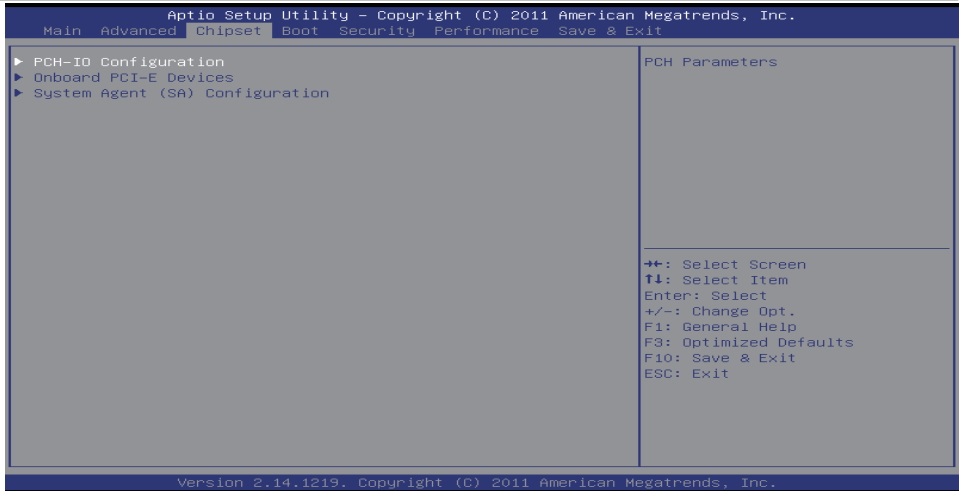
Options: Enabled (Default) / Disabled Link

3. Chipset Menu

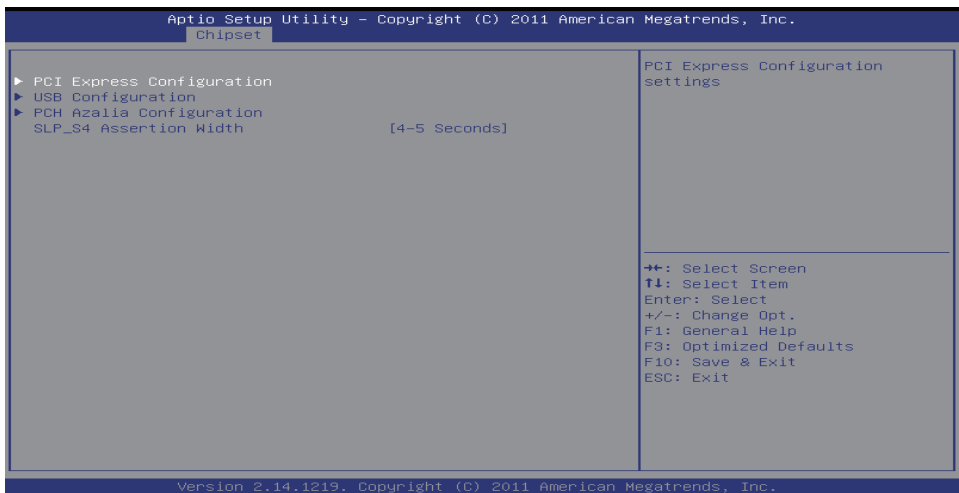
This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components.

» Note

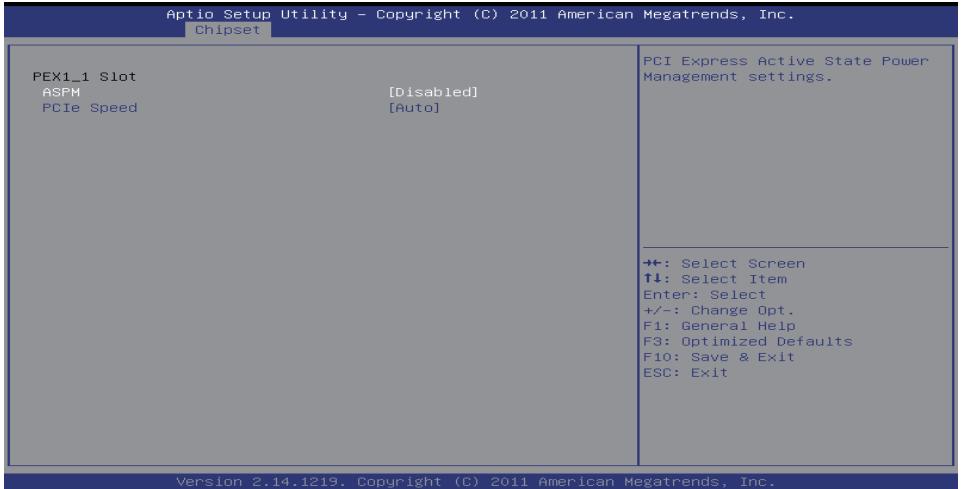
» *Beware of that setting inappropriate values in items of this menu may cause system to malfunction.*



PCH-IO Configuration



PCI Express Configuration



ASPM

This item PCI Express Active State Power Management settings.

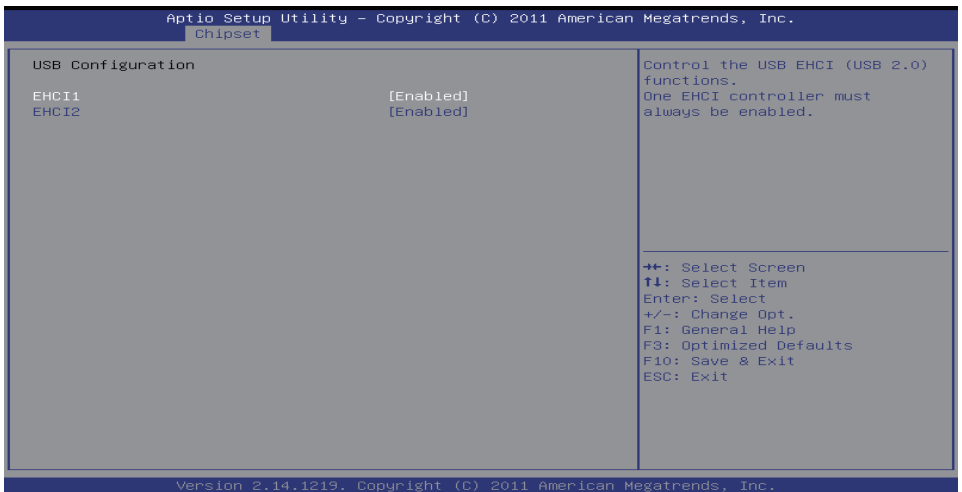
Options: Disabled (Default) / L0s / L1 / L0sL1 / Auto

PCIe Speed

This item allows you to select PCI Express port speed.

Options: Auto (Default) / Gen1 / Gen2

USB Configuration

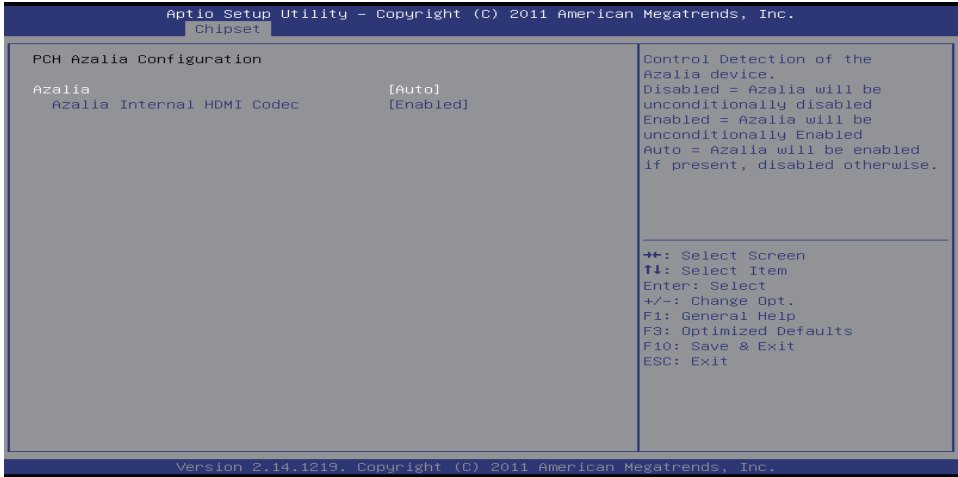


EHCI1 /2

This item enables or disables control the USB EHCI (USB2.0) functions. One EHCI controller must always be enabled.

Options: Enabled (Default) / Disabled

PCH Azalia Configuration



Azalia

This item control detection of the Azalia device. Disabled = Azalia will be unconditionally disabled Enabled = Azalia will be unconditionally Enabled Auto = Azalia will be enabled if present, disabled otherwise.

Options: Auto (Default) / Disabled / Enabled

Azalia Internal HDMI Codec

This item enables or disables internal HDMI codec for Azalia.

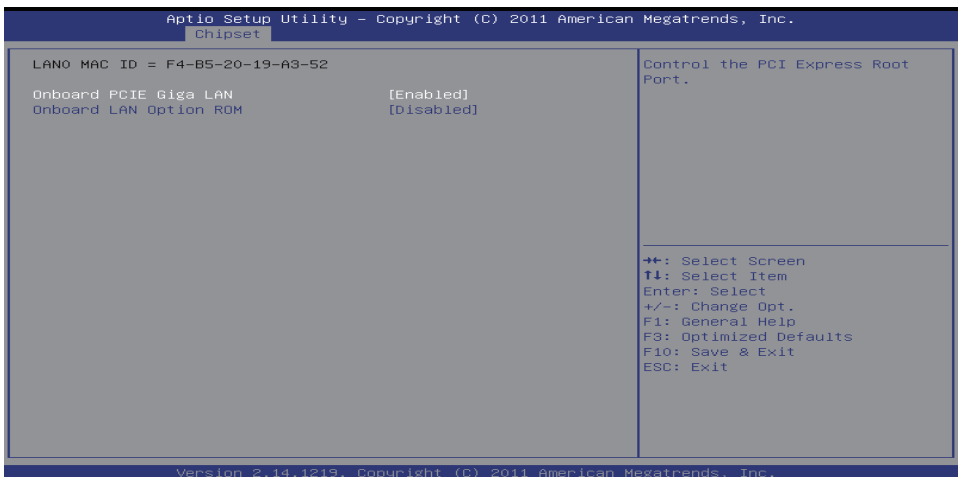
Options: Enabled (Default) / Disabled

SLP_S4 Assertion Width

This item allows you to select a minimum assertion width of the SLP_S4# signal.

Options: 4-5 Seconds (Default) / Disabled / 1-2 Seconds / 2-3 Seconds / 3-4 Seconds

Onboard PCI-E Devices



Onboard PCIE Giga LAN

This item allows you to control the PCI Express Root Port.

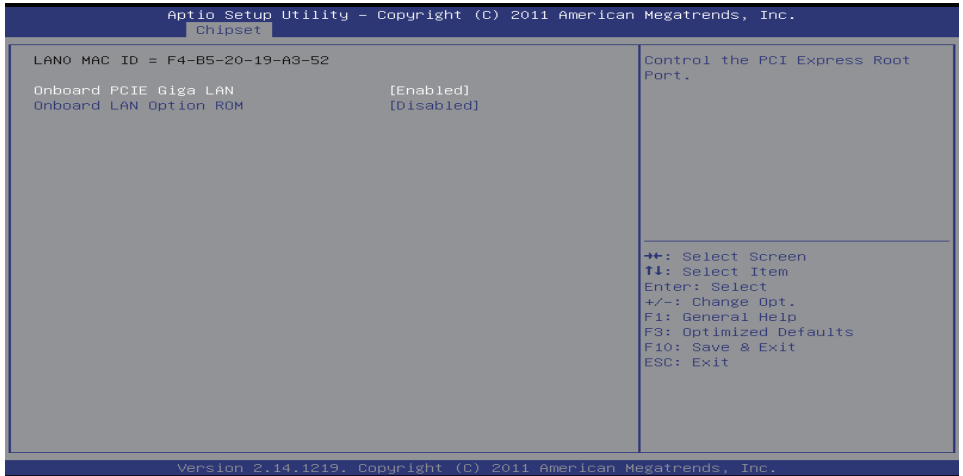
Options: Enabled (Default) / Disabled

Onboard LAN Option ROM

This item enables or disables Onboard LAN Option ROM.

Options: Disabled (Default) / Enabled

System Agent (SA) Configuration

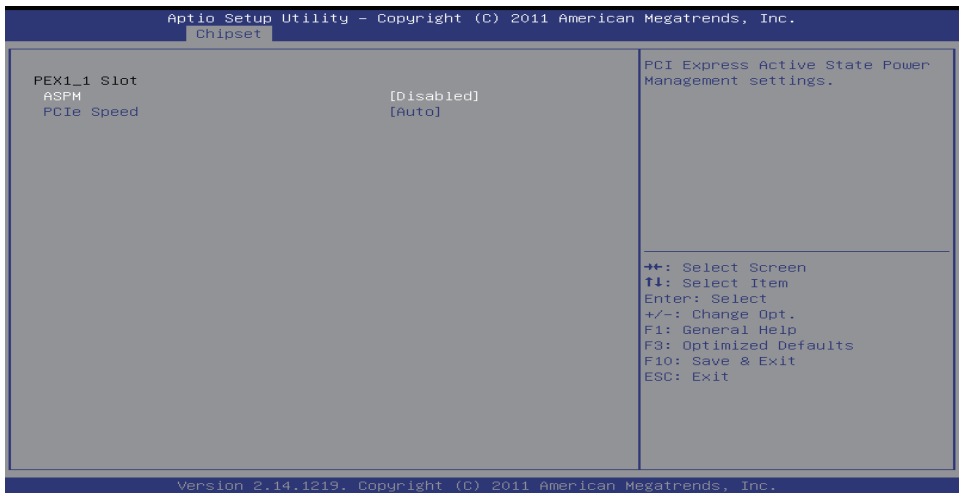


VT-d

This item check to enable VT-d function on MCH.

Options: Disabled (Default) / Enabled

Graphics Configuration



Primary Display

This item allows you to select which of IGFX/PEG Graphics device should be Primary Display or select SG for switchable Gfx.

Options: Auto (Default) / IGFX / PEG

Internal Graphics

This item keeps IGFX enabled based on the setup options.

Options: Auto (Default) / Disabled / Enabled

GTT Size

This item selects GTT Size.

Options: 2MB (Default) / 1MB

Aperture Size

This item selects Aperture Size.

Options: 256MB (Default) / 128MB / 512MB

DVMT Pre-Allocated

This item selects DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.

Options: 32M (Default) / 64M / 96M / 128M / 160M / 192M / 224M / 256M / 288M / 320M / 352M / 384M / 416M / 448M / 480M / 512M / 1024M

DVMT Total Gfx Mem

This item selects DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.

Options: MAX (Default) / 128M / 256M

RC6 (Render Standby)

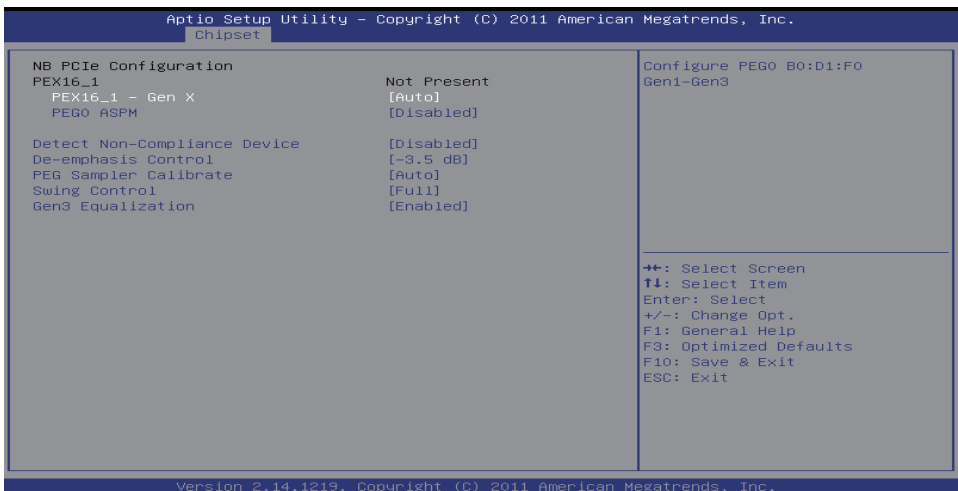
This item selects DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.

Options: MAX (Default) / 128M / 256M

RC6+ (Deep RC6)

This item selects DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.

Options: Enabled (Default) / Disabled

NB PCIe Configuration

PEX16_1-Gen X

This item configure PEG0 B0:D1:F0 Gen1-Gen3.

Options: Auto (Default) / Gen1 / Gen2 / Gen3

PEG0 ASPM

This item control ASPM support for the PEG: Device 1 Function 0. This has no effect if PEG is not the currently active device.

Options: Disabled (Default) / Auto / ASPM L0s / ASPM L1 / ASPM L0sL1

Detect Non-Compliance Device

This item detect Non-Compliance PCI Express Device in PEG.

Options: Disabled (Default) / Enabled

De-emphasis Control

This item detect Non-Compliance PCI Express Device in PEG.

Options: -3.5 dB (Default) / -6 dB

PEG Sampler Calibrate

This item enables or disables PEG Sampler Calibrate Auto means Disabled for SNB MB/DT, Enabled for IVB A0 B0.

Options: Auto (Default) / Enabled / Disabled

Swing Control

This item perform PEG Swing Control, on IVB C0 and Later.

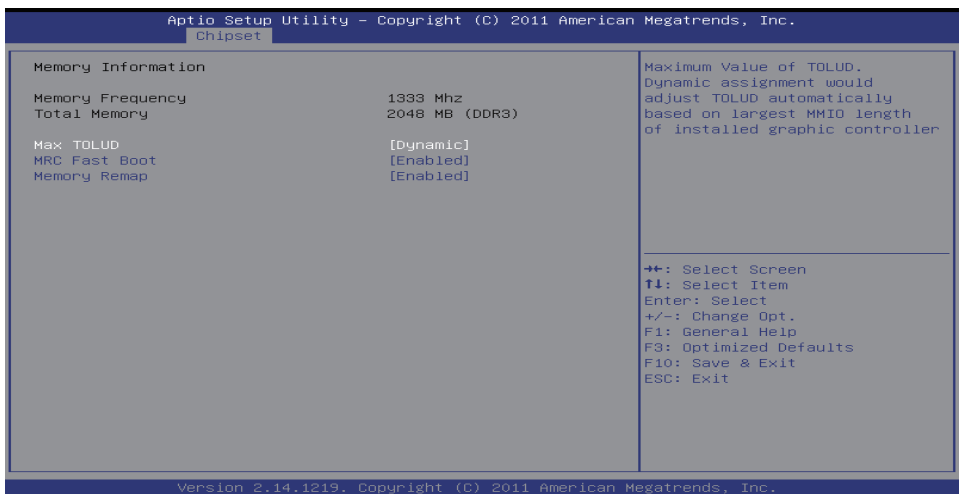
Options: Full (Default) / Reduced / Half

Gen3 Equalization

This item perform PEG Gen3 Equalization steps.

Options: Enabled (Default) / Disabled

Memory Configuration



Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Chipset

Memory Information	
Memory Frequency	1333 Mhz
Total Memory	2048 MB (DDR3)
Max TOLUD	[Dynamic]
MRC Fast Boot	[Enabled]
Memory Remap	[Enabled]

Maximum Value of TOLUD. Dynamic assignment would adjust TOLUD automatically based on largest MMIO length of installed graphic controller

+/-: Select Screen
 ↑↓: Select Item
 Enter: Select
 +/-: Change Opt.
 F1: General Help
 F3: Optimized Defaults
 F10: Save & Exit
 ESC: Exit

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Max TOLUD

This item Maximum Value of TOLUD. Dynamic assignment would adjust TOLUD automatically based on largest MMIO length of installed graphic controller.

Options: Dynamic (Default) / 1 GB / 1.25GB / 1.5GB / 1.75GB / 2GB / 2.25GB / 2.5GB / 2.75GB / 3GB / 3.25GB

MRC Fast Boot

This item enables or disables MRC fast boot.

Options: Enabled (Default) / Disabled

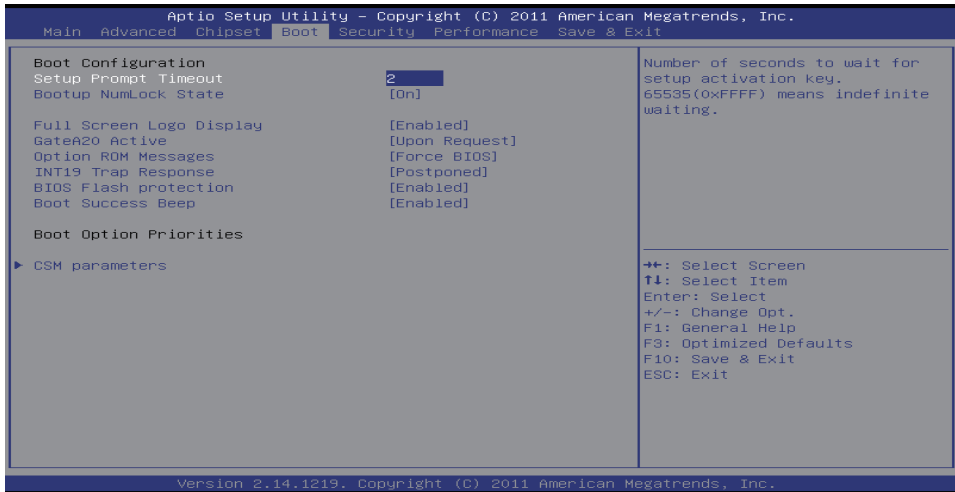
Memory Remap

This item enables or disables memory remap above 4G.

Options: Enabled (Default) / Disabled

4. Boot Menu

This menu allows you to setup the system boot options.



Setup Prompt Timeout

This item sets number of seconds to wait for setup activation key.

Options: 2 (Default)

Bootup NumLock State

This item selects the keyboard NumLock state.

Options: On (Default) / Off

Full Screen Logo Display

This item enables or disables Full Screen Logo Show function.

Options: Enabled (Default) / Disabled

GateA20 Active

Upon Request – GA20 can be disabled using BIOS services. Always – do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.

Options: Upon Request (Default) / Always

Option ROM Messages

This item sets the display mode for Option ROM.

Options: Force BIOS (Default) / Keep Current

INT19 Trap Response

This item BIOS reaction on INT19 trapping by Option ROM: IMMEDIATE - execute the trap right away; POSTPONED - execute the trap during legacy boot.

Options: Postponed (Default) / Immediate

Boot Flash protection

While enabled, it can't flash write and flash erase by SMI.

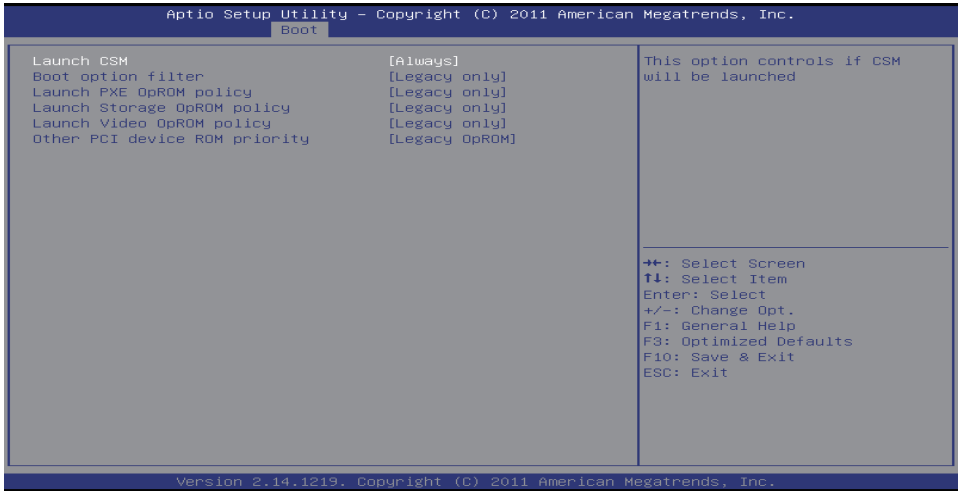
Options: Enabled (Default) / Disabled

Boot Success Beep

This item BIOS boot post beep message.

Options: Enabled (Default) / Disabled

CSM parameters



Launch CSM

This item option controls if CSM will be launched.

Options: Always (Default) / Never

Boot option filter

This option controls what devices system can to boot filter.

Options: Legacy only (Default) / UEFI and Legacy / UEFI only

Launch PXE OpROM policy

This option controls the execution of UEFI and Legacy PXE OpROM.

Options: Legacy only (Default) / Do not launch / UEFI only

Launch Storage OpROM policy

This item controls the execution of UEFI and Legacy Storage OpROM.

Options: Legacy only (Default) / Do not launch / UEFI only

Launch Video OpROM policy

This item controls the execution of UEFI and Legacy Video OpROM.

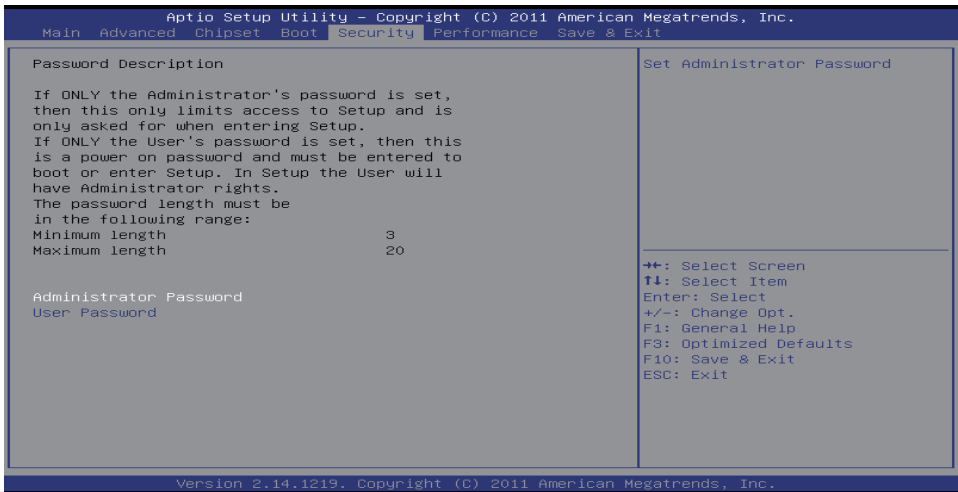
Options: Legacy only (Default) / Do not launch / UEFI only

Other PCI device ROM priority

This item for PCI devices other than Network, Mass storage or Video defines which OpROM to launch.

Options: Legacy OpROM (Default) / UEFI OpROM

5. Security Menu



Administrator Password

This item sets Administrator Password.

User Password

This item sets User Password.

Note

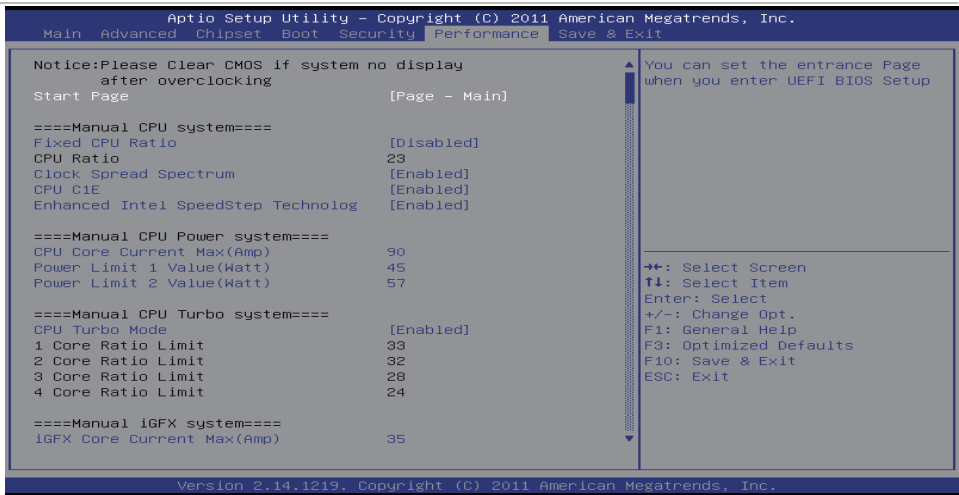
» CPU Configuration function will display different function items according to different CPU platforms.

6. Performance

This submenu allows you to change voltage and clock of various devices.

Note

- » We suggest you use the default setting. Changing the voltage and clock improperly may damage the device.
- » The options and default settings might be different by RAM or CPU models.
- » Beware of that setting inappropriate values in items of this menu may cause system to malfunction.
 - Values in Red: Danger
 - Values in Yellow: Warning
 - Values in White: Normal



Start Page

You can set the entrance page when you enter UEFI BIOS Setup.

Options: Page – Main (Default) / Page – Advanced / Page – Chipset / Page – Boot / Page – Security / Page –Performance / Page – Save & Exit

Fixed CPU Ratio

This item fixed CPU Ratio all time.

Options: Disabled (Default) / Enabled

Clock Spread Spectrum

This item enables or disables CPU Clock Spread Spectrum.

Options: Enabled (Default) / Disabled

CPU C1E

This item enables or disables CPU C1E.

Options: Enabled (Default) / Disabled

Enhanced Intel SpeedStep Technolog

This item enables or disables Enhanced Intel SpeedStep Technology.

Options: Enabled (Default) / Disabled

CPU Core Current Max (Amp)

This item IA Core Current Max(Amp).

Options: 90 (Default)

Power Limit 1 Value (Watt)

This item Power Limit 1 Value (Watt).

Options: 45 (Default)

Power Limit 2 Value (Watt)

This item Power Limit 2 Value (Watt).

Options: 57 (Default)

CPU Turbo Mode

This item CPU Turbo Mode.

Options: Enabled (Default) / Disabled

iGFX Core Current Max (Amp)

This item iGFX Core Current Max (Amp).

Options: 35 (Default)

Graphics Core Ratio Limit

This item Graphics Core Ratio Limit.

Options: 25 (Default)

Graphics Core Voltage Offset (mv)

This item Graphics Core Voltage Offset (0~+1000mv).

Options: 0 (Default)

DDR3 DRAM Timing Control

This item DDR3 DRAM Timing Control.

Options: By SPD (Default) / Manual

Note

» The following items appear only when you set the DDR3 DRAM Timing Control function to [Manual]

DDR3 DRAM Multiplier

This item DDR3 DRAM Memory Multiplier.

Options: 13.33 (Default) / 10.67

DDR3 DRAM Command Rate

This item DDR3 DRAM Command Rate.

Options: AUTO (Default) / 1T / 2T

DDR3 DRAM Command Rate

This item DDR3 DRAM Command Rate.

Options: AUTO (Default) / 1T / 2T

CAS# Latency(tCL)

This item Cas Latency.

Options: 9 (Default)

RAS# to CAS# Delay(tRCD)

This item Row Address to Column Address Delay.

Options: 9 (Default)

Row Precharge Time(tRP)

This item Row Precharge Time.

Options: 9 (Default)

RAS# Active Time(tRAS)

This item Row Active Time.

Options: 24 (Default)

Write Recovery Time(tWR)

This item Row Active Time.

Options: 24 (Default)

Row Refresh Cycle Time(tRFC)

This item Minimum Refresh Recovery Time.

Options: 107 (Default)

Write to Read Delay(tWTR)

This item Internal Write to Read Command Delay.

Options: 5 (Default)

Active to Active Delay(tRRD)

This item Row Active to Row Active.

Options: 4 (Default)

Read CAS# Precharge(tRTP)

This item Read to Precharge Delay.

Options: 5 (Default)

Four Active Window Delay(tFAW)

This item Four Active Window Delay.

Options: 20 (Default)

CAS Write Latency(CWL)

This item CAS Write Latency.

Options: 7 (Default)

DRAM Voltage

This item DRAM Voltage.

Options: Auto (Default) / Default(1.50V) / 1.65V

BIOSTAR Memory Insight

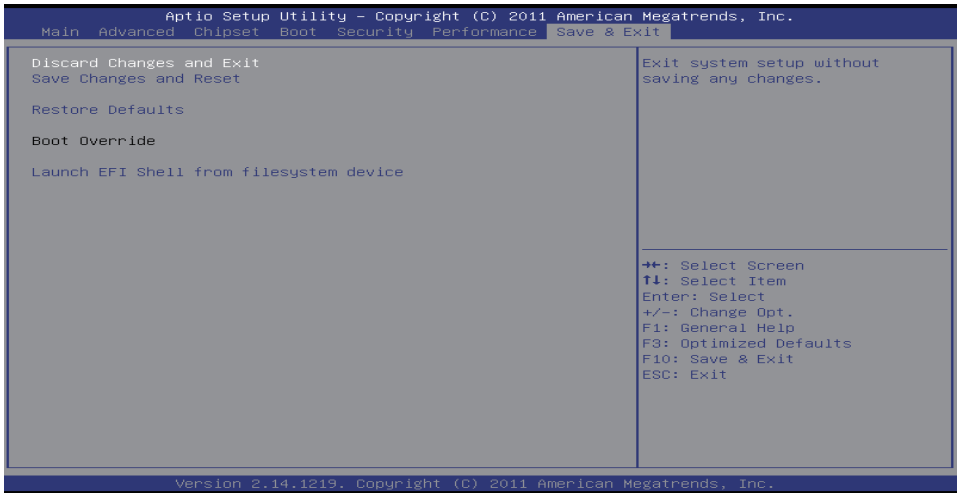


DDR3_A1/ DDR3_B1 Information



7. Exit Menu

This menu allows you to load the optimal default settings, and save or discard the changes to the BIOS items.



Discard Changes and Exit

Exit system setup without saving any changes.

Save Changes and Reset

Reset the system after saving the changes.

Restore Defaults

Restore/Load Default values for all the setup options.

Launch EFI Shell from filesystem device

Attempts to EFI Shell application (Shell.efi) from one of the available devices.