

BIOS User Guide

X370GT7

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BIOS Update

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

- **BIOSTAR BIOS-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 BIOS-FLASHER

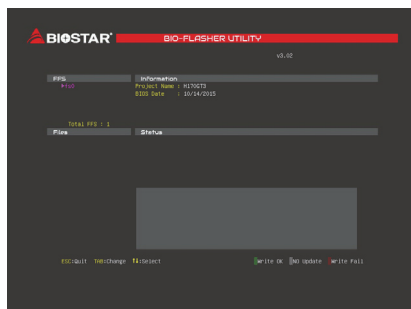
► Note

- » 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.

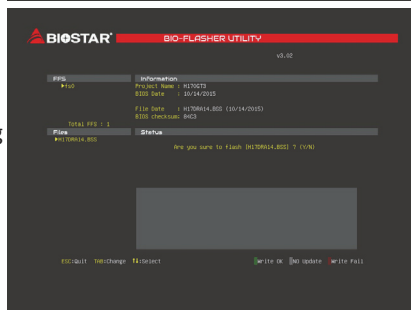
Updating BIOS with BIOSTAR BIOS-FLASHER

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.

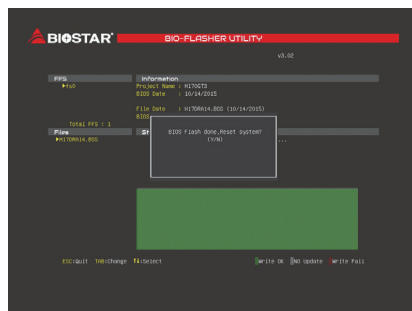
5. After entering the POST screen, the BIOS-FLASHER utility pops out. Choose <fs0> to search for the BIOS file.



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.

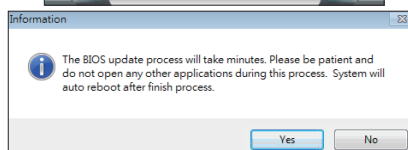
BIOS Update Utility (through the Internet)

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

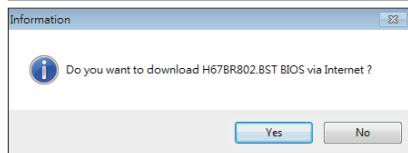
3. Launch BIOS Update Utility and click the "Online Update" button on the main screen.



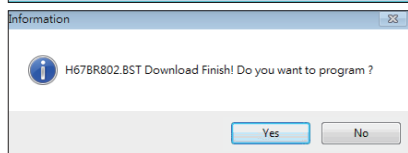
4. An open dialog will show up to request your agreement to start the BIOS update. Click "Yes" to start the online update procedure.



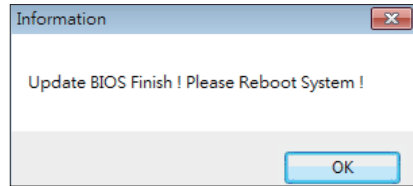
5. If there is a new BIOS version, the utility will ask you to download it. Click "Yes" to proceed.



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.

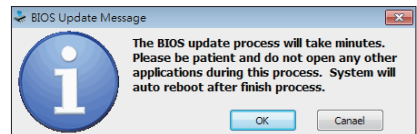
BIOS Update Utility (through a BIOS file)

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

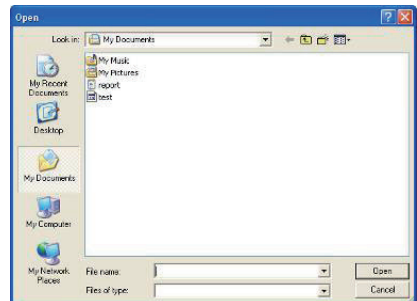
3. Launch BIOS Update Utility and click the “Update BIOS” button on the main screen.



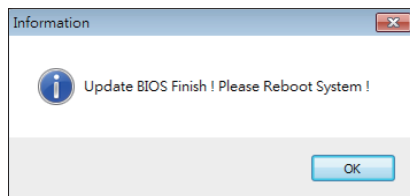
4. A warning message will show up to request your agreement to start the BIOS update. Click “OK” to start the update procedure.



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.

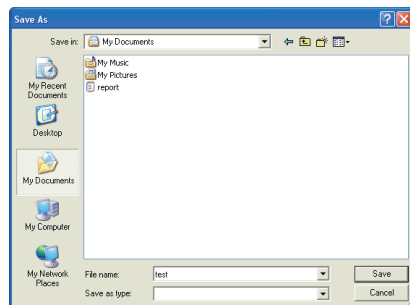


7. While the system boots up and the full screen logo shows up, press key to enter BIOS setup.

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.

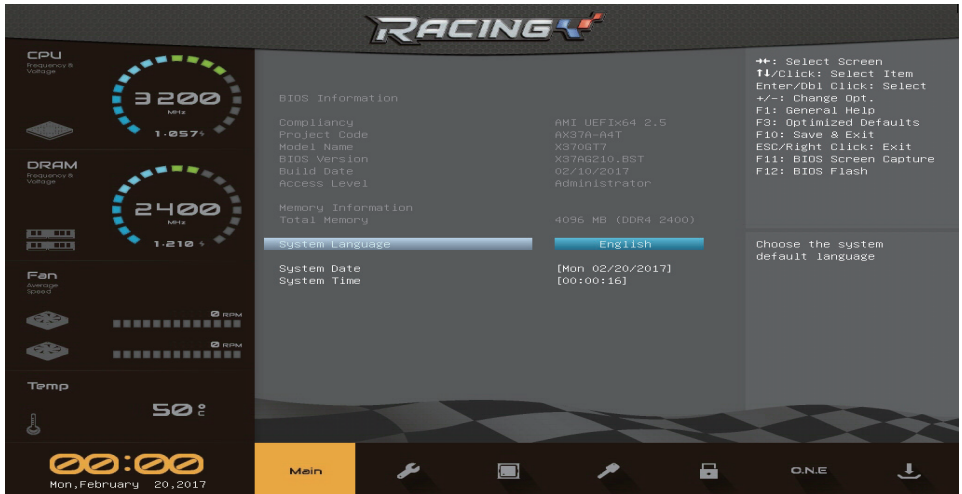
In the UEFI BIOS setup utility, you will see **General Help** description at the top right corner, and this is providing a brief description of the selected item. **Navigation Keys** for that particular menu are at the bottom right corner, and you can use these keys to select item and change the settings.

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.

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.



AMD CBS



Zen Common Options



RedirectForReturnDis

This item from a workaround for GCC/C000005 issue for XV Core on CZ A0, setting MSRC001_1029 Decode Configuration (DE_CFG) bit 14 [DecfgNoRdrctForReturns] to 1.
Options: Auto (Default) / 1 / 0

L2 TLB Associativity

This item 0 - L2 TLB ways [11:8] are fully associative. 1 - L2 TLB ways [11:8] are 4K-only.
Options: Auto (Default) / 1 / 0

Platform First Error Handling

This item enabled or disabled PFEH, cloak individual banks, and mask deferred error interrupts from each bank.

Options: Auto (Default) / Enabled / Disabled

Core Performance Boost

This item allows you to set the Core Performance Boost function.

Options: Auto (Default) / Disabled

Downcore control

This item allows you to set the number of Cores to be used.

Options: Auto (Default) / TWO (1 + 1) / TWO (2 + 0) / THREE (3 + 0) / FOUR (2 + 2) / FOUR (4 + 0) / SIX (3 + 3)

Enable IBS

This item allows you to set the Enable IBS.

Options: Auto (Default) / Enabled / Disabled

Global C-state Control

This item allows you to controls IO based C-state generation and DF C-states.

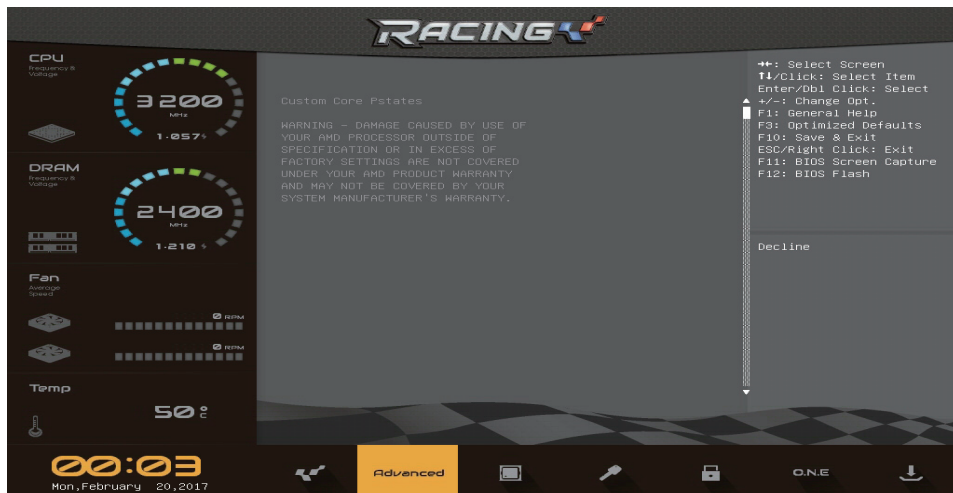
Options: Auto (Default) / Enabled / Disabled

Instruction Branch Prediction

This item allows you to control the Instruction Branch Prediction feature.

Options: Auto (Default) / Enabled / Disabled

Custom Core Pstates



Accept

Custom Pstate0/1/2/3/4/5/6/7

This item allows you to set the Custom Pstate 0~7.

Options: Auto (Default) / Custom / Disabled

Pstate0~7 FID

Specifies the core frequency multiplier. COF = 200MHz.

Pstate0~7 DID

Specifies the core frequency divisor (DID [0] should zero if DID [5:0] > 1Ah.

Pstate0~7 VID

Specifies the core voltage.

Note

- » Warning - Damage Caused by use of your AMD processor outside of specification or in excess of factory settings are not covered under your AMD product warranty and may not be covered by your system manufacturer's warranty.

DF Common Options



DRAM scrub time

This item provide a value that is the number of hours to scrub memory.

Options: Auto (Default) / Disabled / 1 hour / 4 hour / 8 hour / 16 hour / 24 hour / 48 hour

Redirect scrubber control

This item control DF::RedirScrubCtrl [EnRedirScrub].

Options: Auto (Default) / Disabled / Enabled

Disable DF module queues on error

This item control DF::PIEConfig [DisSyncFloodProp].

Options: Auto (Default) / Sync flood disabled / Sync flood Enabled

Freeze DF module queues on error

This item control DF::PIEConfig [DisSyncFloodOnFatalError], disabling this option sets DF::PIEConfig [DisImmSyncFloodOnFatalError].

Options: Auto (Default) / Disabled / Enabled

GMI encryption control

This item control GMI link encryption.

Options: Auto (Default) / Disabled / Enabled

XGMI encryption control

This item control XGMI link encryption.

Options: Auto (Default) / Disabled / Enabled

CC6 memory region encryption

This item control whether or not the CC6 save/restore memory is encrypted.

Options: Auto (Default) / Disabled / Enabled

Location of private memory regions

This item control whether or not the private memory regions (PSP, SMU and CC6) are at the top of DRAM or distributed.

Options: Auto (Default) / Distributed / Consolidated

» Note that distributed requires memory on all dies.

» Note that it will always be at the top of DRAM if some dies don't have memory regardless of this option's setting.

System probe filter

This item controls whether or not the probe filter is enabled. Has no effect on parts where the probe filter is fuse disabled.

Options: Auto (Default) / Distributed / Consolidated

Memory interleaving

This item controls fabric level memory interleaving (AUTO, none, channel, die, socket).

Options: Auto (Default) / None / Channel / Die / Socket

» Note that channel, die, and socket has requirements on memory populations and it will be ignored if the memory doesn't support the selected option.

Memory interleaving size

This item controls the memory interleaving size. The valid values are AUTO, 256 bytes, 512 bytes, 1 Kbytes or 2Kbytes. This determines the starting address of the interleave (bit 8, 9, 10 or 11).

Options: Auto (Default) / 256 Bytes / 512 Bytes / 1 KB / 2 KB

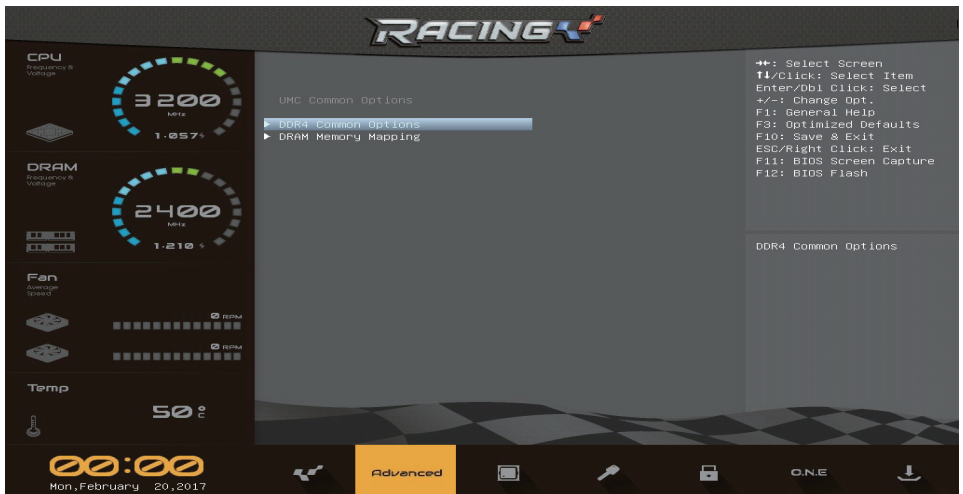
Channel interleaving hash

This item controls whether or not the address bits are hashed during channel interleave mode.

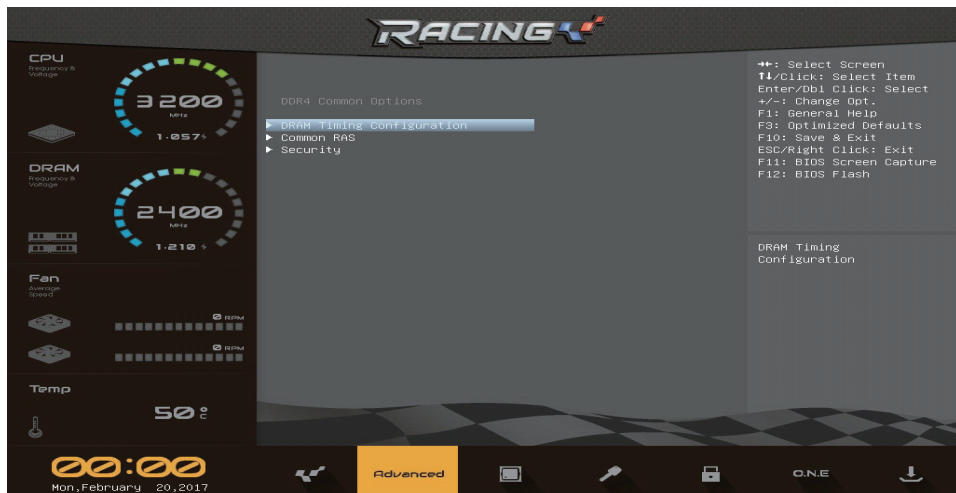
This field should not be used unless the interleaving is set to channel and the interleaving size is 256 or 512 bytes.

Options: Enabled (Default) / Disabled / Auto

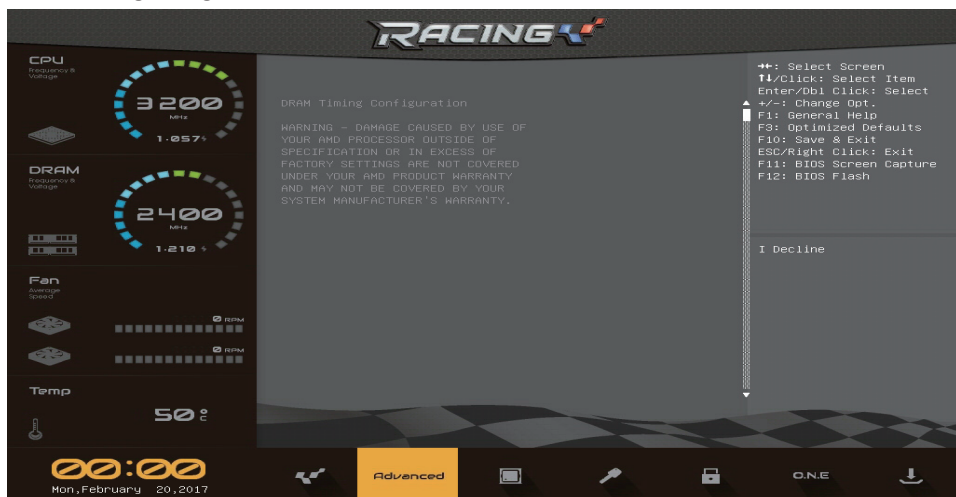
UMC Common Options



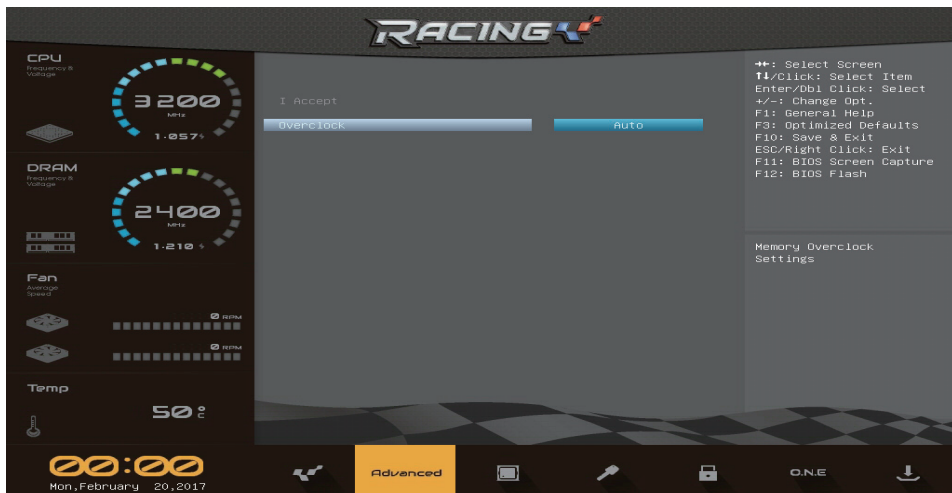
DDR4 Common Options



DRAM Timing Configuration



Accept



Overclock

This item Memory Overclock Settings.

Options: Auto (Default) / Enabled

Memory Clock Speed

This item allows you to set the memory clock frequency.

Options: Auto (Default) / 667MHz / 800MHz / 933MHz / 1067MHz / 1200MHz / 1333MHz / 1467MHz / 1600MHz / 333MHz / 400MHz / 533MHz / 1050MHz / 1066MHz

Tcl

This item sets the tCL time.

Options: Auto (Default) / 8 Clk / 9 Clk / 0Ah Clk / 0Bh Clk / 0Ch Clk / 0Dh Clk / 0Eh Clk / 0Fh Clk / 10h Clk / 11h Clk / 12h Clk / 13h Clk / 14h Clk / 15h Clk / 16h Clk / 17h Clk / 18h Clk / 19h Clk / 1Ah Clk / 1Bh Clk / 1Ch Clk / 1Dh Clk / 1Eh Clk / 1Fh Clk / 20h Clk / 21h Clk

Trcdrd

This item sets the RAS# Active to CAS# read / write delay.

Options: Auto (Default) / 8 Clk / 9 Clk / 0Ah Clk / 0Bh Clk / 0Ch Clk / 0Dh Clk / 0Eh Clk / 0Fh Clk / 10h Clk / 14h Clk / 15h Clk / 16h Clk / 17h Clk / 18h Clk / 19h Clk / 1Ah Clk / 11h Clk / 12h Clk / 13h Clk

Trcdwr

This item sets the RAS# Active to CAS# read / write delay.

Options: Auto (Default) / 8 Clk / 9 Clk / 0xA Clk / 0xB Clk / 0xC Clk / 0xD Clk / 0xE Clk / 0xF Clk / 10h Clk / 11h Clk / 12h Clk / 13h Clk / 14h Clk / 15h Clk / 16h Clk / 17h Clk / 18h Clk / 19h Clk / 1Ah Clk / 1Bh Clk

Trp

This item specify the row precharge time.

Options: Auto (Default) / 8 Clk / 9 Clk / 0Ah Clk / 0Bh Clk / 0Ch Clk / 0Dh Clk / 0Eh Clk / 0Fh Clk / 10h Clk / 11h Clk / 12h Clk / 13h Clk / 14h Clk / 15h Clk / 16h Clk / 17h Clk / 18h Clk / 19h Clk / 1Ah Clk / 1Bh Clk

Tras

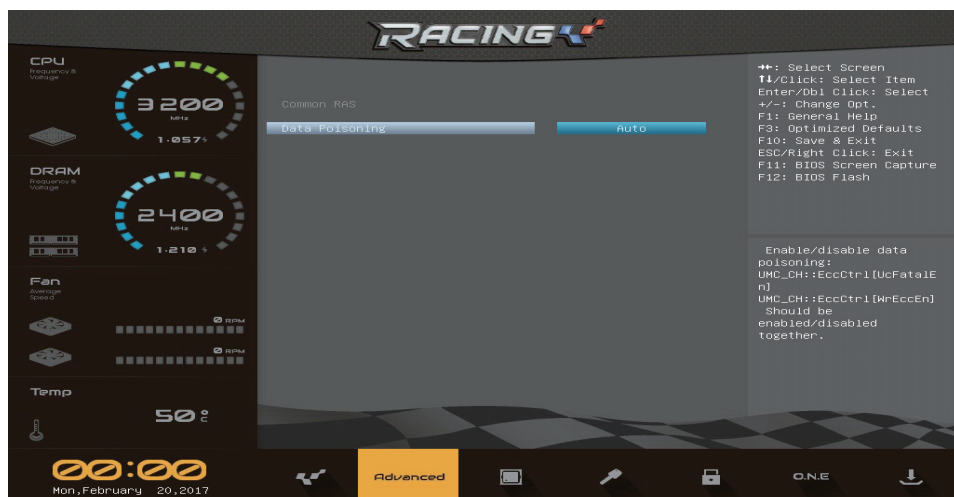
This item specify the min RAS# active time.

Options: Auto (Default) / 15h Clk / 16h Clk / 17h Clk / 18h Clk / 19h Clk / 1Ah Clk / 1Bh Clk / 1Ch Clk / 1Dh Clk / 1Eh Clk / 1Fh Clk / 20h Clk / 21h Clk / 22h Clk / 23h Clk / 24h Clk / 25h Clk / 26h Clk / 27h Clk / 28h Clk / 29h Clk / 2Ah Clk / 2Bh Clk / 2Ch Clk / 2Dh Clk / 2Eh Clk / 2Fh Clk / 30h Clk / 31h Clk / 32h Clk / 33h Clk / 34h Clk / 35h Clk / 36h Clk / 37h Clk / 38h Clk / 39h Clk / 3Ah Clk

Note

- » *Warning - Damage Caused by use of your AMD processor outside of specification or in excess of factory settings are not covered under your AMD product warranty and may not be covered by your system manufacturer's warranty.*

Common RAS

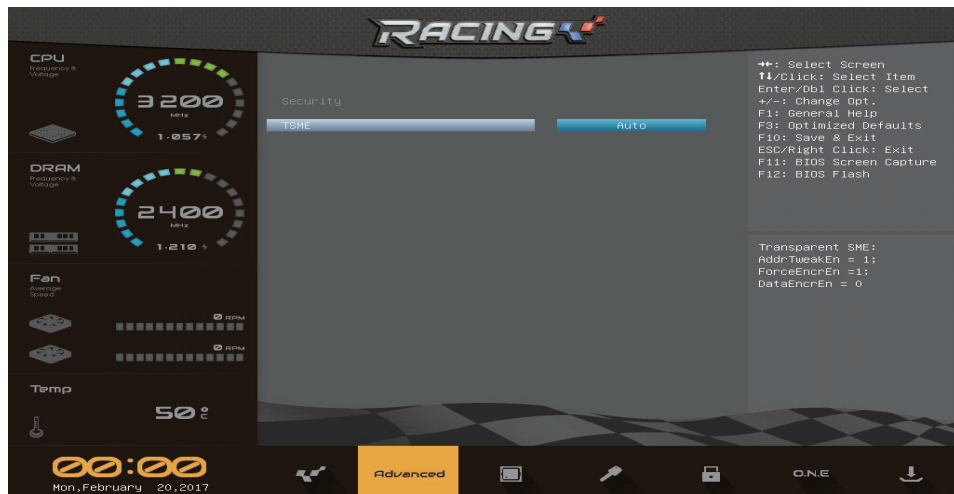


Data Poisoning

This item enabled or disabled data poisoning: UMC_CH::EccCtrl [UcFatalEn] ; UMC_CH::EccCtrl [WrEccEn] Should be enabled / disabled together.

Options: Auto (Default) / Disabled / Enabled

Security



TSME

This item transparent SME: AddrTweakEn = 1 ; ForceEncrEn = 1 ; DataEncrEn = 0.

Options: Auto (Default) / Disabled / Enabled

DRAM Memory Mapping



Chipselect Interleaving

This item Interleave memory blocks across the DRAM chip selects for node 0.

Options: Auto (Default) / Disabled

BankGroupSwap

This item allows you to set BankGroupSwap function.

Options: Auto (Default) / Enabled / Disabled

Address Hash Bank

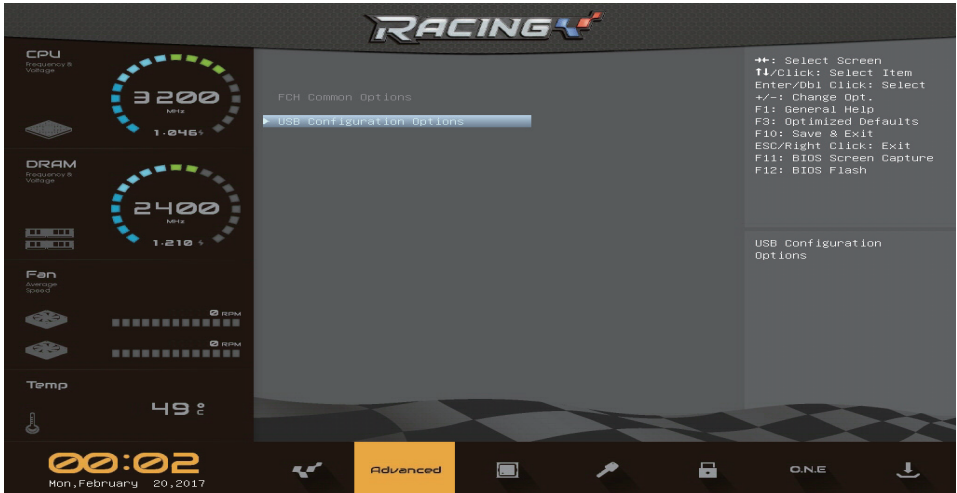
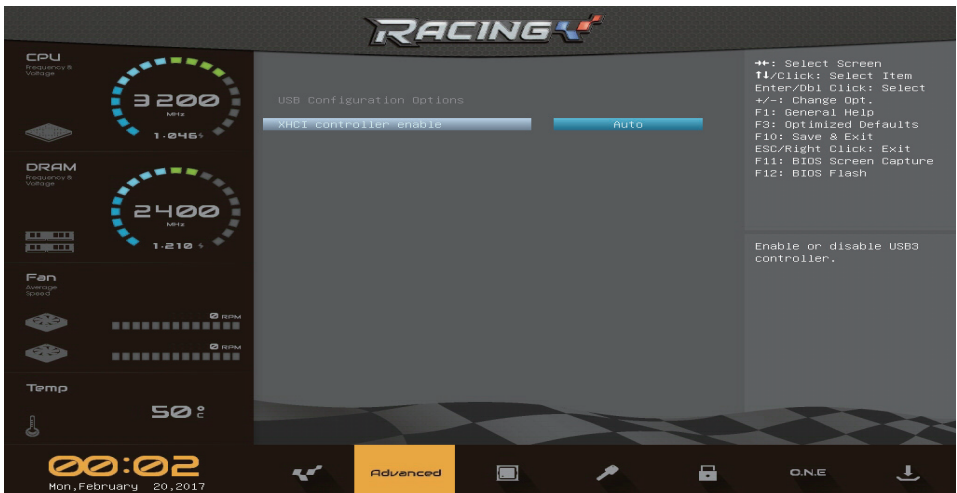
This item enabled or disabled bank address hashing.

Options: Auto (Default) / Enabled / Disabled

Address Hash CS

This item enabled or disabled CS address hashing.

Options: Auto (Default) / Enabled / Disabled

FCH Common Options**XHCI controller enable****XHCI controller enable**

This item enabled or disabled USB3 controller.

Options: Auto (Default) / Enabled / Disabled

ACPI Settings/WakeUp Event control



ErP Control

This item enables or disables ErP Control function. When ErP Enabled, system meets ErP requirement. All wake up events do not work except Power Button after power down system(S5).
Options: Disabled (Default) / Enabled

ACPI Sleep State

This item select ACPI sleep state the system will enter when the SUSPEND button is pressed.
Options: S3 (Suspend to RAM) (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.

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

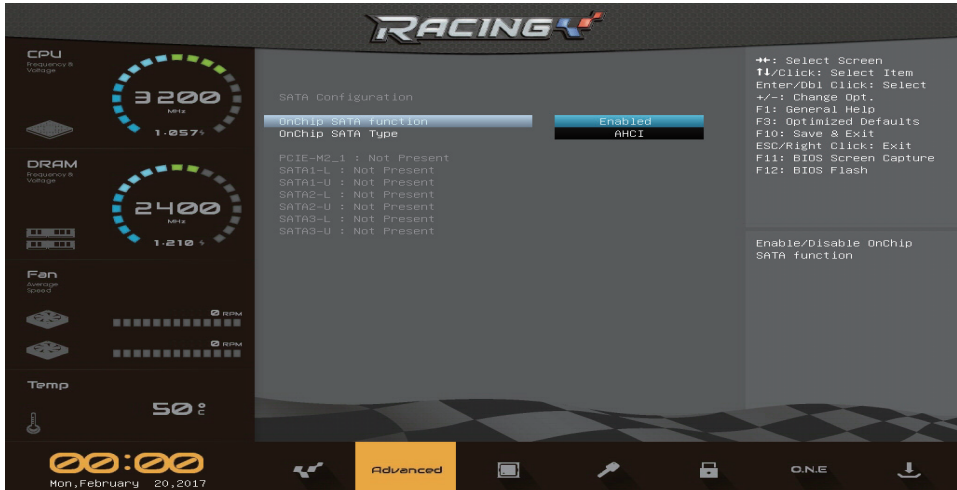
This item will show only when Keyboard PowerOn is set "Specific Key." Press Enter to set Specific key.

PS2 Mouse PowerOn

This item allows you to control the mouse power on function.

Options: Disabled (Default) / Enabled

SATA Configuration



OnChip SATA function

This item enables or disables OnChip SATA function.

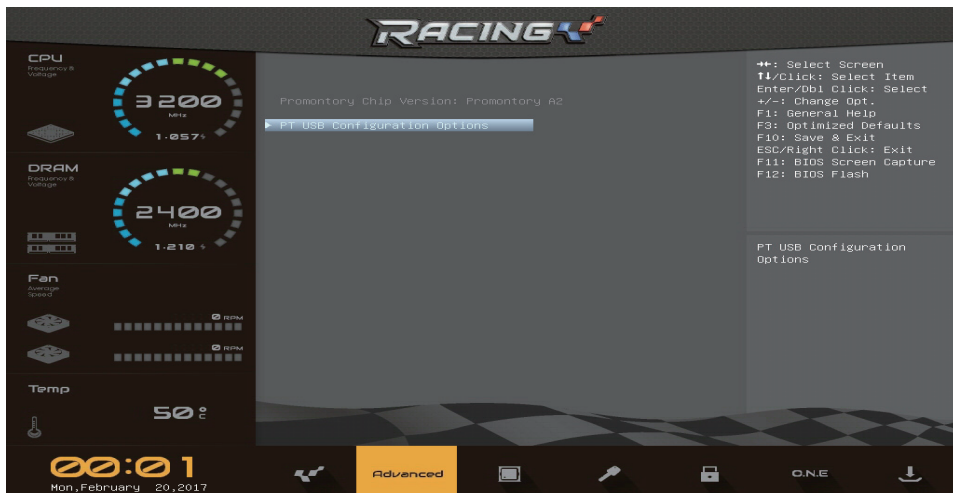
Options: Enabled (Default) / Disabled

OnChip SATA Type

This item select OnChip SATA Type.

Options: AHCI (Default) / RAID

Promontory Common Options



PT USB Configuration Options



PT XHCI GEN1/2

Options: Auto (Default) / Disabled / Enabled

SMART FAN Control



CPU Smart FAN1/2 & System Smart FAN1/2/3

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

Options: Disabled (Default) / 4Pin

Note

» The following items appear only when you set the Smart Fan function to [4Pin].

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 muneral is bigger, the Fan speed is higher.

Options: 30 (Default)

H/W Monitor



PWM Processor Hot

Options: Enabled (Default) / Disabled

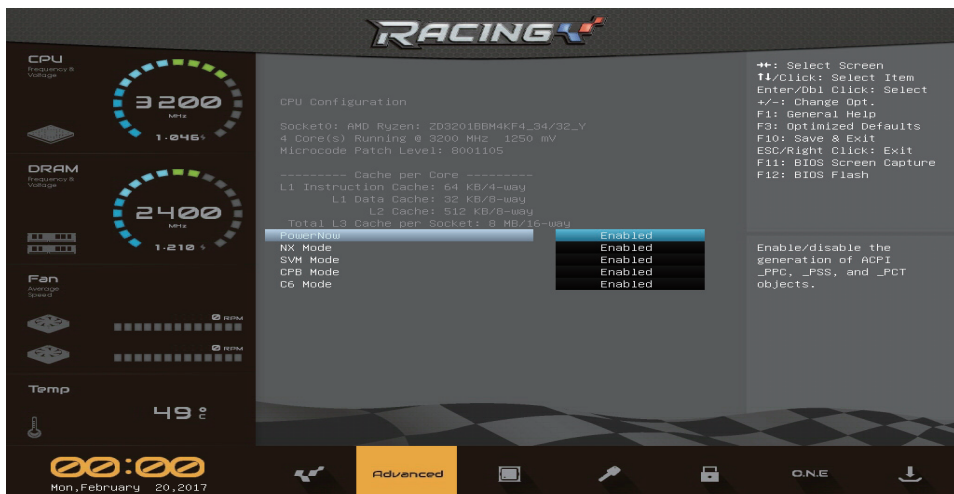
Shutdown Temperature

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

CPU Configuration

This item shows CPU Information.



PowerNow

This item enables or disables the generation of ACPI _PPC, _PSS, and _PCT objects.

Options: Enabled (Default) / Disabled

NX Mode

This item enables or disables No-execute page protection Function.

Options: Enabled (Default) / Disabled

SVM Mode

This item enables or disables CPU Virtualization.

Options: Enabled (Default) / Disabled

CPB Mode

This item specifies the method of core performance boost enablement.

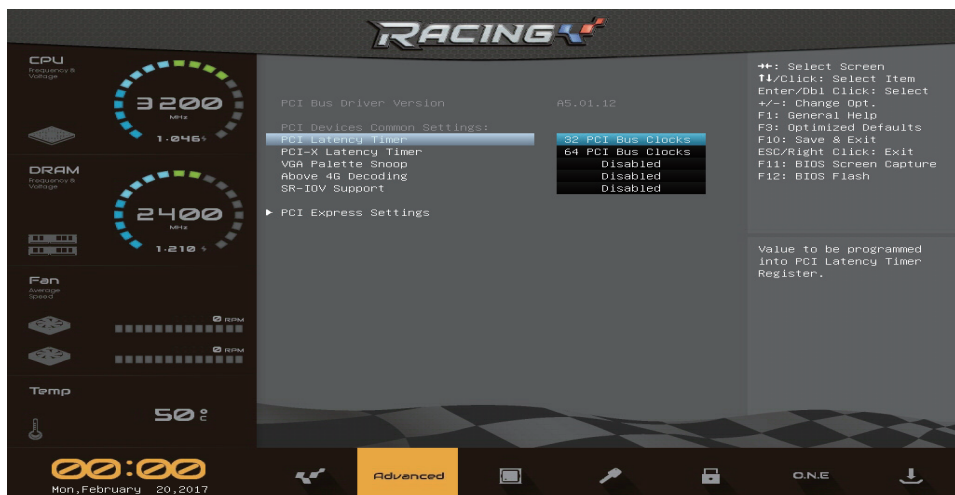
Options: Enabled (Default) / Disabled

C6 Mode

This item enables or disables C6.

Options: Enabled (Default) / Disabled

PCI Subsystem Settings



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

PCI-X Latency Timer

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

Options: 64 PCI Bus Clocks (Default) / 32 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

Above 4G Decoding

This item enables or disables 64bit capable Devices to be Decoded in Above 4G Address Space (Only if System Supports 64bit PCI Decoding).

Options: Disabled (Default) / Enabled

SR-IOV Support

This item if system has SR-IOV capable PCIe Devices, this option enables or disables Single Root IO Virtualization Support.

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 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 set Maximum Read Request Size of PCI Express Device or allow system BIOS to select the value.

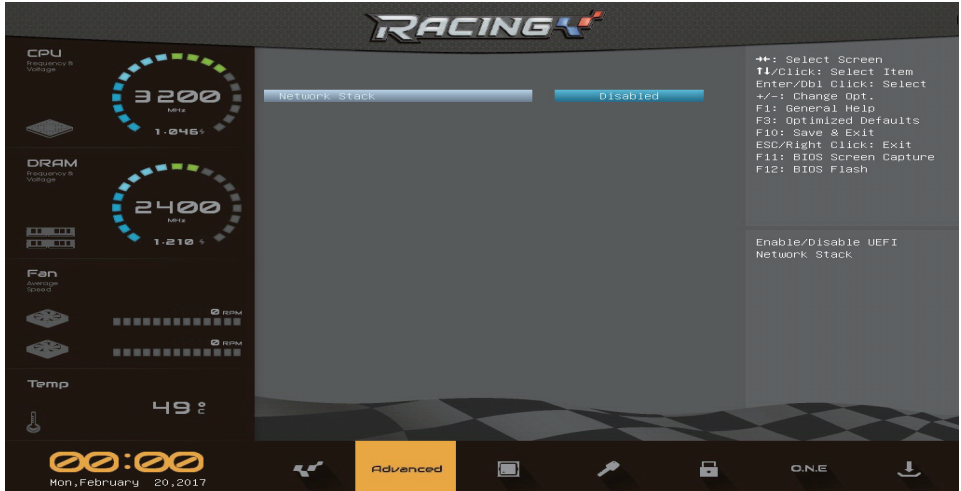
Options: Auto (Default) / 128 Bytes / 256 Bytes / 512 Bytes / 1024 Bytes / 2048 Bytes / 4096 Bytes

ASPM Support

This item set the ASPM Level: Force L0s - Force all links to L0s State ; AUTO - BIOS auto configure ; Disable - Disable ASPM.

Options: Disabled (Default) / Auto / Force L0s

Network Stack Configuration



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 PXE boot option will not be created.

Options: Disabled (Default) / Enabled

IPv4 HTTP Support

This item enables or disables IPv4 HTTP Boot Support. If disabled IPV4 HTTP boot option will not be created.

Options: Disabled (Default) / Enabled

IPv6 PXE Support

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

Options: Disabled (Default) / Enabled

IPv6 HTTP Support

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

Options: Disabled (Default) / Enabled

PXE boot wait time

Wait time to press ESC key to abort the PXE boot.

Media detect count

Number of times presence of media will be checked.

CSM Configuration



CSM Support

This option enables or disables CSM support.

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 set 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 option filter

This option controls Legacy/UEFI ROMs priority.

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

Network

This option controls the execution of UEFI and Legacy PXE OpROM

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

Storage

This option controls the execution of UEFI and Legacy Storage OpROM

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

Video

This option controls the execution of UEFI and Legacy Video OpROM

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

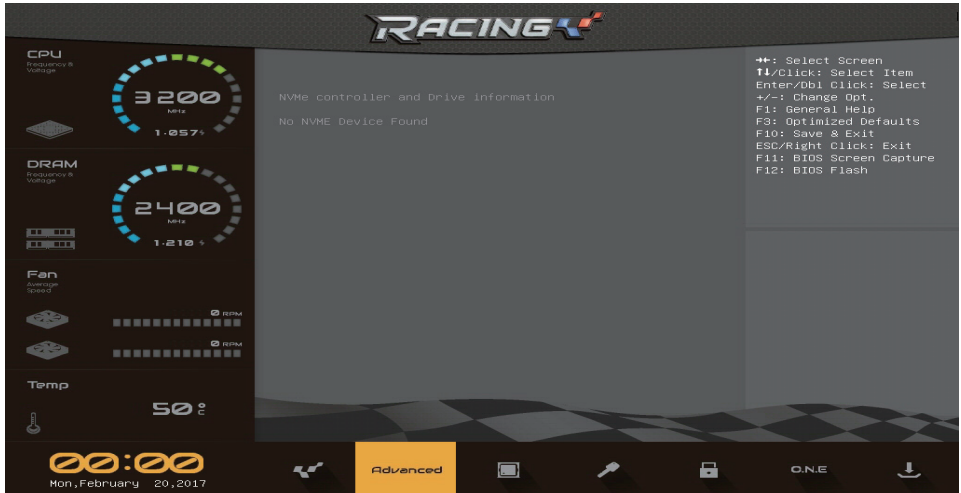
Other PCI device ROM priority

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

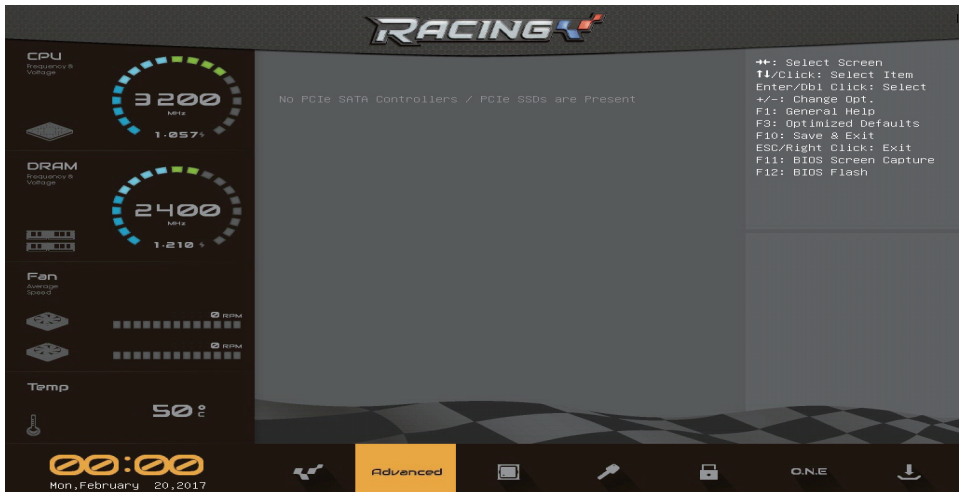
Options: UEFI (Default) / Legacy / Do not launch

NVMe Configuration

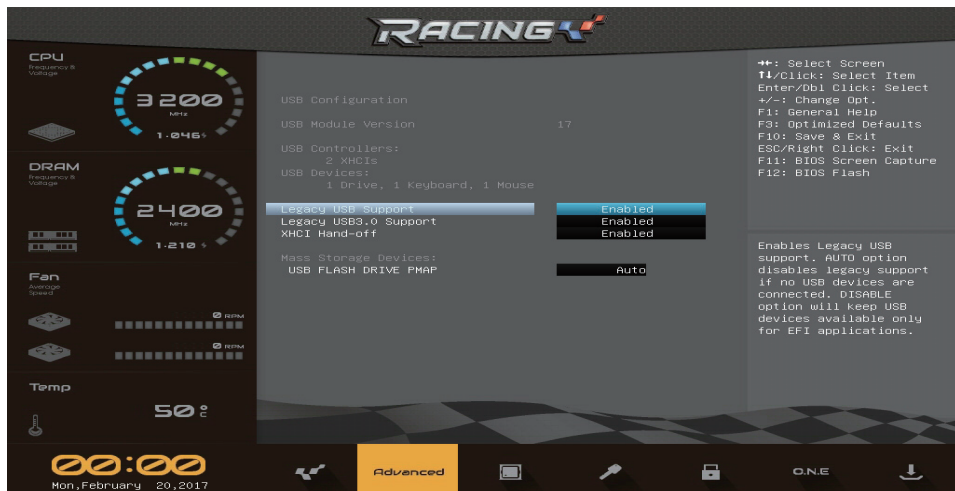
The item shows NVMe controller and driver information.



Offboard PCIe SATA Controller



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

Legacy USB3.0 Support

The item enables or disables legacy USB3.0 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

USB FLASH DRIVE PMAP

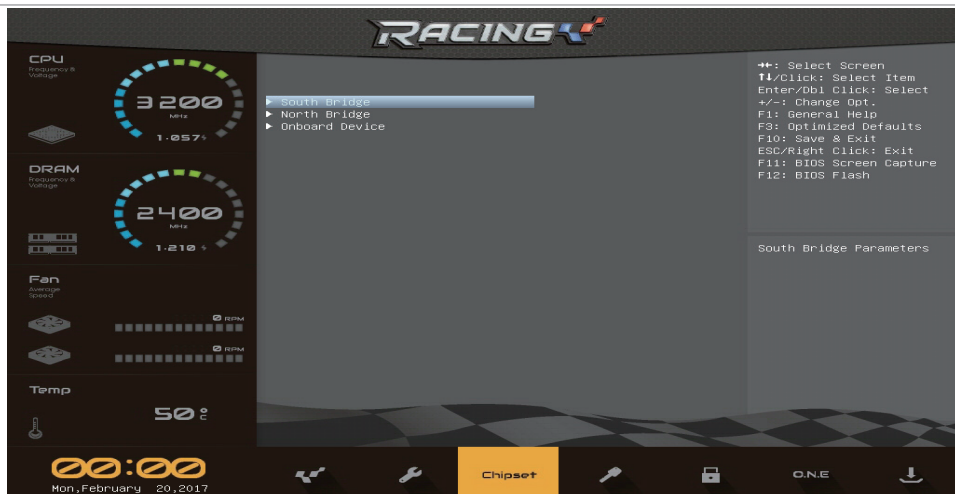
This item Mass storage device emulation type. 'AUTO' enumerates devices according to their media format. Optical drives are emulated as 'CDROM', drives with no media will be emulated according to a drive type.
Options: Auto (Default) / Floppy / Forced FDD / Hard Disk / CD-ROM

3. Chipset Menu

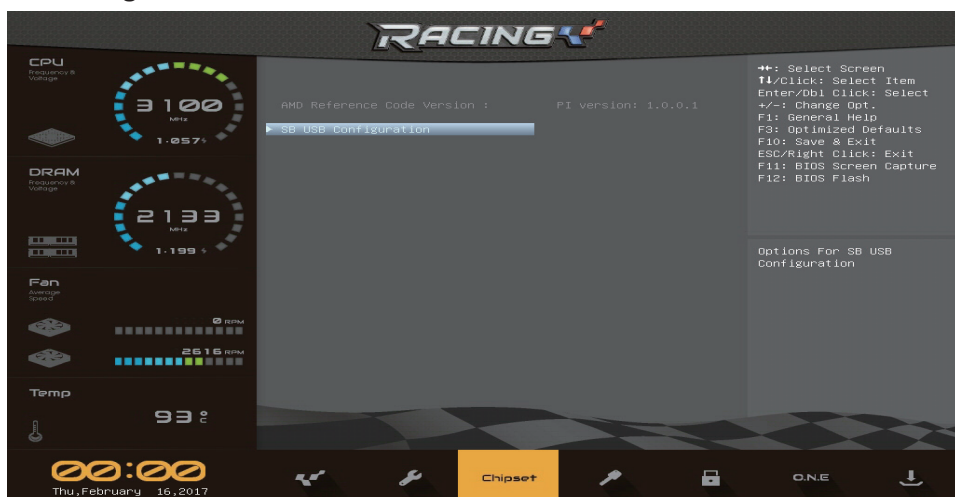
This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components.

Note

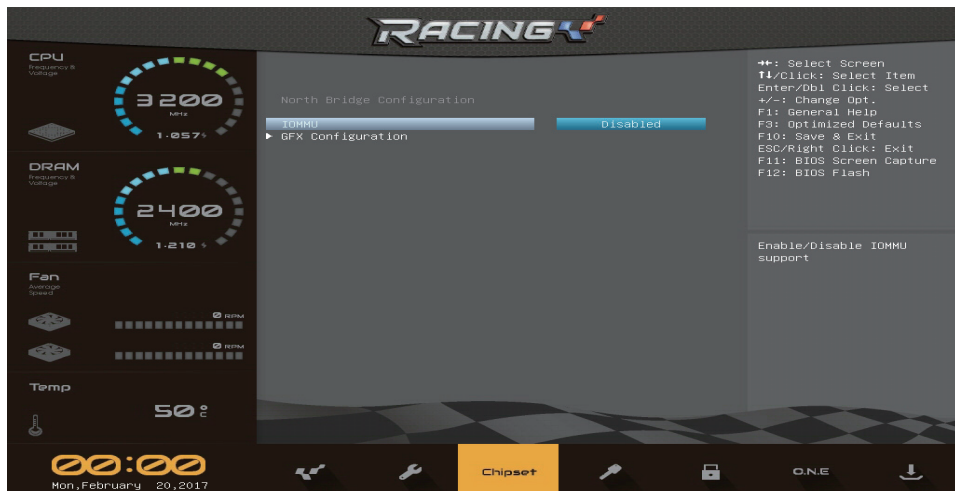
» Beware of that setting inappropriate values in items of this menu may cause system to malfunction.



South Bridge



North Bridge

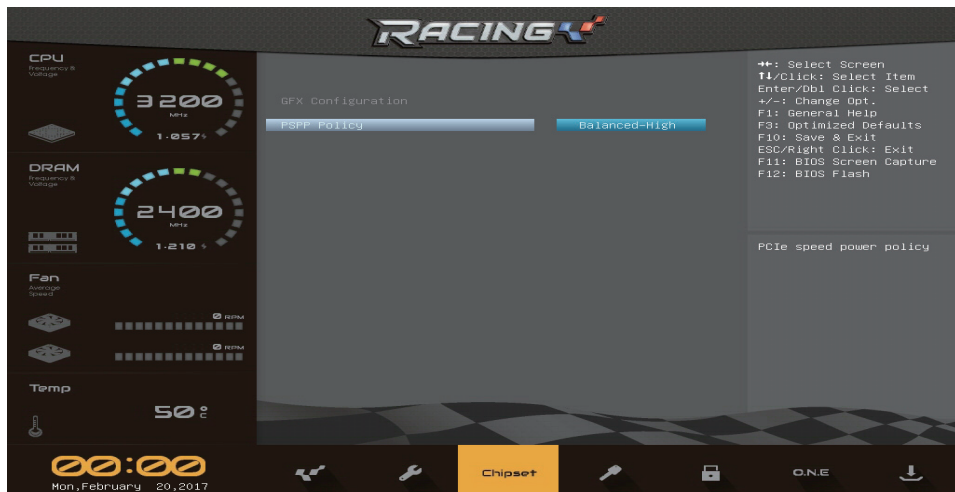


IOMMU

This item enables or disables IOMMU support.

Options: Disabled (Default) / Enabled

GFX Configuration

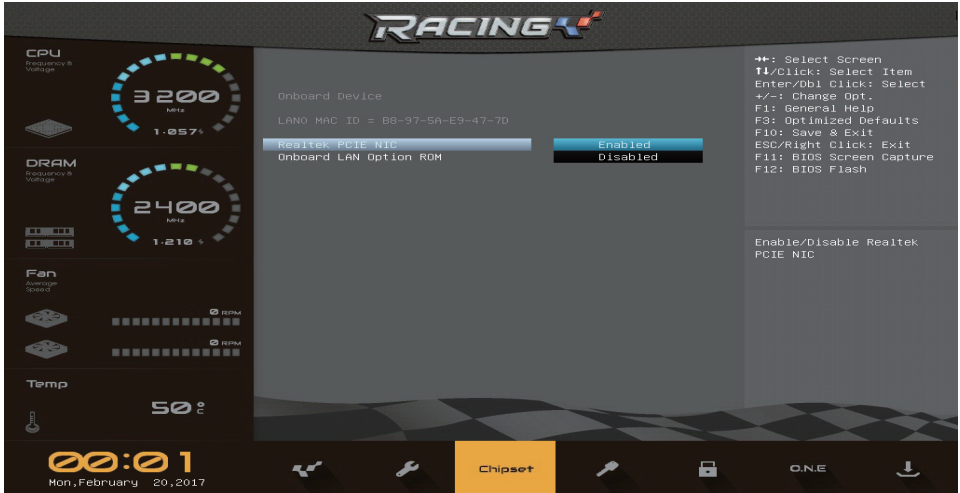


PSP Policy

This item allows you to set PCIe speed power policy.

Options: Balanced-High (Default) / Disabled / Performance / Balanced-Low / Power Saving / Auto

Onboard Device



Realtek PCIE NIC

This item enables or disables Realtek PCIE NIC.

Options: Enabled (Default) / Disabled

Onboard LAN Option ROM

This item enables or disables Onboard LAN Option ROM.

Options: Disabled (Default) / Enabled

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 (Default) / Enabled

Note

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

SATA Support

Options: Last Boot HDD Only (Default) / All Sata Devices

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 OS.

Options: EFI Driver (Default) / Auto

USB Support

If Disabled, all USB devices will NOT be available until after OS boot. If Partial Initial, USB Mass Storage and specific USB port/device will NOT be available before OS boot. If Enabled, all USB devices will be available in OS and Post.

Options: Full Initial (Default) / Disabled / Partial Initial

PS2 Devices Support

If Disabled, PS2 devices will be skipped.

Options: Enabled (Default) / Disabled

Network Stack Driver Support

If Disabled, Network Stack Drivers will be skipped.

Options: Disabled (Default) / Enabled

Redirection Support

If Disabled, Redirection function will be disabled.

Options: Disabled (Default) / Enabled

BIOS Flash protection

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

Options: Enabled (Default) / Disabled

New Boot Option Policy

It controls the placement of newly detected UEFI boot options.

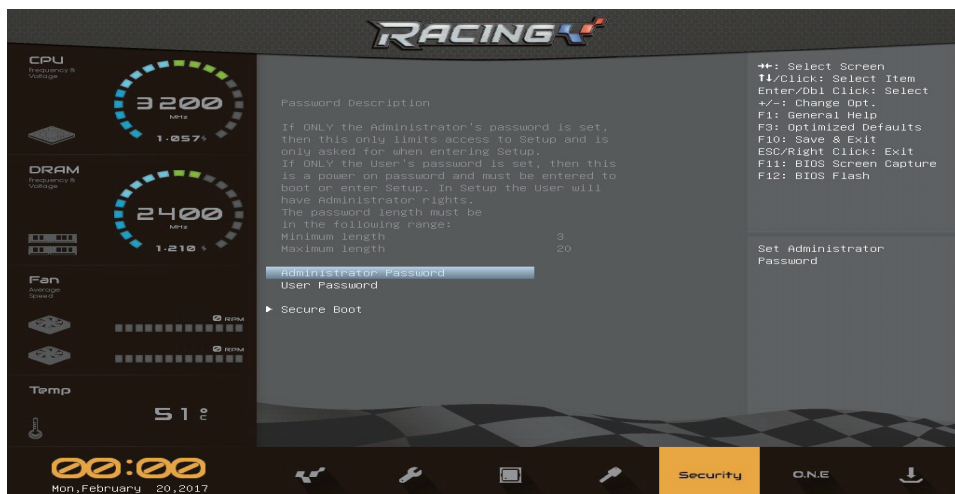
Options: Default (Default) / Place First / Place Last

Boot Success Beep

This item BIOS boot post beep message.

Options: Enabled (Default) / Disabled

5. Security Menu



Administrator Password

This item sets Administrator Password.

User Password

This item sets User Password.

Secure Boot Menu



Attempt Secure Boot

Secure Boot activated when Platform Key(PK) is enrolled, System mode is User/Deployed, and CSM function is disabled.

Options: Disabled (Default) / Enabled

Key Management



Install Factory Default keys

Force System to User Mode - install all Factory Default Keys. Change takes effect after reboot.

Platform Key (PK)

Set new – Allows you set new PK file.

Key Exchange Keys

Set new Key – Allows you set new KEK file.

Append Key – Allows you append Var to KEK.

Authorized Signatures

Set new Key – Allows you set new DB file.

Append Key – Allows you append Var to DB.

Forbidden Signatures

Set new Key – Allows you set new DBX file.

Append Key – Allows you append Var to DBX.

Authorized Timestamps

Set new Key – Allows you set new DBT file.

Append Key – Allows you append Var to DBT.

OsRecovery Signatures

Set new Key – Allows you set new DBT file.

Append Key – Allows you append Var to DBT.

6. O.N.E Menu

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



Memory Insight

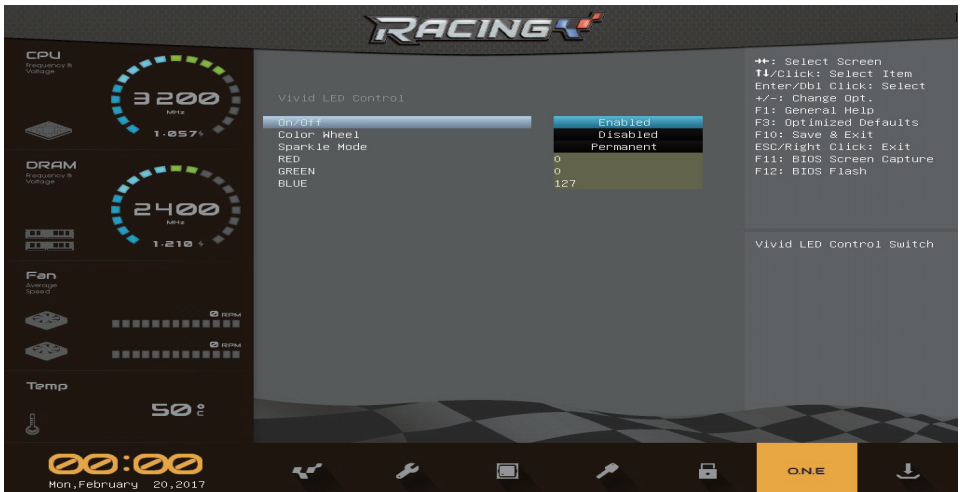


DIMM Profile

These items display memory information.



Vivid LED Control



On/Off

This item Vivid LED Control Switch.

Options: Enabled (Default) / Disabled

Color Wheel

This item Vivid LED Color Wheel.

Options: Disabled (Default) / Enabled

Sparkle Mode

This item Vivid LED Sparkle Mode.

Options: Permanent (Default) / Shine / Breathe

RED

This item allows you to adjust the value for RED color model.

Options: 0 (Default)

GREEN

This item allows you to adjust the value for GREEN color model.

Options: 0 (Default)

BLUE

This item allows you to adjust the value for BLUE color model.

Options: 127 (Default)

CPU Load-Line Calibration

This item adjust CPU LLC function.

Options: Auto (Default) / Disabled / Level 1 / Level 2 / Level 3 / Level 4 / Level 5 / Level 6

OverCurrent Protection

This item enables/disables OverCurrent Protection(OCP).

Options: Enabled (Default) / Disabled

CPU Over Voltage Protection

This item enables/disables CPU Over Voltage Protection.

Options: Enabled (Default) / Disabled

CPU Switching Frequency

This item allows you to set up the CPU Switching Frequency.

Options: Auto (Default) / 300.0 KHz / 350.0 KHz / 400.0 KHz / 450.0 KHz / 500.0 KHz

SOC Switching Frequency

This item allows you to set up the SOC Switching Frequency.

Options: Auto (Default) / 250.0 KHz / 300.0 KHz / 350.0 KHz / 400.0 KHz / 450.0 KHz

CPU Core Voltage

This item CPU Core Voltage Control.

Options: Auto (Default) / Override / Adaptive

» Note

» The following items appear only when you set the CPU Core Over Voltage to [Override]

CPU Core Adjust Voltage

Options: Auto (Default)

» Note

» The following items appear only when you set the CPU Core Over Voltage to [Adaptive]

CPU Core Offset Prefix

Options: + (Default) / -

CPU Core Offset Voltage

Options: Auto (Default)

CPU_SOC Voltage

This item CPU Core Voltage Control.

Options: Auto (Default) / Override / Adaptive

Note

» The following items appear only when you set the CPU_SOC Voltage to [Override]

CPU_SOC Adjust Voltage

Options: 0.950 (Default)

Note

» The following items appear only when you set the CPU Core Over Voltage to [Adaptive]

CPU_SOC Offset Prefix

Options: + (Default) / -

CPU_SOC Offset Voltage

Options: Auto (Default)

DDR Memory Voltage

This item DDR Memory Voltage Control.

Options: Auto (Default) / +0.012 V / +0.024 V / +0.048 V / +0.060 V / +0.072 V / +0.084 V / +0.096 V / +0.108 V / +0.120 V

VDDP Voltage

This item VDDP Voltage Control.

Options: Auto (Default) / +0.010 V / +0.020 V / +0.030 V / +0.040 V / +0.050 V / +0.060 V / +0.070 V / +0.080 V / +0.090 V / +0.100 V / +0.110 V / +0.120 V / +0.130 V / +0.140 V / +0.150 V

Chipset Voltage

This item Chipset Voltage Control.

Options: Auto (Default) / +0.010 V / +0.020 V / +0.030 V / +0.040 V / +0.050 V / +0.060 V / +0.070 V / +0.080 V / +0.090 V / +0.100 V / +0.110 V / +0.120 V / +0.130 V / +0.140 V / +0.150 V

DDR VPP Voltage

This item DDR VPP Voltage Control.

Options: Auto (Default) / +0.035 V / +0.070 V / +0.105 V / +0.140 V / +0.175 V / +0.210 V / +0.245 V / +0.280 V / +0.315 V / +0.350 V

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

Restore/Load Default values for all the setup options.

Launch Shell from device

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