UEFI BIOS Setup 1

1 Main Menu..... 3

2 Advanced Menu..... 4

3 Chipset Menu..... 15

4 Boot Menu..... 20

5 Security Menu..... 23

6 Performance Menu..... 24

7 Exit Menu 29

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

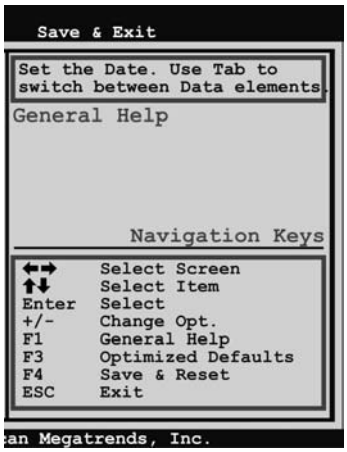
This AMI UEFI BIOS also supports Version 2.3 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

DDR3 SDRAM (Double Data Rate III Synchronous DRAM) is supported.

Supported CPUs

This AMI UEFI BIOS supports the latest CPU.



Using Setup

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

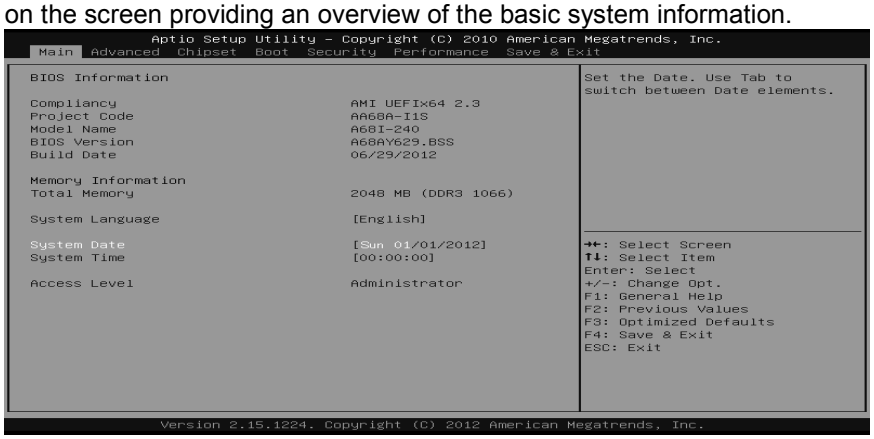
In the UEFI BIOS setup utility, you will see **General Help** description at the top right corner, and this is providing a brief description of the selected item. **Navigation Keys** for that particular menu are at the bottom right corner, and you can use these keys to select item and change the settings.

Notice

- 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 Date

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

System Time

Set the system internal clock.

2 Advanced Menu

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

Notice

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

PCI Subsystem Settings

PCI Latency Timer

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

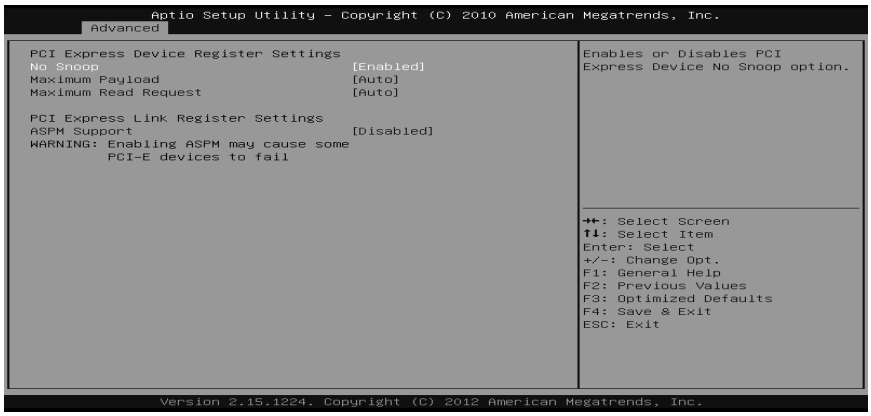
Options: 32 PCI Bus Clocks (Default) / 64 PCI Bus Clocks / 96 PCI Bus Clocks / 128 PCI Bus Clocks / 160 PCI Bus Clocks / 192 PCI Bus Clocks / 224 PCI Bus Clocks / 248 PCI Bus Clocks

VGA Palette Snoop

This item enables or disables VGA Palette Registers Snooping.

Options: Disabled (Default) / Enabled

PCI Express Settings



No Snoop

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

Options: Enabled (Default) / Disabled

Maximum Payload

This item sets Maximum Payload of PCI Express Device or allows System BIOS to select the value.

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

Maximum Read Request

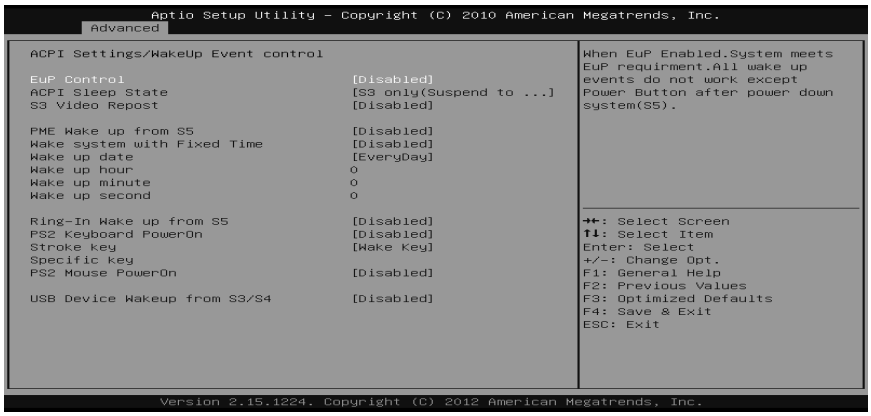
This item sets Maximum Read Request Size of PCI Express Device or allows System BIOS to select the value.

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

ASPM Support

This item sets the ASPM Level: Force LO – Force all links to LO State; Auto – BIOS auto configures; Disabled – Disables ASPM.
Options: Disabled (Default) / Auto / Force L0s

ACPI Settings/ WakeUp Event control



EuP Control

When EuP is enabled, the system will meet EuP requirement.
Options: Disabled (Default) / Enabled

ACPI Sleep State

This item selects the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
Options: S3 only (Suspend to RAM) (Default) / Suspend Disabled

S3 Video Repost

The item enables or disables S3 Video Repost.
Options: Disabled (Default) / Enabled

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.

Ring-In Wake up from S5

This item enables the system to wake from S5 using Ring-In event.
Options: Disabled (Default) / Enabled

PS2 Keyboard PowerOn

This item allows you to control the keyboard power on function.
Options: Disabled (Default) / Any Key / Stroke Key / Specific Key

Stroke Keys Selected

This item will show only when Keyboard PowerOn is set “Stroke Key.”
Options: Wake Key (Default) / Power Key / Ctrl+F1 / Ctrl+F2 / Ctrl+F3 / Ctrl +F4 / Ctrl+F5 / Ctrl+F6

Specific Key Enter

This item will show only when Keyboard PowerOn is set “Specific Key.” Press Enter to set Specific key.

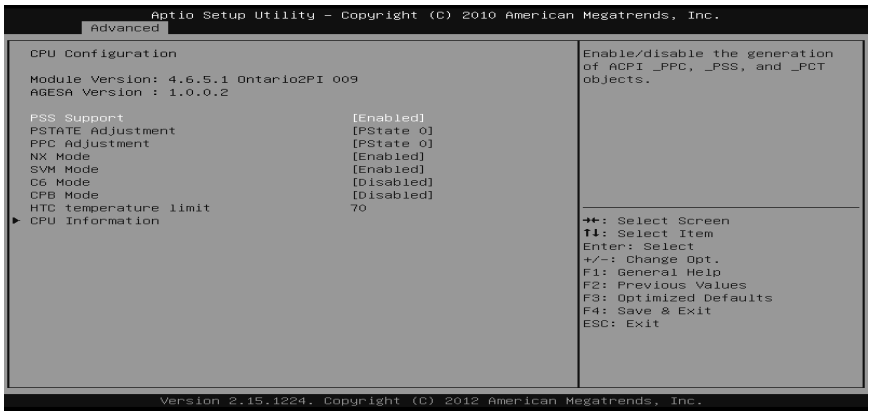
PS2 Mouse PowerOn

This item allows you to control the mouse power on function.
Options: Disabled (Default) / Enabled

USB Device Wakeup from S3/S4

This item allows you to enable or disabled the USB resume from S3/S4 function.
Options: Disabled (Default) / Enabled

CPU Configuration



PSS Support

This item allows you to enable or disable the generation of ACPI_PPC, _PPS, and _PCY objects.
Options: Enabled (Default) / Disabled

PSTATE Adjustment

This item adjusts start-up P-state level.
Options: PState 0 (Default) / PState 1 / PState 2 / PState 3 / PState 4 / PState 5 / PState 6 / PState 7

PPC Adjustment

This item adjusts _PPC object.
Options: PState 0 (Default)

NX Mode

This item allows you to enable or disable No-execute page protection Function.
Options: Enabled (Default) / Disabled

SVM

This item allows you to enable or disable CPU virtualization.
Options: Enabled (Default) / Disabled

C6 Mode

This item allows you to enable or disable C6.
Options: Disabled (Default) / Enabled

CPB Mode

This item allows you to enable or disable CPB Mode.
Options: Disabled (Default) / Auto

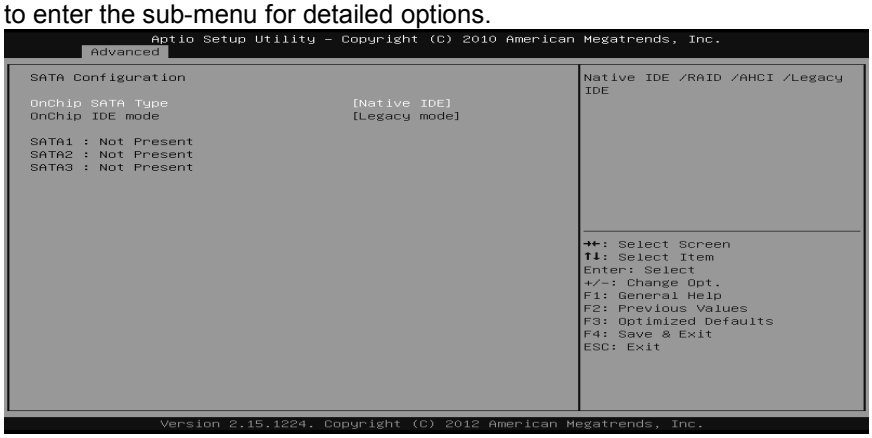
HTC temperature limit

This item allows you to set HTC temperature limit. Range: 70℃ - 95℃
Options: 70℃ (Default)

CPU Information

SATA Configuration

The BIOS will automatically detect the presence of SATA devices. There is a sub-menu for each SATA device. Select a device and press <Enter> to enter the sub-menu for detailed options.



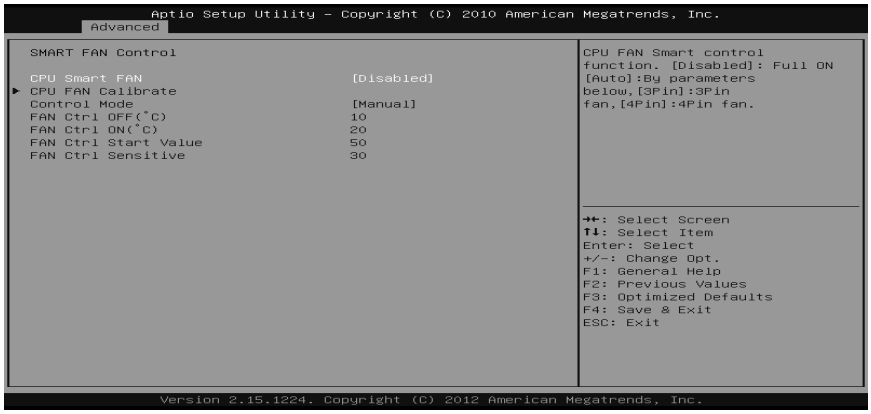
OnChip SATA Type

This item allows you to choose OnChip SATA Type.
Options: Native IDE (Default) / AHCI / Legacy IDE

OnChip IDE mode

This item allows you to set OnChip IDE Mode.
Options: Legacy mode (Default) / Native

SMART FAN Control



CPU Smart FAN

This item allows you to control the CPU Smart Fan function.
Options: Disabled (Default) / Auto / 4Pin / 3Pin

CPU FAN Calibrate

Press [ENTER] to calibrate CPU FAN.

Control Mode

This item provides several operation modes of the fan.
Options: Quiet / Aggressive / Manual

Fan Ctrl OFF(℃)

When CPU temperature is lower than this value, the CPU fan will keep lowest RPM.
Options: 10 (℃) (default)

Fan Ctrl On(℃)

When CPU temperature is higher than this value, the CPU fan controller will turn on.
Options: 20 (℃) (Default)

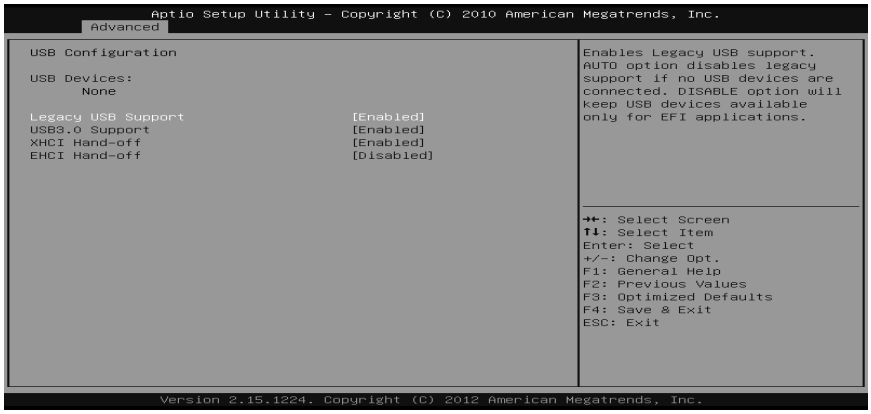
Fan Ctrl Start Value

This item sets CPU FAN Start Speed Value.
Options: 50 (Default)

Fan Ctrl Sensitive

The bigger the numeral is, the higher the FAN speed is.
Options: 30 (Default)

USB Configuration



Legacy USB Support

The item allows you to enable 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

USB3.0 Support

The item allows you to enable or disable USB3.0 (XHCI) Controller support.
Options: Enabled (Default) / Disabled

XHCI Hand-Off

This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
Options: Enabled (Default) / Disabled

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

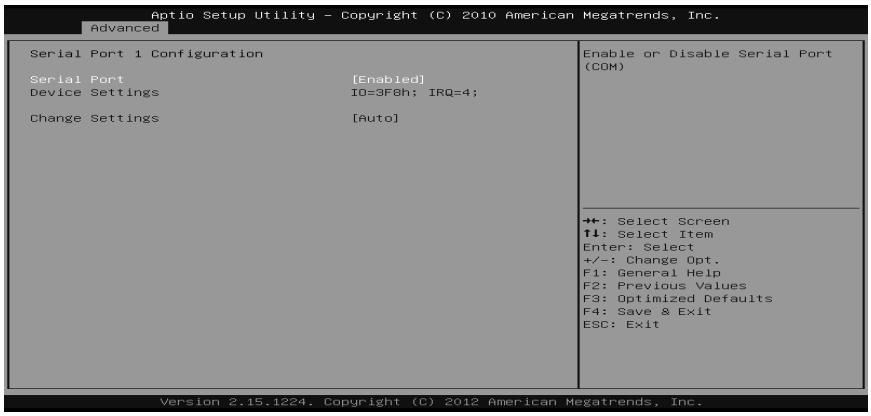
Super IO Configuration

Restore AC Power Loss

This setting specifies what state to go to when power is re-applied after a power failure.

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

Serial Port 1 Configuration



Serial Port

This item enables or disables Serial Port (COM).

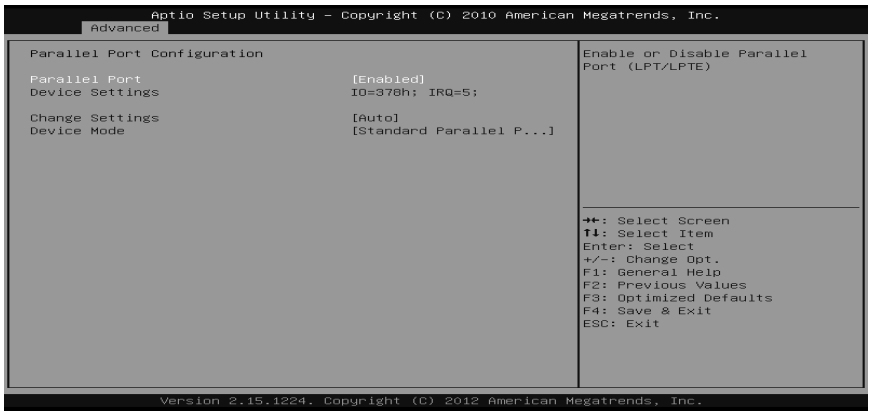
Options: Enabled (Default) / Disabled

Change Settings

This item allows you to select an optimal setting 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

Parallel Port Configuration



Parallel Port

This item enables or disables Parallel Port (LPT/LPTE).

Options: Enabled (Default) / Disabled

Change Settings

This item allows you to select an optimal setting for Super IO device.

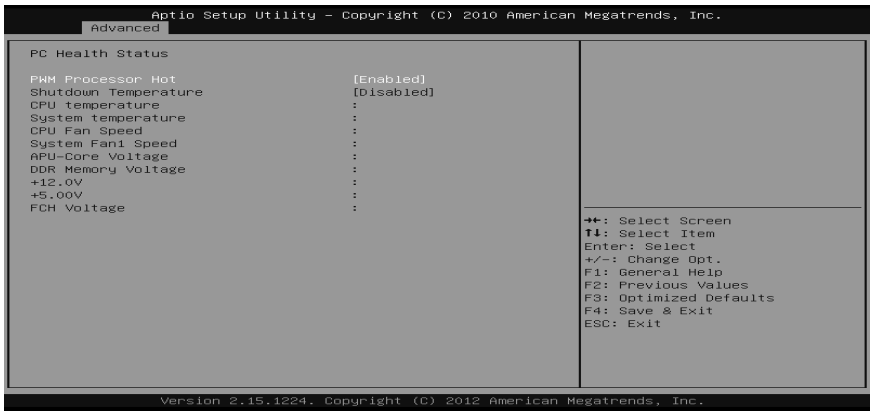
Options: Auto (Default) / IO=378h; IRQ=5 / IO=378h; IRQ=5, 6, 7, 10, 11, 12 / IO=278h; IRQ=5, 6, 7, 10, 11, 12 / IO=3BCh; IRQ=5, 6, 7, 10, 11, 12

Device Mode

This item allows you to determine how the parallel port should function.

Options: Standard Parallel Port Mode (Default) / EPP Mode / ECP Mode / EPP Mode & ECP Mode

H/W Monitor



PWM Processor Hot

This item enables or disables PWM Processor Hot.
Options: Enabled (Default) / Disabled

Shutdown Temperature

This item allows you to set up the CPU shutdown Temperature.
Options: Disabled (Default) / 70℃/158℉ / 75℃/167℉ / 80℃/176℉ / 85℃/185℉ / 90℃/194℉

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.

Notice

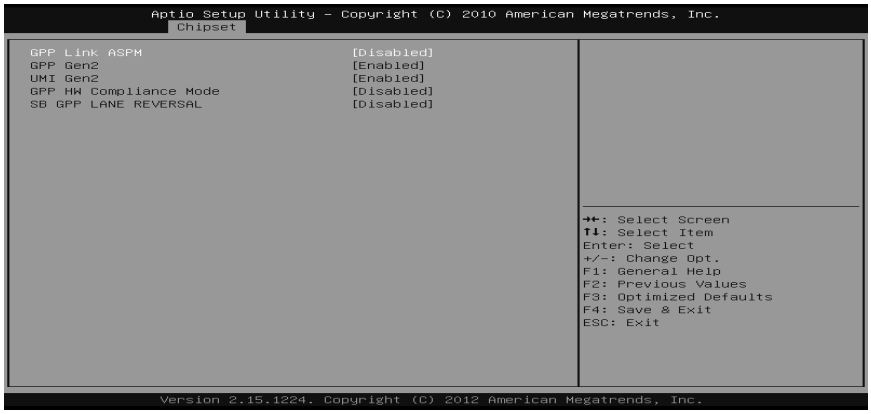
- Beware of that setting inappropriate values in items of this menu may cause system to malfunction.

South Bridge Configuration

SB USB Configuration

Enable all USB device
This item allows you to enable or disable all USB device.
Options: Enabled (Default) / Disabled

SB GPP Port Configuration



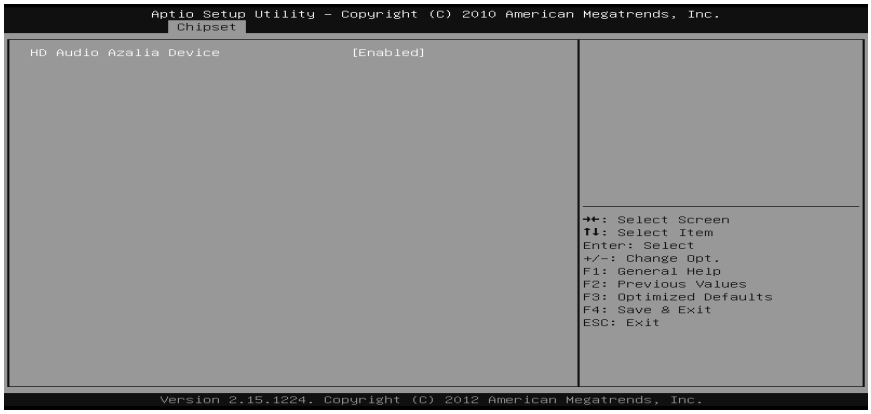
GPP Link ASPM
Options: Disabled (Default) / L0s / L1 / L0s + L1

GPP Gen2/ UMI Gen2
Options: Enabled (Default) / Disabled

GPP HW Compliance Mode
Options: Disabled (Default) / Port A / Port B / Port C / Port D

SB GPP LANE REVERSAL
Options: Disabled (Default) / Enabled

SB HD Azalia Configuration



HD Audio Azalia Device
This item allows you to control the HD audio device.
Options: Enabled (Default) / Auto / Disabled

North Bridge

Primary Video Device

This item allows you to select Primary Video Device that BIOS will use to for output.
Options: NB PCIe slot Video (Default) / IGD Video

Integrated Graphics

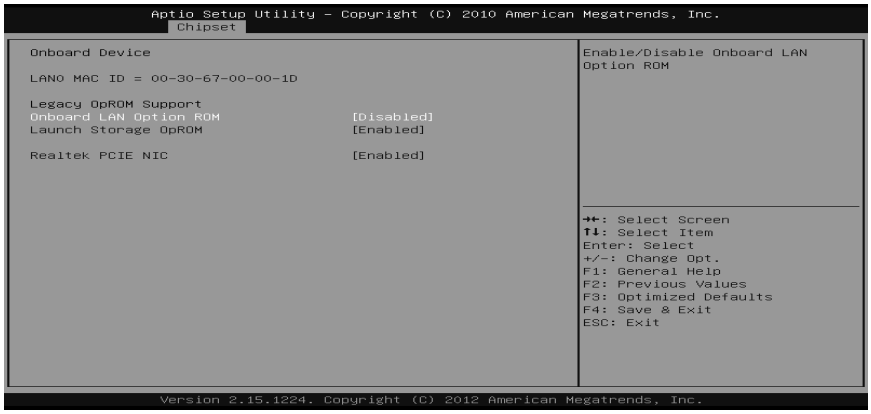
This item set integrated graphics controller.
Options: Auto (Default) / Disabled / Force

GFX Configuration

PSPP Policy

This item allows you to set PCIe speed power policy.
Options: Balanced-High (Default) / Disabled / Performance / Balanced-Low / Power Saving

Onboard PCI-E Devices



Onboard LAN Option ROM

This item allows you to enable or disable Onboard LAN Option ROM
Options: Disabled (Default) / Enabled

Launch Storage OpROM

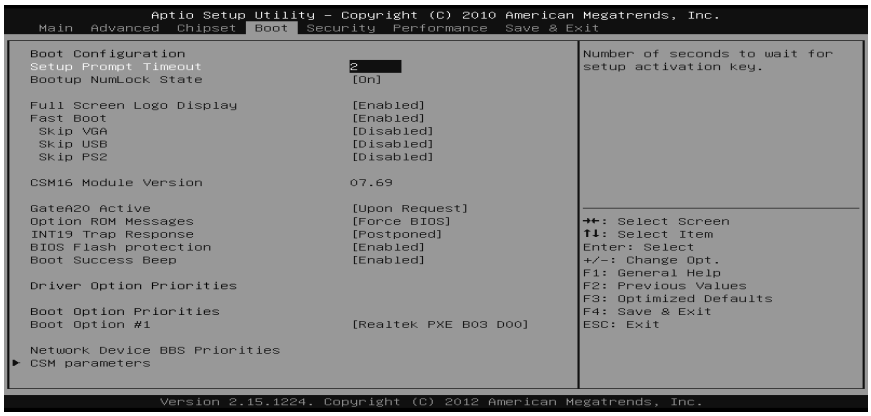
This item enables/disables Boot Option for Legacy Mass Storage Devices with Option ROM.
Options: Enabled (Default) / Disabled

Realtek PCIE NIC

This item allows you to enable or disable Realtek PCIE NIC.
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 allows you to enable/disable Full Screen Logo Show function.
Options: Enabled (Default) / Disabled

Fast Boot

This item allows you to enable/disable boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.
Options: Enabled (Default) / Disabled

Skip VGA/USB/PS2

Options: Disabled (Default) / Enabled

GateA20 Active

Upon Request – FA20 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

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

BIOS Flash protection

While enabled, it can't flash write and flash erase by SMI.
Options: Enabled (Default) / Disabled

BOOT Success Beep

When this item is set to Enabled, BIOS will let user know boot success with beep.
Options: Enabled (Default) / Disabled

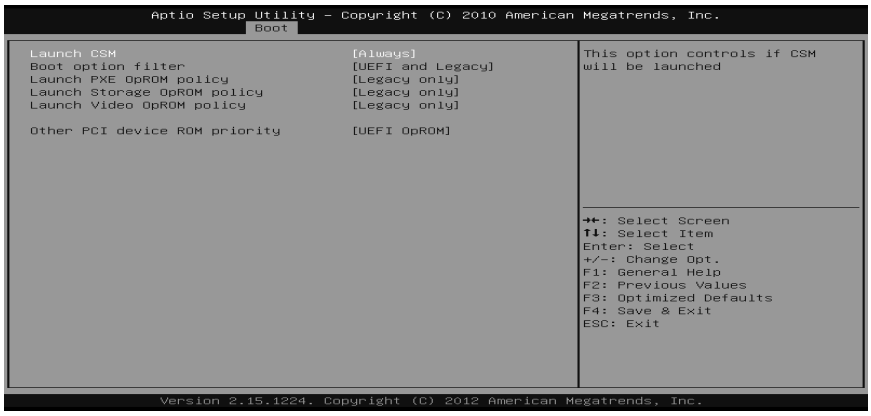
Boot Option

The items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system.

Network Device BBS Priorities

This item sets the order of the devices in this group.

CSM parameters



Launch CSM

This option controls if CSM will be launched.
Options: Always (Default) / Never

Boot option filter

This option controls what devices system can boot to.
Options: UEFI and Legacy (Default) / Legacy only / UEFI only

Launch PXE OpROM policy

This item controls the execution of UEFI and Legacy PXE OpROM
Options: Legacy only (Default) / UEFI only / Do not launch

Launch Storage OpROM policy

This item controls the execution of UEFI and Legacy Storage OpROM
Options: Legacy only (Default) / UEFI only / Do not launch

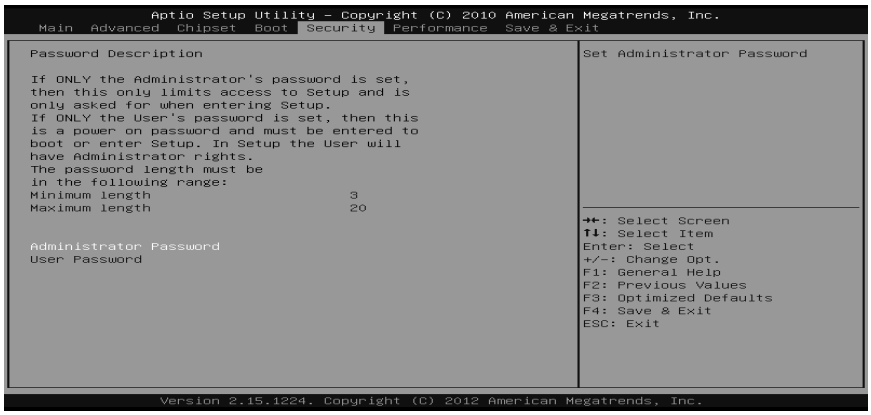
Launch Video OpROM policy

This item controls the execution of UEFI and Legacy Video OpROM
Options: Legacy only (Default) / UEFI only / Do not launch

Other PCI device ROM priority

For PCI devices other than Network, Mass storage or Video defines which OpROM to launch
Options: UEFI OpROM (Default) / Legacy OpROM

5 Security Menu



Administrator Password

This item sets Administrator Password.

User Password

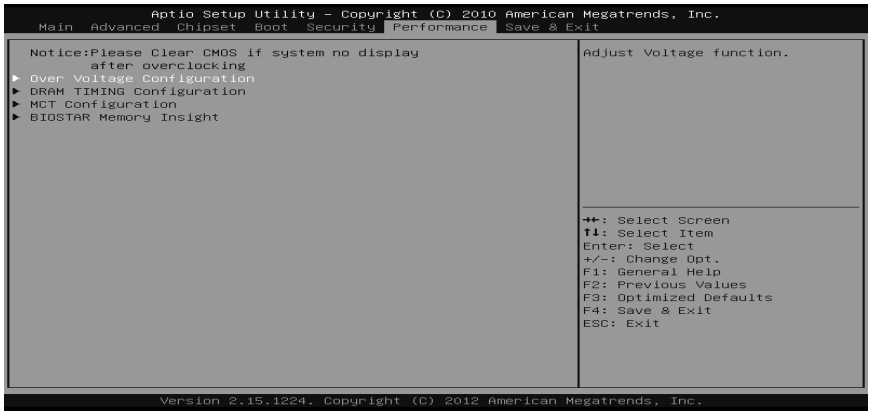
This item sets User Password.

6 Performance

This submenu allows you to change voltage and clock of various devices. (However, we suggest you use the default setting. Changing the voltage and clock improperly may damage the device.)

Notice

- Beware of that setting inappropriate values in items of this menu may cause system to malfunction.
- The options and default settings might be different by RAM or CPU models.



Over Voltage Configuration

DDR Memory Over Voltage

This item allows you to set DDR Memory Voltage Control
Options: 1.55V (Default) / 1.35V / 1.45V / 1.65V

DRAM Timing Configuration

MCT Timing Mode

This item selects DRAM Timing Mode.
Options: Auto (Default) / Limit / Manual

*Note: The following items appear only when you set the **MCT Timing Mode** item to [Manual]*

Memclock Value: DDR-800, DDR3-1066

DRAM Timing Mode

This item selects DRAM Timing Mode.
Options: Auto (Default) / Manual

*Note: The following items appear only when you set the **DRAM Timing Mode** item to [Manual]*

CL

Options: Auto (Default) / 5~14 CLK

2TCMD

Options: 1T (Default) / 2T

TRCD

Options: Auto (Default) / 5~14 CLK

TRP
Options: Auto (Default) / 5~14 CLK

TRTP
Options: Auto (Default) / 4~8 CLK

TRAS
Options: Auto (Default) / 15~30 CLK

TRC
Options: Auto (Default) / 20~49 CLK

TWR
Options: Auto (Default) / 5~8 / 10 / 12 / 14 / 16CLK

TRRD
Options: Auto (Default) / 4~8 CLK

TRWTTO
Options: Auto (Default) / 3~17 CLK

TWRRD
Options: Auto (Default) / 1~11 CLK

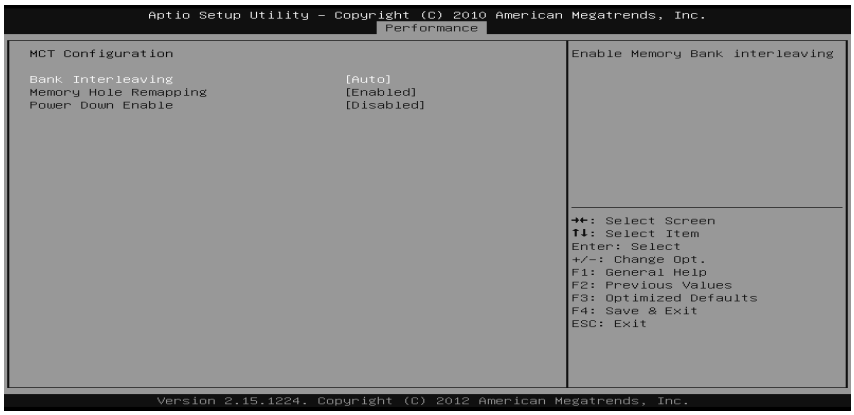
TWTR
Options: Auto (Default) / 4~8 CLK

TWRWR
Options: Auto (Default) / 1~10 CLK

TRDRD
Options: Auto (Default) / 2~10 CLK

TRFC0 / TRFC1
Options: Auto (Default) / 90ns / 110ns / 160ns / 300ns / 350ns

MCT Configuration



Bank Interleaving

This item allows you to enable or disable Memory Bank interleaving.
Options: Auto (Default) / Disabled

Memory Hole Remapping

This item allows you to enable or disable the Memory Remapping Around Memory Hole
Options: Enabled (Default) / Disable

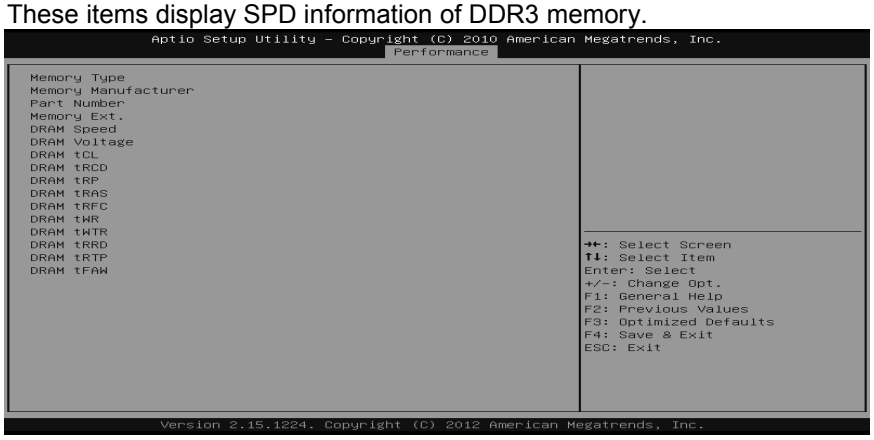
Power Down Enable

This item allows you to enable or disable DDR3 power down mode.
Options: Disabled (Default) / Enabled

BIOSTAR Memory Insight

DDR3_A1/A2

These items display SPD information of DDR3 memory.



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

Abandon all changes made during the current session and exit setup.

Save Changes and Reset

Reset the system after saving the changes.

Restore Defaults

This selection allows you to reload the BIOS when problem occurs during system booting sequence. These configurations are factory settings optimized for this system.

Launch Shell from device

This item attempts to EFI Shell application (Shellx64.efi) from one of the available devices.