UEFI BIOS Setup 1

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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

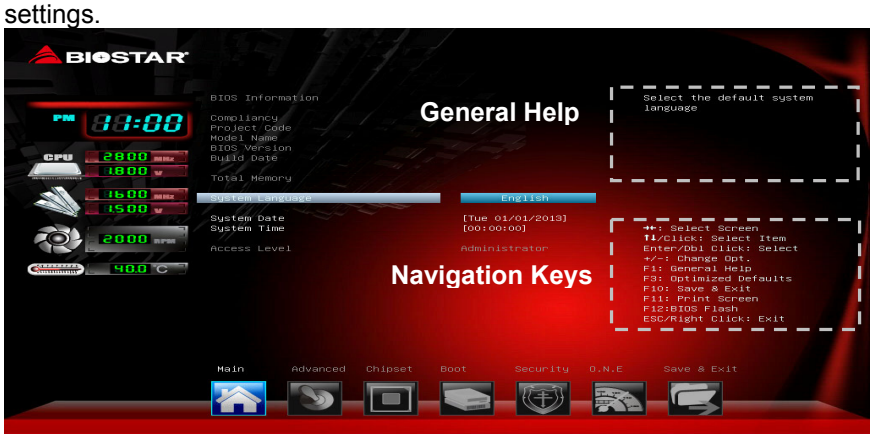
This AMI UEFI BIOS also supports Version 2.3 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

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

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.

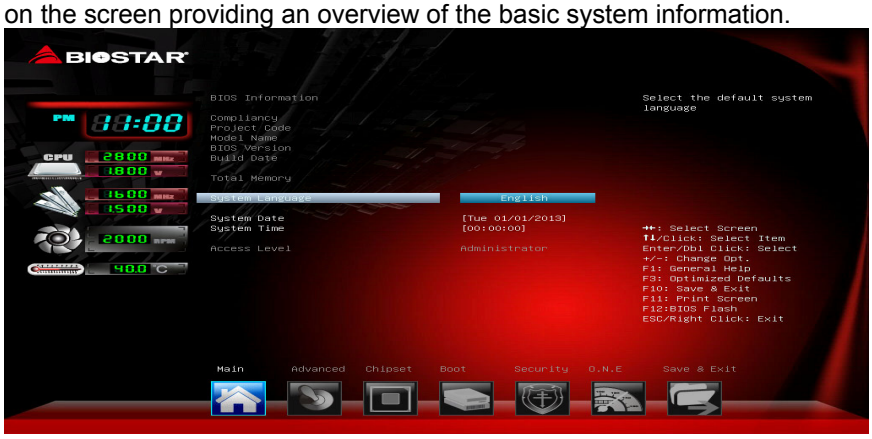


Notice

- 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 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.

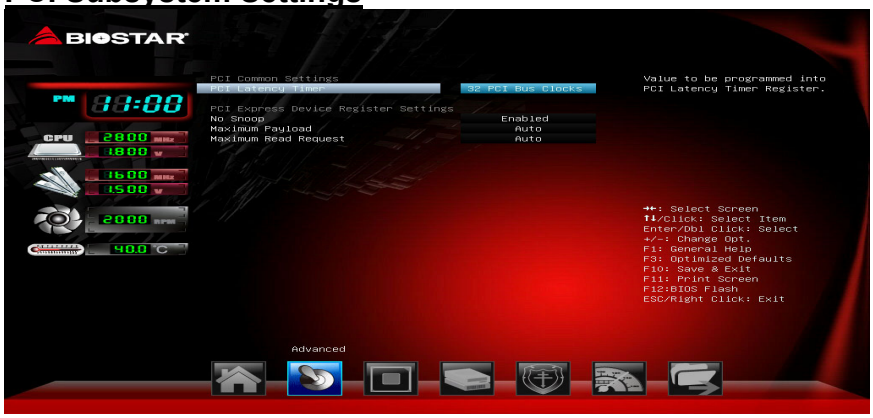
2 Advanced Menu

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

No Snoop

This item enables or disables PCI Express Device No Snoop option.
Options: Enabled (Default) / Disabled

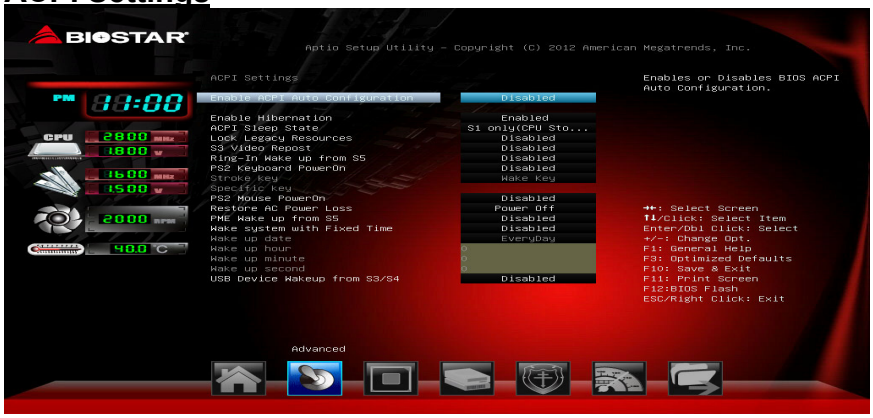
Maximum Payload

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

ACPI Settings



Enable ACPI Auto Configuration

This item enables or disables BIOS ACPI Auto Configuration.
Options: Disabled (Default) / Enabled

Enable Hibernation

This item enables or disables system ability to hibernate (OS/S4 Sleep State). This option may be not effective with some OSes.
Options: Enabled (Default) / Disabled

ACPI Sleep State

This item selects the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
Options: Options: S1 only (CPU Stop Clock) (Default) / Suspend Disabled / S3 only (Suspend to RAM) / Both S1 and S3 available for OS to choose from

Lock Legacy Resources

The item enables or disables Lock of Legacy Resources.
Options: Disabled (Default) / Enabled

S3 Video Repost

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

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

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

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

Restore AC Power Loss

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

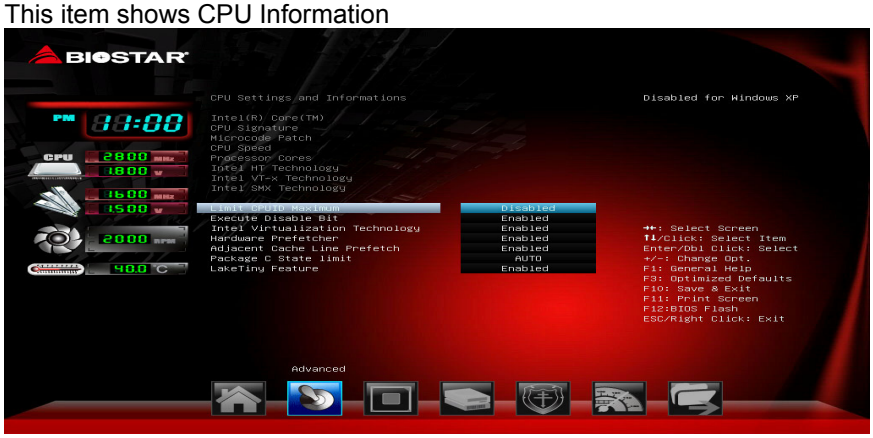
You can choose the system boot up time, input hour, minute and second to specify.

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 Setting and Information

This item shows CPU Information



Limit CPUID Maximum

When the computer is booted up, the operating system executes the CPUID instruction to identify the processor and its capabilities. Before it can do so, it must first query the processor to find out the highest input value CPUID recognizes. This determines the kind of basic information CPUID can provide the operating system.
Options: Disabled (Default) / Enabled

Execute-Disable Bit

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

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology
Options: Enabled (Default) / Disabled

Hardware Prefetcher

This item enables or disables the Mid Level Cache (L2) streamer Prefetcher.
Options: Enabled (Default) / Disabled

Adjacent Cache Line Prefetch

This item enables or disables the Mid Level Cache (L2) prefetching of adjacent cache lines.
Options: Enabled (Default) / Disabled

Package C State limit

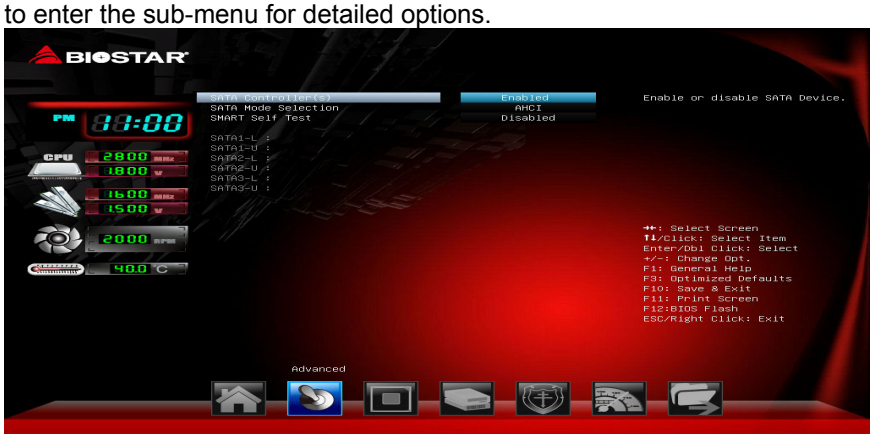
This item sets Package C State Limit.
Options: Auto (Default) / C0/C1 / C2 / C3 / C6 / C7 / C7s

LakeTiny Feature

This item enables or disables LakeTiny for C state configuration.
Options: Enabled (Default) / Disabled

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.



SATA Controller(s)

This item enables/disables Serial ATA Device.
Options: Enabled (Default) / Disabled

SATA Mode Selection

This item determines how SATA controller(s) operate.
Options: AHCI (Default) / IDE / RAID

SMART Self Test

This item runs SMART Self Test on all HDDs during POST.
Options: Disabled (Default) / Enabled

Intel(R) Rapid Start Technology

Intel(R) Rapid Start Technology

This item enables/disables Intel(R) Rapid Start Technology.
Options: Disabled (Default) / Enabled

Note: Rapid Start Technology function is for H87 & B85 chipset.
*Note: The following items appear only when you set the **iRST** function to [Enabled]*

Entry on S3 RTC Wake

This item sets iFFS invocation upon S3 RTC wake.
Options: Enabled (Default) / Disabled

Entry After

This item enables RTC wake timer at S3 entry. The value range is from 0(Immediately) to 120 minutes.

Active Page Threshold Support

This item allows system to support RST with small partition.
Options: Disabled (Default) / Enabled

*Note: The following items appear only when you set the **Active Page Threshold Support** function to [Enabled]*

Active Memory Threshold

This item allows system to try to support RST when partition size > Active Page Threshold size in MB. When set to zero, the item will be in AUTO mode and check if partition size is enough at S3 entry.
Options: 0 (Default)

Hybrid Hard Disk Support

This item enables/disables Hybrid Hard Disk Support.
Options: Disabled (Default) / Enabled

RapidStart Display Save/Restore

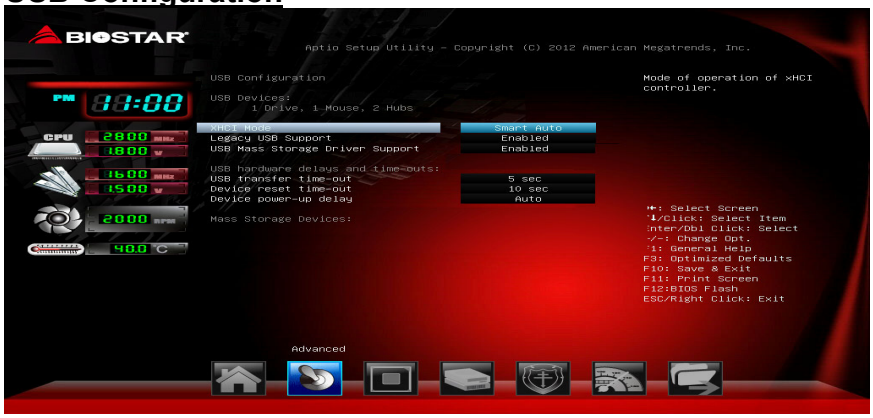
This item enables/disables RapidStart Display Save/Restore.
Options: Disabled (Default) / Enabled

*Note: The following items appear only when you set the **RapidStart Display Save/Restore** function to [Enabled]*

RapidStart Display Type

This item selects RapidStart Display type.
Options: BIOS Save/Restore (Default) / Desktop Save/Restore

USB Configuration



XHCI Mode

The item selects Mode of operation of xHCI controller.
Options: Smart Auto (Default) / Auto / Enabled / Disabled / Manual

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

XHCI Pre-Boot Driver

The item allows you to enable or disable XHCI Pre-Boot Driver support.
Options: Enabled (Default) / Disabled

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

USB Mass Storage Driver Support

The item allows you to enable or disable USB Mass Storage Driver Support.
Options: Enabled (Default) / Disabled

USB transfer time-out

The time-out value for Control, Bulk, and Interrupt transfers.
Options: 5 sec (Default) / 1 sec / 10 sec / 20 sec

Device reset time-out

The item sets USB mass storage device Start Unit command time-out.
Options: 10 sec (Default) / 20 sec / 30 sec / 40 sec

Device power-up delay

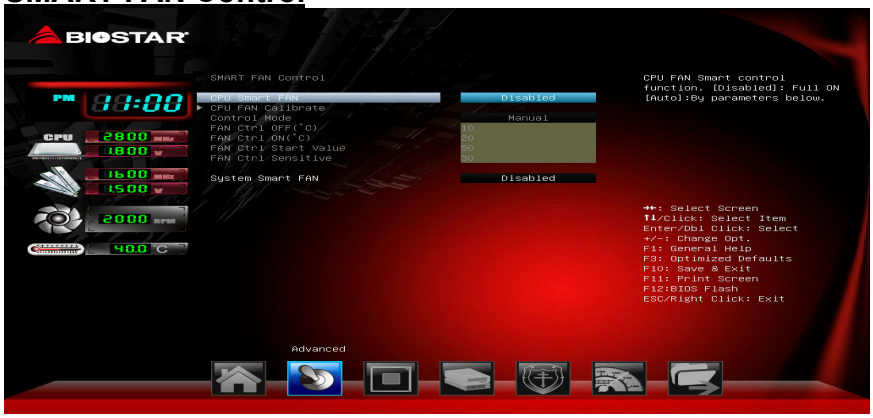
"Auto" uses default value: for a Root port it is 100ms, for a Hub port the delay is taken from Hub descriptor.
Options: Auto (Default) / Manual

*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 Smart Fan function.
Options: Disabled (Default) / Auto

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)

System Smart FAN

System FAN Smart control function.
[Disabled]: Full ON, [Auto]: By parameters below.
Options: Disabled (Default) / Auto

System FAN ON SPEED (PWM)

When System temperature is higher than System FAN ON, the System fan will keep this FAN speed (PWM)
Options: 100 (Default)

System FAN ACTIVE SPEED (PWM)

When System temperature is between FAN OFF and FAN ON, the System fan will active linearly at this PWM.
Options: 70 (Default)

System FAN OFF SPEED (PWM)

When System temperature is higher than System FAN OFF, the System fan will keep this FAN speed (PWM)
Options: 50 (Default)

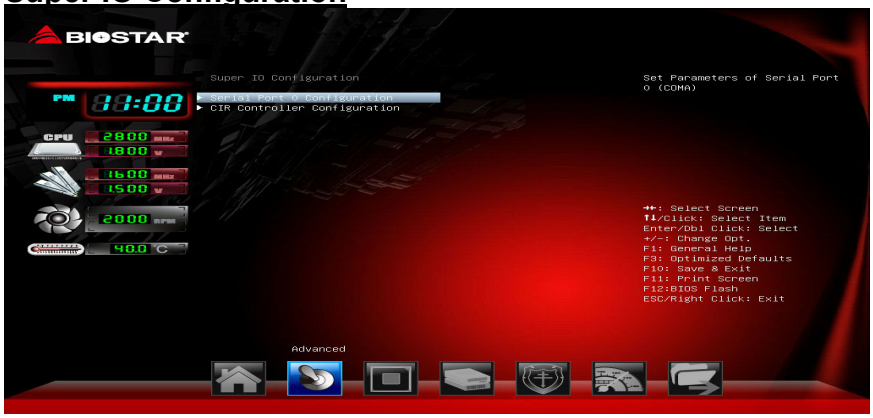
System FAN ON (℃)

When System temperature is higher than this value, the System fan will keep lowest RPM (System FAN ON SPEED)
Options: 70 (℃) (Default)

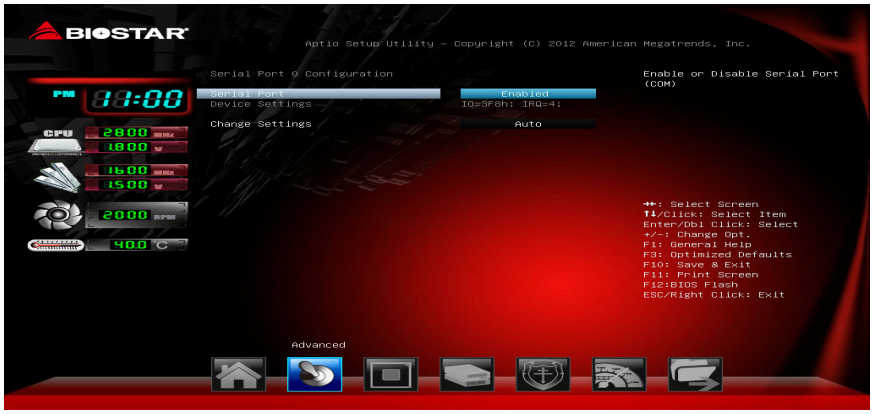
System FAN OFF (℃)

When System temperature is lower than this value, the System fan will keep lowest RPM (System FAN OFF SPEED)
Options: 30 (℃) (default)

Super IO Configuration



Serial Port 0 Configuration



Serial Port

This item enables or disables Serial Port (COM).

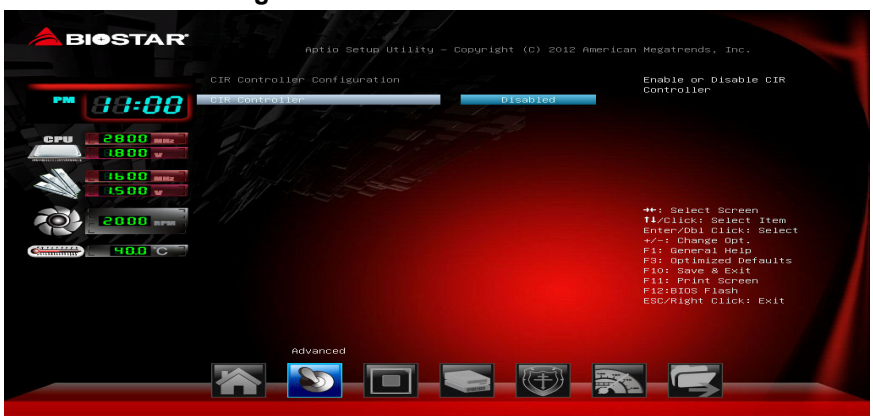
Options: Enabled (Default) / Disabled

Change Settings

This item selects an optimal setting for Super IO device.

Options: Auto (Default) / IO=3F8h; IRQ=4 / IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12 / IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12 / IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12 / IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12

CIR Controller Configuration



CIR Controller

This item enables or disables CIR Controller.

Options: Disabled (Default) / Enabled

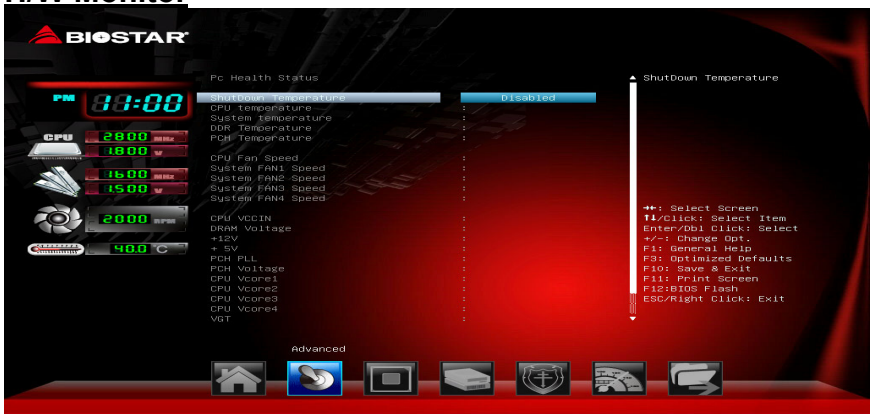
*Note: The following items appear only when you set the **CIR Controller** function to [Enabled]*

Change Settings

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

Options: Auto (Default) / IO=3E0h; IRQ=10 / IO=3E0h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12 / IO=2E0h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12 / IO=29Bh; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12

H/W Monitor



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℉

Intel (R) Smart Connect Technology

ISCT Support

This item enables/disables ISCT Support.
Options: Disabled (Default) / Enabled

*Note: The following items appear only when you set the **ISCT Support** function to [Enabled]*

ISCT Notification Control

Options: Enabled (Default)

Network Stack

Network Stack

This item enables or disables UEFI network stack
Options: Disabled (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 booth option will not be created.
Options: Enabled (Default) / Disabled

IPv6 PXE Support

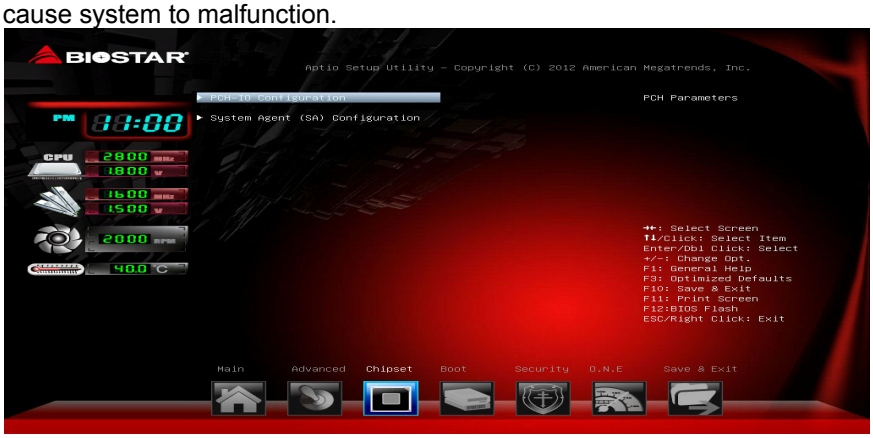
This item enables or disables IPv6 PXE Boot Support. If disabled IPv6 booth option will not be created.
Options: Enabled (Default) / Disabled

3 Chipset Menu

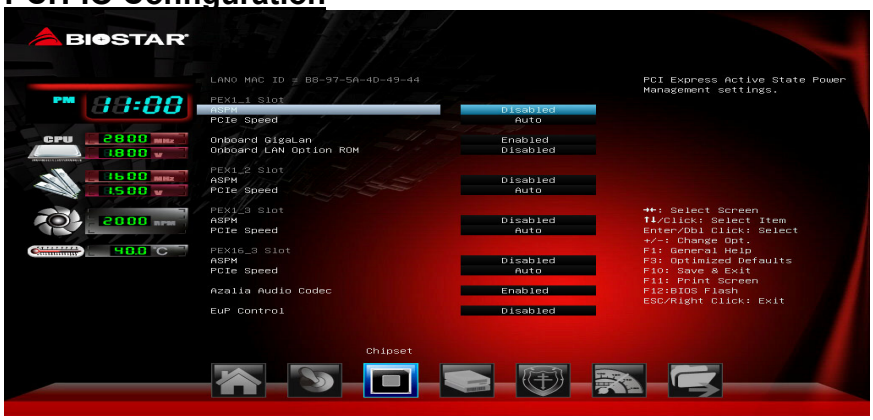
This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components.

Notice

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



PCH-IO Configuration



PEX1_1/ PEX1_2/ PEX1_3/PEX16_3 Slot

ASPM

This item sets PCI Express Active State Power Management settings.
Options: Disabled (Default) / L0s / L1 / L0sL1 / Auto

PCIe Speed

This item selects PCI Express port speed.
Options: Auto (Default) / Gen1 / Gen2

Onboard GigaLan

This item enables/disables the PCI Express Root.
Options: Enabled (Default) / Disabled

Onboard LAN Option ROM

This item enables/disables Onboard LAN Option ROM.
Options: Disabled (Default) / Enabled

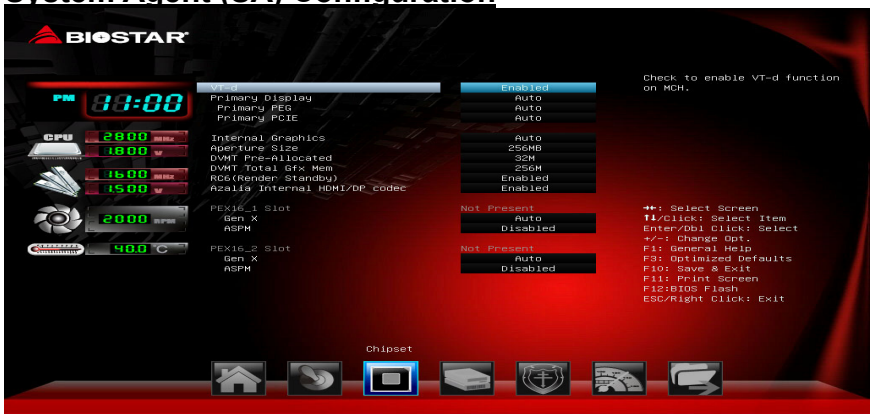
Azalia Audio Codec

This item controls detection of the Azalia device. Disabled = Azalia will be unconditionally disabled. Enabled = Azalia will be unconditionally Enabled.
Options: Enabled (Default) / Disabled

EuP Control

When EuP is enabled, the system will meet EuP requirement.
Options: Disabled (Default) / Enabled in S5 / Enabled in S4-S5

System Agent (SA) Configuration



VT-d

This item enables/disables VT-d function on MCH.
Options: Enabled (Default) / Disabled

Primary Display

This item selects which of IGFX/PEG/PCI Graphics device should be Primary Display or select SG for Switchable Gfx.
Options: Auto (Default) / IGFX / PEG / PCIE

Primary PEG

This item selects AUTO/PEG11/PEG12 Graphics device should be Primary PEG
Options: Auto (Default) / PEG11/ PEG12

Primary PCIE

This item selects AUTO / PCIE1 / PCIE2 / PCIE3 / PCIE4 / PCIE5 / PCIE6 / PCIE7 Graphics device should be Primary PCIE
Options: Auto (Default) / PCIE1 / PCIE2 / PCIE3 / PCIE4 / PCIE5 / PCIE6 / PCIE7

Internal Graphics

This item keeps IGD enabled based on the setup options.
Options: Auto (Default) / Disabled / Enabled

Aperture Size

This item selects the Aperature 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: 256MB (Default) / 128MB / MAX

RC6 (Render Standby)

This item enables or disables render standby support.
Options: Enabled (Default) / Disabled

Azalia Internal HDMI/DP codec

This item enables or disables Azalia Internal HDMI/DP codec
Options: Enabled (Default) / Disabled

PEX16_1/ PEX16_2 Slot

Gen X

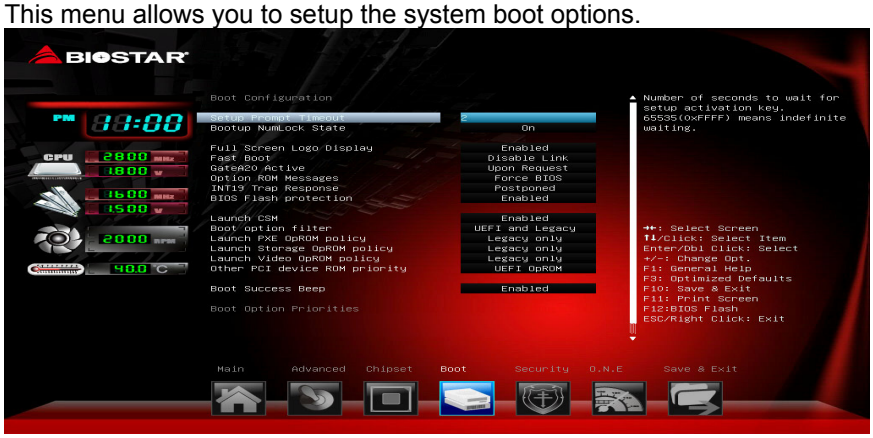
This item selects PCI Express port speed.
Options: Auto (Default) / Gen1 / Gen2 / Gen3

ASPM

This item sets PCI Express Active State Power Management settings.
Options: Disabled (Default) / L0s / L1 / L0sL1 / Auto

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: Disabled Link (Default) / Enabled

*Note: The following items appear only when you set the **Fast Boot** function to [Enabled]*

VGA Support

If Auto, only install Legacy OpRom with Legacy OS and logo would NOT be shown during post. EFI driver will still installed with EFI.
Options: EFI Driver (Default) / Auto

USB Support

If Disabled, all USB devices will NOT be available until after OS boot. If Partial Initial, specific USB port/device will NOT be available before OS boot. If Enabled, all USB devices will be available in OS and Post.
Options: Partial Initial (Default) / Full Initial / Disable Link

PS2 Devices Support

If Disabled, PS2 devices will be skipped.
Options: Enabled (Default) / Disable Link

Network Stack Driver Support

If Disabled, Network Stack Drivers will be skipped.
Options: Disable Link (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

Launch CSM

This option controls if CSM will be launched
Options: Enabled (Default) / Disabled

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

Launch Storage OpROM policy

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

Launch Video OpROM policy

This option 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

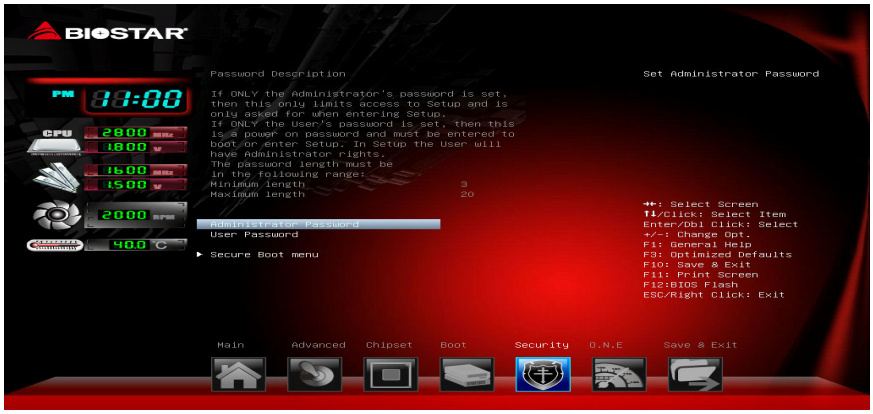
Boot Success Beep

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

Boot Option Priorities

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.

5 Security Menu



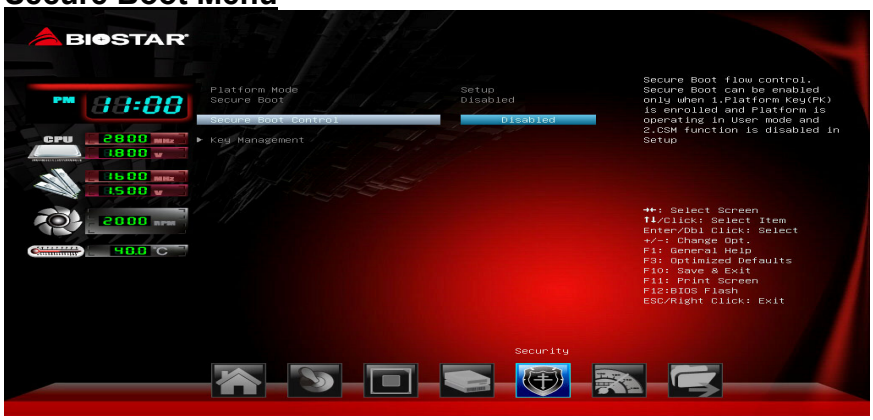
Administrator Password

This item sets Administrator Password.

User Password

This item sets User Password.

Secure Boot Menu



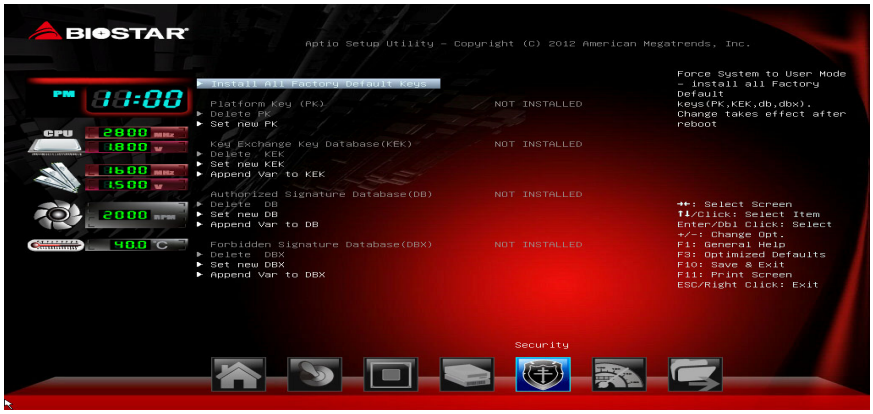
Secure Boot Control

Secure Boot flow control. Secure Boot can be enabled only when 1. Platform Key (PK) is enrolled and Platform is operating in user mode and 2.CSM function is disabled in Setup.

Options: Disabled (Default) / Enabled

*Note: The following items appear only when you set the **Secure Boot Control** function to [Enabled]*

Key Management



Install or Delete All Factory Default Keys

It allows you to immediately load/clear the default Security Boot keys, Platform key (PK), Key-exchange Key (KEK), Signature database (db), and Revoked Signatures (dbx). The Platform Key (PK) state will change from Unloaded mode to Loaded mode. The settings are applied after reboot or at the next reboot.

Platform Key (PK)

Delete PK – Allows you to delete the PK file from your system.
Set new PK – Allows you set new PK file.

Key Exchange Key Database (KEK)

Delete KEK – Allows you to delete the KEK file from your system.
Set new KEK – Allows you set new KEK file.
Append Var to KEK – Allows you append Var to KEK.

Authorized Signature Database (DB)

Delete DB – Allows you to delete the DB file from your system.
Set new DB – Allows you set new DB file.
Append Var to DB – Allows you append Var to DB.

Forbidden Signature Database (DBX)

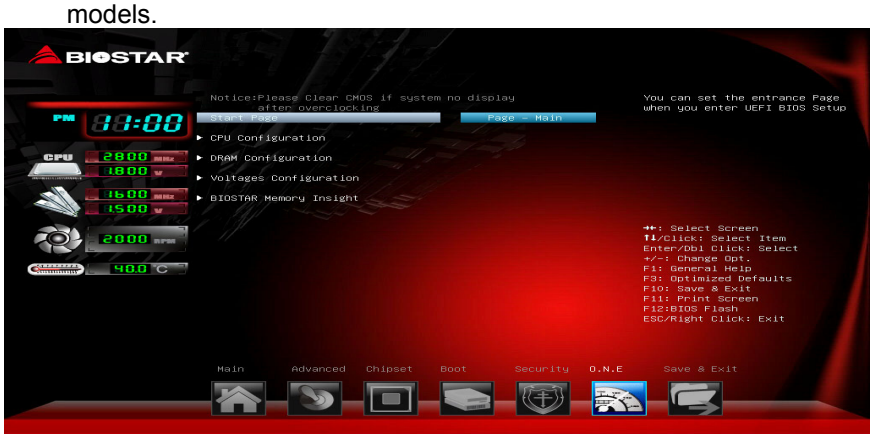
Delete DBX – Allows you to delete the DBX file from your system.
Set new DBX – Allows you set new DBK file.
Append Var to DBX – Allows you append Var to DBX.

6 O.N.E Menu

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

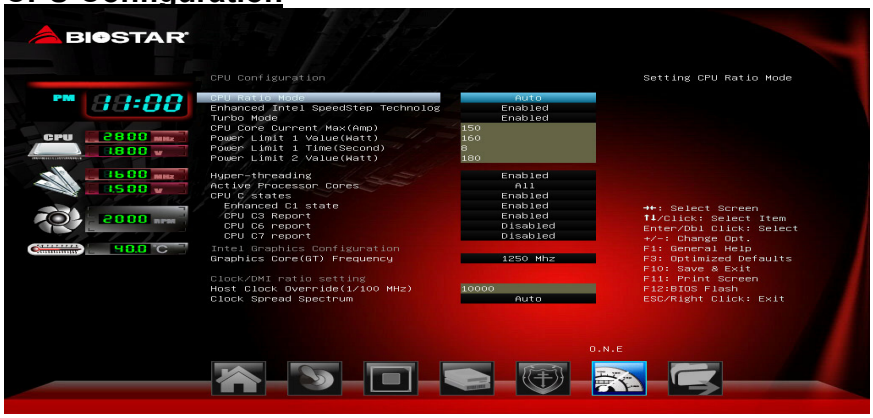
- Beware of that setting inappropriate values in items of this menu may cause system to malfunction.
- The options and default settings might be different by RAM or CPU models.



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 – O.N.E / Page – Save & Exit

CPU Configuration



CPU Ratio Mode

This item sets CPU Ratio Mode.
Options: Auto (Default) / ALL Cores / Per Core / Fixed

Enhanced Intel SpeedStep Technology

This item enables/disables Enhanced Intel SpeedStep Technology.
Options: Enabled (Default) / Disabled

Turbo Mode

This item enables/disables CPU Turbo Mode.
Options: Enabled (Default) / Disabled

CPU Core Current Max (Amp)

This item sets the Max instantaneous current allowed at any given time.
Options: 150 (Default)

Power Limit 1 Value (Watt)

This item sets the power limit 1 value (Watt).
Options: 160 (Default)

Power Limit 1 Time (Watt)

This item sets the power limit 1 time (Second).
Options: 8 (Default)

Power Limit 2 Value (Watt)

This item sets the power limit 2 value (Watt).
Options: 180 (Default)

Hyper-threading

This item enables for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and disables for other OS (OS not optimized for Hyper-Threading Technology). When Disabled only one thread per enabled core is enabled.
Options: Enabled (Default) / Disabled

Active Processor Cores

Number of cores to enable in each processor package
Options: All (Default) / 1 / 2 / 3

CPU C states

This item enables or disables CPU C states.
Options: Enabled (Default) / Disabled

Enhanced C1 states

This item enables or disables Enhanced C1 states.
Options: Enabled (Default) / Disabled

CPU C3 Report

This item enables or disables CPU C3 report.
Options: Enabled (Default) / Disabled

CPU C6 Report

This item enables or disables CPU C6 report.
Options: Disabled (Default) / Enabled

CPU C7 Report

This item enables or disables CPU C7 report.
Options: Disabled (Default) / CPU C7 / CPU C7s

Graphics Core Ratio Limit

This item sets Graphics Core Ratio Limit.

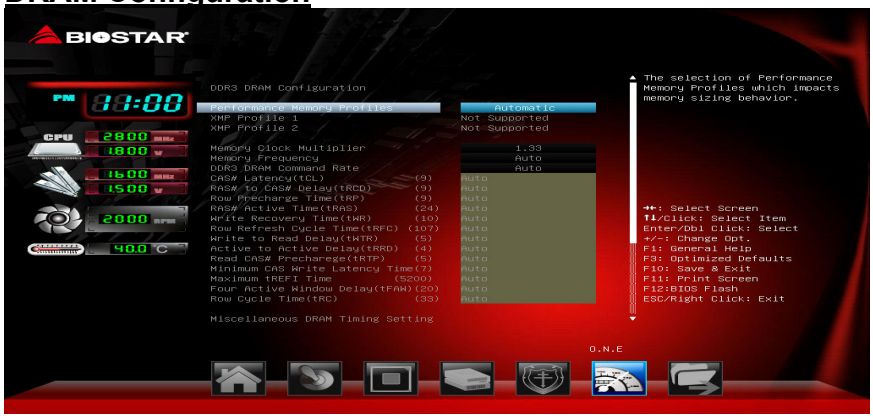
Host Clock Override (1/100 MHz)

This item sets Host Clock Override.

Clock Spread Spectrum

This item sets CPU Clock Spread Spectrum.
Options: Auto (Default) / Enabled / Disabled

DRAM Configuration



Performance Memory Profiles

This selection of Performance Memory Profiles impacts memory sizing behavior.

Options: Automatic (Default) / Manual / XMP Profile 1 / XMP Profile 2

Memory Clock Multiplier

This item allows you to set Memory Clock Multiplier.

Options: 1.33 (Default) / 1.00

Memory Frequency

This item allows you to set Memory Frequency

Options: Auto (Default) / DDR3 1066Mhz / DDR3 1333Mhz / DDR3 1600Mhz / DDR3 1866MHz / DDR3 2133MHz / DDR3 2400MHz / DDR3 2666MHz / DDR3 2933MHz

DDR3 DRAM Command Rate

This item allows you to set DDR3 DRAM Command Rate

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

*Note: The following items appear only when you set the **Performance Memory Profiles** function to [Manual]*

CAS# Latency (tCL)

This item allows you to select CAS Latency, Range 4-24

Options: Auto (Default)

RAS# to CAS# Delay (tRCD)

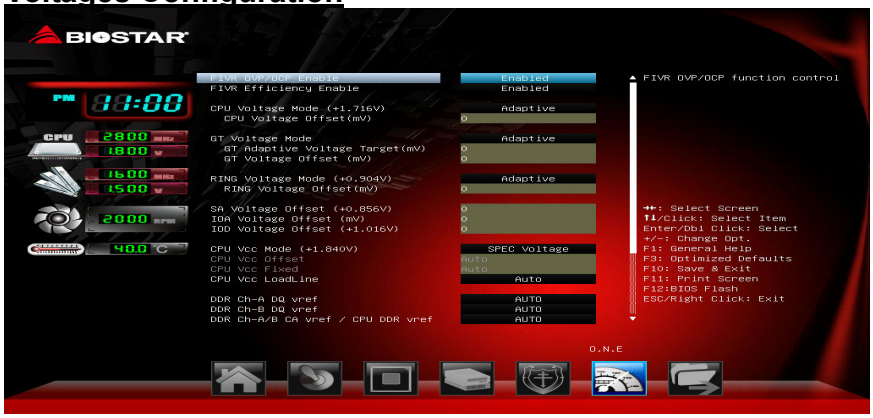
This item allows you to select Row Address to Column Address Delay, Range 3-20

Options: Auto (Default)

Row Precharge Time (tRP)
This item allows you to select Row Precharge Time, Range 3-15
Options: Auto (Default)
RAS# Active Time (tRAS)
This item allows you to select Row Active Time, Range 9-63
Options: Auto (Default)
Write Recovery Time (tWR)
This item allows you to select Internal Write to Read Command Delay, Range 5-16
Options: Auto (Default)
Row Refresh Cycle Time (tRFC)
This item allows you to select Minimum Refresh Recovery Time, Range 1-511
Options: Auto (Default)
Write to Read Delay (tWTR)
This item allows you to select Internal Write to Read Command Delay, Range 3-31
Options: Auto (Default)
Active to Active Delay (tRRD)
This item allows you to select Row Active to Row Active Delay, Range 4-15
Options: Auto (Default)
Read CAS# Precharge (tRTP)
This item allows you to select Read to Precharge Delay, Range 4-15
Options: Auto (Default)
Minimum CAS Write Latency Time
This item allows you to select Minimum CAS Write Latency Range , Range 5-12
Options: Auto (Default)
Maximum tREFI Time
This item allows you to select Maximum tREFI time, Range 1-65533
Options: Auto (Default)
Four Active Window Delay (tFAW)
This item allows you to select Four Active Window Delay, Range 10-63
Options: Auto (Default)
Row Cycle Time (tRC)
This item allows you to select Row Cycle Time, Range 1-4095
Options: Auto (Default)

Miscellaneous DRAM Timing Setting
Read – Read Time
This item allows you to select Read – Read Time, Range 1-7
Options: Auto (Default)
Read – Read Time (DR)
This item allows you to select Read – Read Time (DR), Range 1-15
Options: Auto (Default)
Read – Read Time (DD)
This item allows you to select Read – Read Time (DD), Range 1-15
Options: Auto (Default)
Read – Write Time
This item allows you to select Read D – Write Time, Range 1-31
Options: Auto (Default)
Read – Write Time (DR)
This item allows you to select Read – Write Time (DR), Range 1-31
Options: Auto (Default)
Read – Write Time (DD)
This item allows you to select Read – Write Time (DD), Range 1-31
Options: Auto (Default)
Write – Read Time
This item allows you to select Write – Read Time, Range 1-63
Options: Auto (Default)
Write – Read Time (DR)
This item allows you to select Write – Read Time (DR), Range 1-15
Options: Auto (Default)
Write – Read Time (DD)
This item allows you to select Write – Read Time (DD), Range 1-15
Options: Auto (Default)
Write – Write Time
This item allows you to select Write – Write Time, Range 1-7
Options: Auto (Default)
Write – Write Time (DR)
This item allows you to select Write – Write Time (DR), Range 1-15
Options: Auto (Default)
Write – Write Time (DD)
This item allows you to select Write – Write Time (DD), Range 1-15
Options: Auto (Default)

Voltages Configuration



FIVR OVP/OVP Enable

This item enables or disables FIVR OVP/OCP function control.
Options: Enabled (Default) / Disabled

FIVR Efficiency Enable

This item enables or disables FIVR Efficiency function control.
Options: Enabled (Default) / Disabled

CPU Voltage Mode

This item sets CPU Voltage Mode.
Options: Adaptive (Default) / Override

CPU Adaptive Voltage Target (mV)

This item sets CPU Adaptive Voltage Target, 0mV – 2000mV. *(This item appears only when you set the **CPU Voltage Mode** function to [Override])*

CPU Voltage Offset (mV)

This item sets CPU Voltage Offset, -1000mV – 1000mV.

GT Voltage Mode

This item sets GT Voltage Mode.
Options: Adaptive (Default) / Override

GT Adaptive Voltage Target (mV)

This item sets GT Adaptive Voltage Target, 0mV – 2000mV.

GT Voltage Offset (mV)

This item sets GT Voltage Offset, -1000mV – 1000mV.

RING Voltage Mode

This item sets RING Voltage Mode.
Options: Adaptive (Default) / Override

RING Adaptive Voltage Target (mV)

This item sets RING Adaptive Voltage Target, 0mV – 2000mV. *(This item appears only when you set the **RING Voltage Mode** function to [Override])*

RING Voltage Offset (mV)

This item sets RING Voltage Offset, -1000mV – 1000mV.

SA Voltage Offset (mV)

This item sets SA Voltage Offset, -1000mV – 1000mV.

IOA Voltage Offset (mV)

This item sets IOA Voltage Offset, -1000mV – 1000mV.

IOD Voltage Offset (mV)

This item sets IOD Voltage Offset, -1000mV – 1000mV.

CPU Vcc Mode

This item sets CPU over Voltage Mode.
Options: SPEC Voltage / Auto / Offset Mode / Fixed Mode

CPU Vcc Offset

This item sets CPU Vcc offset, Voltage (0.1V-0.52V).
Options: Auto (Default)

CPU Vcc Fixed

This item sets CPU Vcc fixed, Voltage (1.5V-2.65V).
Options: Auto (Default)

CPU Vcc LoadLine

This item enables or disables CPU Vcc LoadLine control.
Options: Enabled (Default) / Disabled / 100% LoadLine / 75% LoadLine / 50% LoadLine / 25% LoadLine

DDR Ch-A DQ verf

This item sets DDR Ch-A DQ vref (-0.2 ~ +0.2)

DDR Ch-B DQ verf

This item sets DDR Ch-B DQ vref (-0.2 ~ +0.2)

DDR Ch-A/B CA verf / CPU DDR vref

This item sets DDR Ch-A/B CA verf / CPU DDR vref
(-0.2 ~ +0.2)

DDR Voltage

This item sets DDR(V_SM) Voltage configuration.

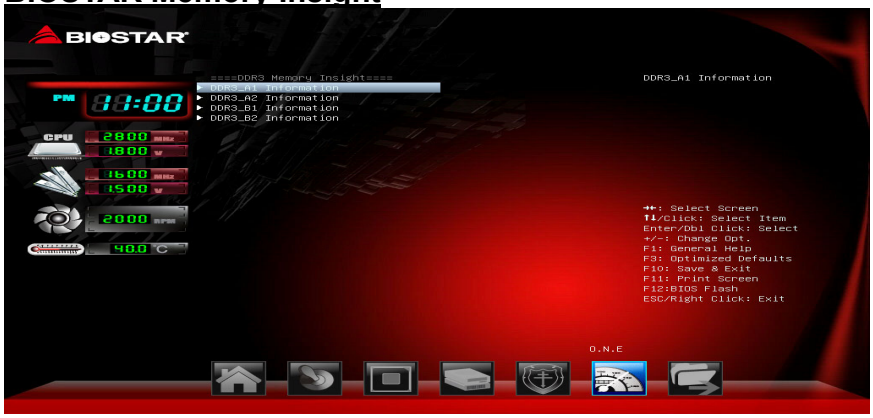
PCH Voltage

This item sets PCH Voltage configuration.

PCH PLL Voltage

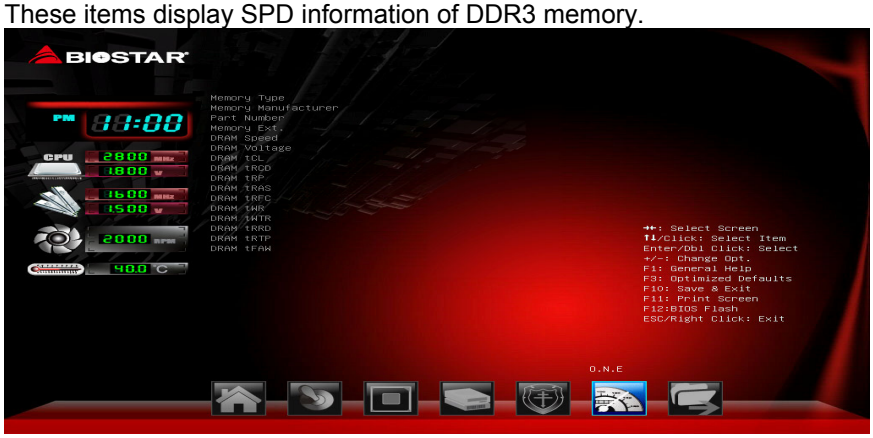
This item sets PCH PLL Voltage configuration.

BIOSTAR Memory Insight



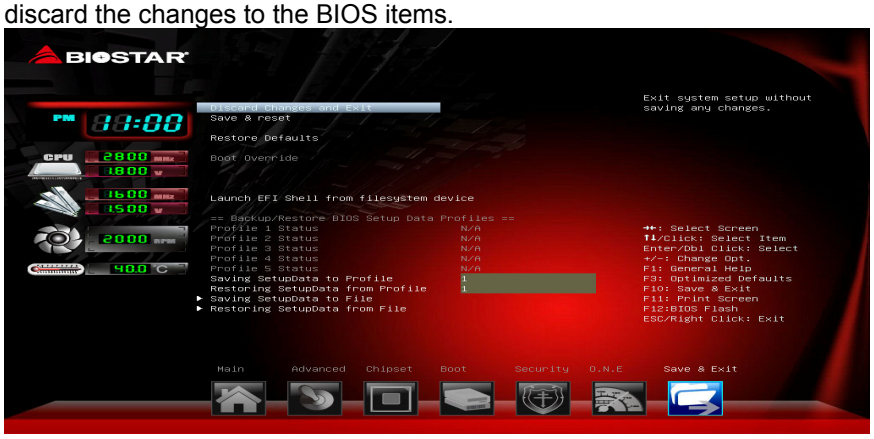
DDR3 Information

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 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 EFI Shell from filesystem device

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

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

Saving SetupData to Profile
This item saves your current BIOS Setup Data to profile 1 ~ 5.

Restoring SetupData from Profile
This item restore your BIOS Setup Data from profile 1 ~ 5.

Saving SetupData to Storage
This item saves your current BIOS Setup Data to storage devices.

Restoring SetupData from Storage
This item restores your BIOS Setup Data from storage devices.