

# BIOS User Guide

A10N-9830E / A10N-9630E

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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 BIORSTAR 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.

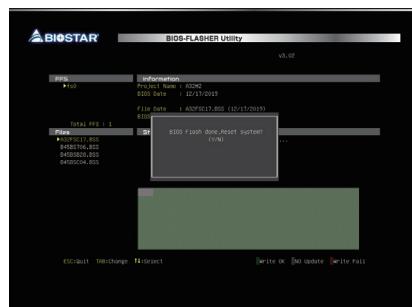
5. After entering the POST screen, the BIOS-FLASHER utility pops out. Choose <fs0> to search for the BIOS file.



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 <DEL> key to enter BIOS setup.

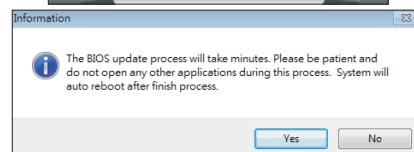
After entering the BIOS setup, please go to the <Save & Exit>, using the <Restore Defaults> function to load Optimized Defaults, and select <Save Changes and Reset> to restart the computer. Then the BIOS Update is completed.

#### **BIOS Update Utility (through the Internet)**

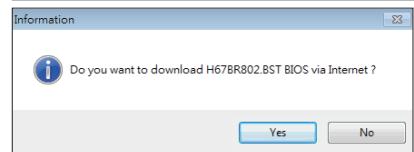
1. Installing BIOS Update Utility from the DVD Driver.
2. Please make sure the system is connected to the internet before using this function.



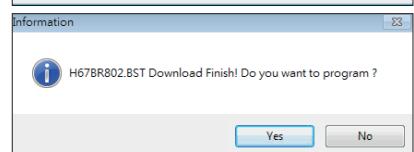
3. Launch BIOS Update Utility and click the "Online Update" button on the main screen.



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

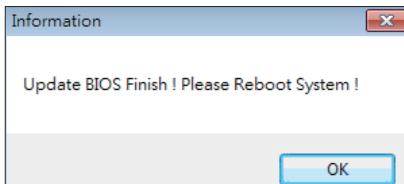


5. If there is a new BIOS version, the utility will ask you to download it. Click "Yes" to proceed.



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 <DEL> key to enter BIOS setup.

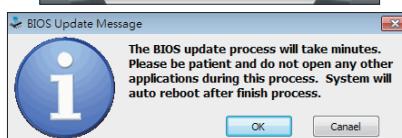
After entering the BIOS setup, please go to the <Save & Exit>, using the <Restore Defaults> function to load Optimized Defaults, and select <Save Changes> and <Reset> to restart the computer. Then, the BIOS Update is completed.

#### **BIOS Update Utility (through a BIOS file)**

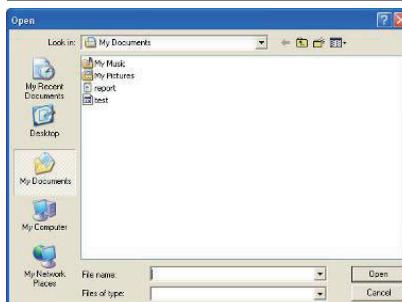
1. Installing BIOS Update Utility from the DVD Driver.
2. Download the proper BIOS from <http://www.biostar.com.tw/>



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

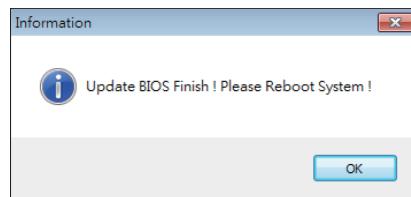


4. A warning message will show up to request your agreement to start the BIOS update. Click “OK” to start the update procedure.



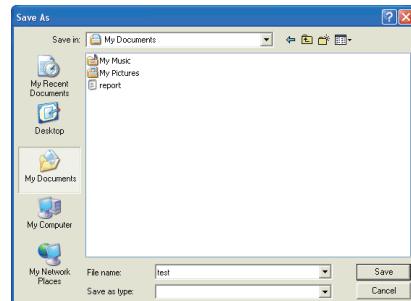
5. Choose the location for your BIOS file in the system. Please select the proper BIOS file, and then click on “Open”. It will take several minutes, please be patient.

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 <DEL> 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 **<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.

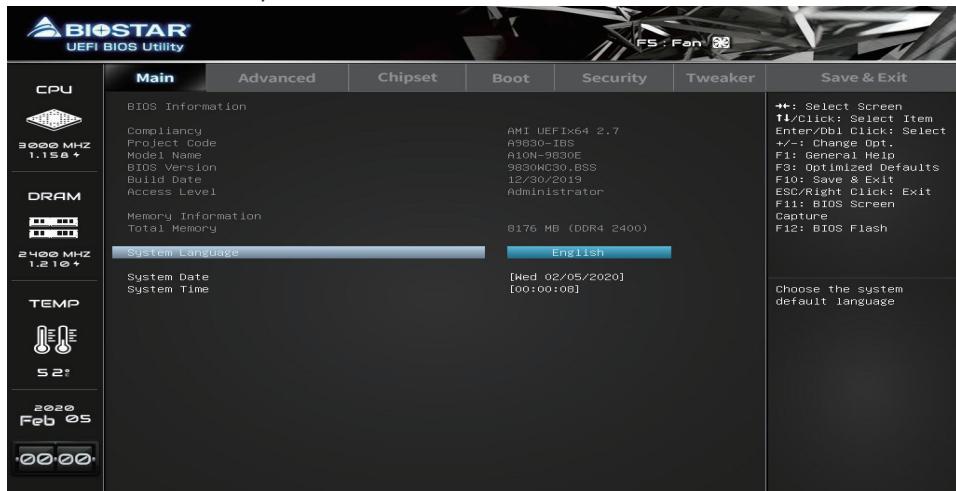
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### ► Note

- » *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

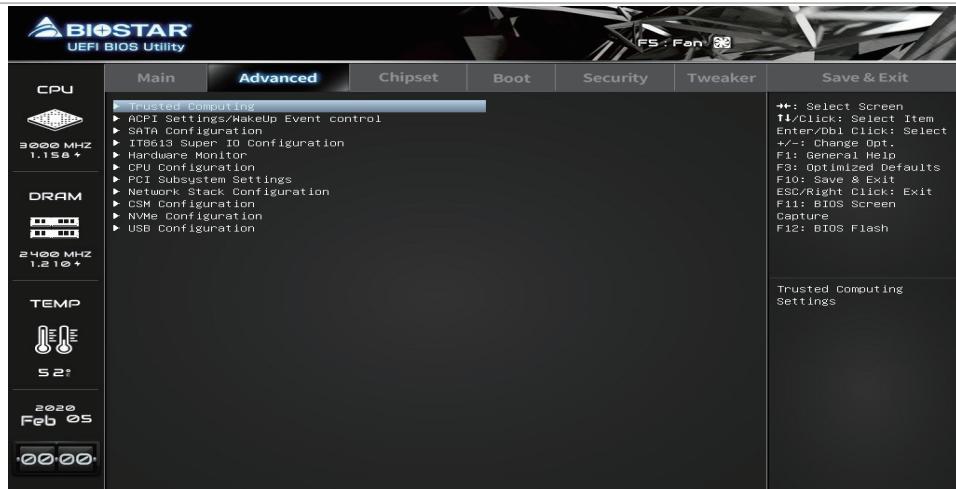
Set the system internal clock.

## 2. Advanced Menu

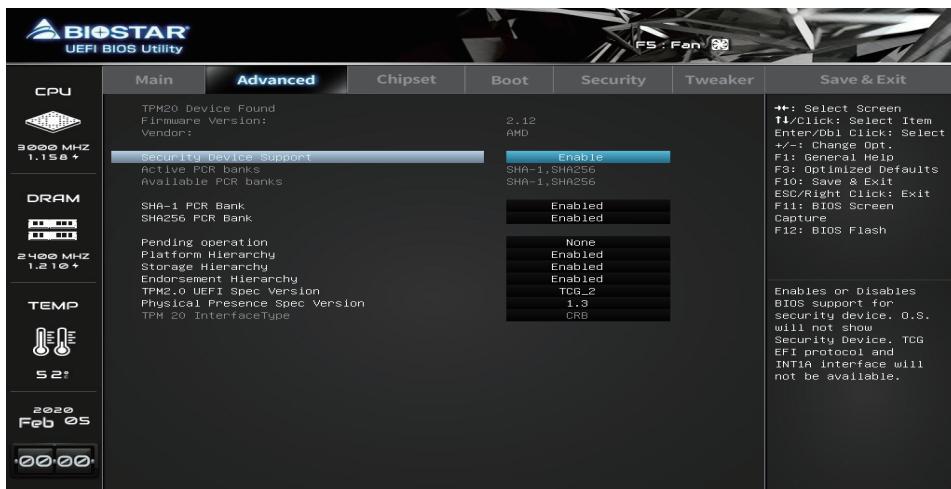
The Advanced Menu allows you to configure the settings of CPU, Super I/O, Power Management, and other system devices.

### Note

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



### Trusted Computing



## Security Device Support

This item enables or disables BIOS support for security device. O.S. will not show Security Device.  
TCG EFI protocol and INT1A interface will not be available.

Options: Enabled (Default) / Disabled

## SHA-1 PCR Bank

This item enables or disables SHA-1 PCR Bank.

Options: Enabled (Default) / Disabled

## SHA256 PCR Bank

This item enables or disables SHA256 PCR Bank.

Options: Enabled (Default) / Disabled

## Pending operation

This item Schedule an Operation for the Security Device.

Options: None (Default) / TPM Clear

» *Your computer will reboot during restart in order to change state of Security Device.*

## Platform Hierarchy

This item enables or disables Platform Hierarchy.

Options: Enabled (Default) / Disabled

## Storage Hierarchy

This item enables or disables Storage Hierarchy.

Options: Enabled (Default) / Disabled

## Endorsement Hierarchy

This item enables or disables Endorsement Hierarchy.

Options: Enabled (Default) / Disabled

## TPM2.0 UEFI Spec Version

This item select the TCG2 Spec Version support. TCG\_1\_2: the Compatible mode for Win8/Win10 ; TCG\_2: Support new TCG2 protocol and event format for Win10 or later.

Options: TCG\_2 (Default) / TCG\_1\_2

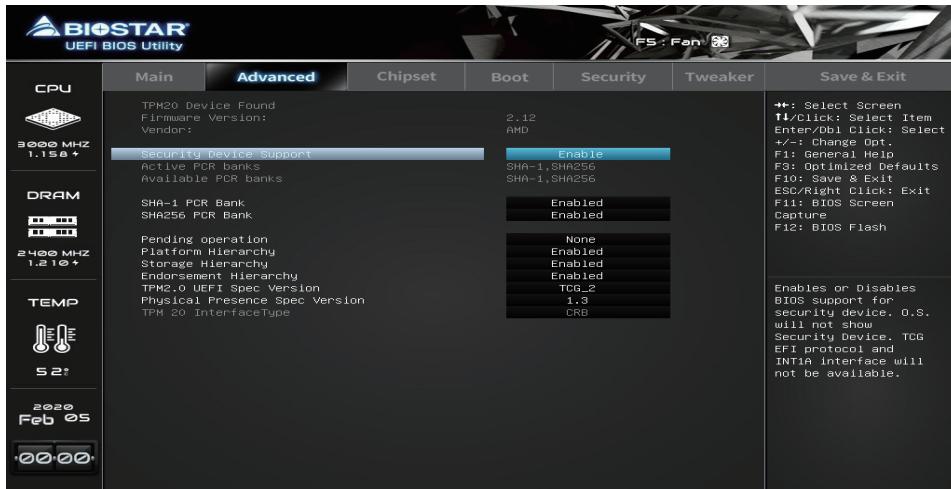
## Physical Presence Spec Version

This item select to tell O.S. to support PPI Spec Version 1.2 or 1.3 .

Options: 1.3 (Default) / 1.2

» *Note some HCK tests might not support 1.3 .*

## ACPI Settings/WakeUp Event control



**ACPI Settings/WakeUp Event control**

Setting	Value	Description
TPM2.0 Device Found	2.12	TPM2.0 UEFI Spec Version
Firmware Version:	AMD	
Vendor:		
<b>Security Device Support</b>	<b>Enable</b>	
Active PCR banks	SHA-1, SHA256	
Available PCR banks	SHA-1, SHA256	
SHA-1 PCR Bank	Enabled	
SHA256 PCR Bank	Enabled	
Pending operation	None	
Platform Hierarchy	Enabled	
Storage Hierarchy	Enabled	
Endorsement Hierarchy	Enabled	
TPM2.0 UEFI Spec Version	TCG_2	
Physical Presence Spec Version	1.3	
TPM 2.0 Interface type	CRB	
<b>Enables or Disables</b>		
BIOS support for security device. TCG EFI protocol and INT19 interface will not be available.		

### 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 OS.

Options: Enabled (Default) / Disabled

### 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

### Lock Legacy Resources

This item enables or disables Lock of Legacy Resources.

Options: Disabled (Default) / Enabled

### 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

### 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: Enabled (Default) / Disabled

## 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.

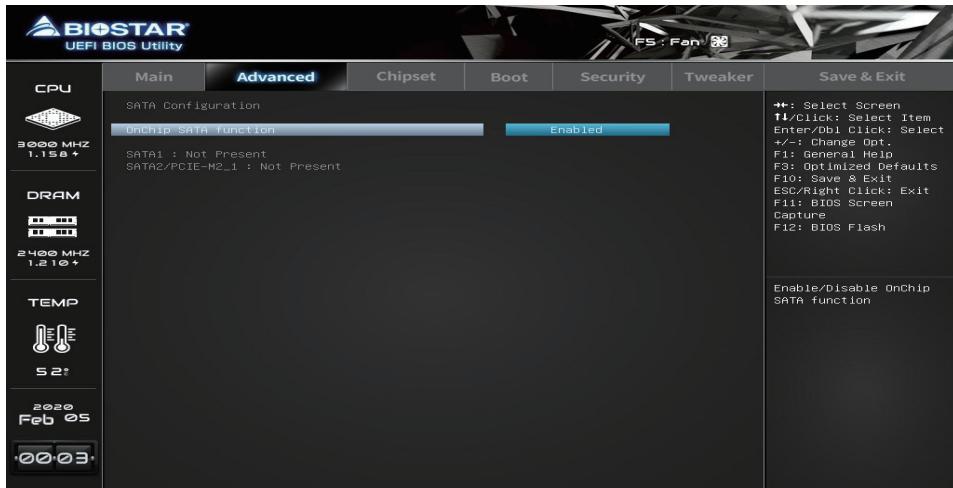
Options: Disabled (Default) / Enabled

## USB Device Wakeup from S3/S4

This item allows you to set USB Device Wakeup from S3/S4.

Options: Disabled (Default) / Enabled

## SATA Configuration



The screenshot shows the Advanced tab selected in the top navigation bar. Under the "SATA Configuration" section, there is a setting for "OnChip SATA Function" which is set to "Enabled". The status below it indicates "SATA1 : Not Present" and "SATA2/PCIE-M2\_1 : Not Present". On the right side, a legend provides keyboard shortcuts for navigating the BIOS.

Key	Action
↑↓	Select Screen
Left/Right Click	Select Item
Enter/Double Click	Select
+/−	Change Opt.
F1	General Help
F3	Optimized Defaults
F10	Save & Exit
ESC/Right Click	Exit
F11	BIOS Screen
Capture	
F12	BIOS Flash

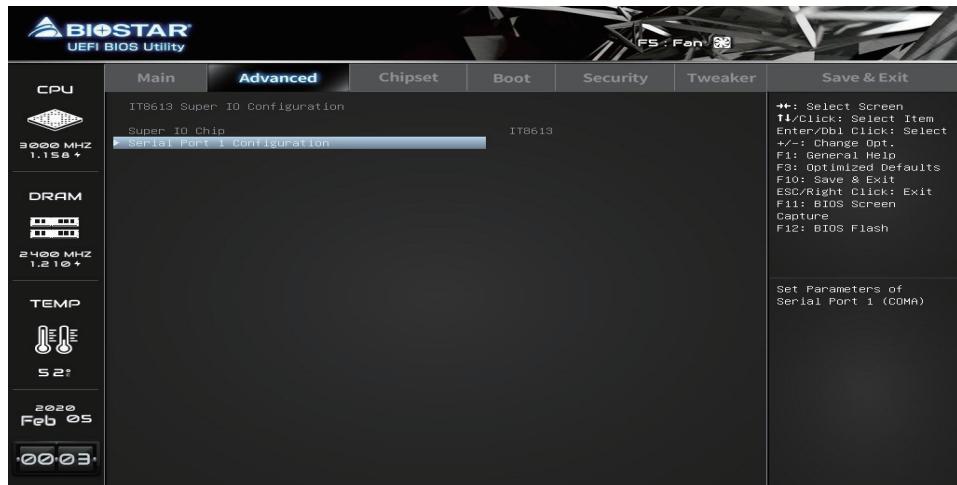
Enable/Disable OnChip SATA Function

### OnChip SATA function

This item enables or disables OnChip SATA function.

Options: Enabled (Default) / Disabled

## IT8613 Super IO Configuration



The screenshot shows the Advanced tab selected in the top navigation bar. Under the "IT8613 Super IO Configuration" section, there is a setting for "Super IO Chip" which is set to "IT8613". Below it, "Serial Port 1 Configuration" is expanded. On the right side, a legend provides keyboard shortcuts for navigating the BIOS.

Key	Action
↑↓	Select Screen
Left/Right Click	Select Item
Enter/Double Click	Select
+/−	Change Opt.
F1	General Help
F3	Optimized Defaults
F10	Save & Exit
ESC/Right Click	Exit
F11	BIOS Screen
Capture	
F12	BIOS Flash

Set Parameters of Serial Port 1 (COMA)

## Serial Port 1 Configuration

The screenshot shows the BIOS Utility main menu with the following sections:

- CPU:** 3000 MHz 1.158+
- DRAM:** 2400 MHz 1.210+
- TEMP:** S 2°
- Date/Time:** 2020 Feb 05
- System Clock:** 00:03

**Advanced Tab (Selected):**

- Serial Port:** Enabled (IO=3F8h; IRQ=4); Change Settings
- Save & Exit:**
  - ++: Select Screen
  - ↑/↓/Click: Select Item
  - Enter/DBL Click: Select
  - +/-: Change Opt.
  - F1: General Help
  - F3: Optimized Defaults
  - F10: Save & Exit
  - ESC/Right Click: Exit
  - F11: BIOS Screen Capture
  - F12: BIOS Flash

### Serial Port

This item enabled or Disabled Serial Port (COM).

Options: Enabled (Default) / Disabled

### Change Settings

This item select an optimal settings for Super IO Device.

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

## H/W Monitor

The screenshot shows the BIOS Utility main menu with the following sections:

- CPU:** 3000 MHz 1.158+
- DRAM:** 2400 MHz 1.210+
- TEMP:** S 2°
- Date/Time:** 2020 Feb 05
- System Clock:** 00:00

**Advanced Tab (Selected):**

- PC Health Status:**
  - PWM Processor Hot: Enabled (Disabled)
  - Shutdown Temperature: N/A
  - CPU Temperature: 53 °C
  - SYS Temperature: 37 °C
  - CPU Fan Speed: 4787 RPM
  - System Fan Speed: N/A
  - CPU Core Voltage: +1.158 V
  - DDR Memory Voltage: +1.210 V
  - +12.0V: +12.312 V
  - +5.00V: +5.273 V
- Save & Exit:**
  - ++: Select Screen
  - ↑/↓/Click: Select Item
  - Enter/DBL Click: Select
  - +/-: Change Opt.
  - F1: General Help
  - F3: Optimized Defaults
  - F10: Save & Exit
  - ESC/Right Click: Exit
  - F11: BIOS Screen Capture
  - F12: BIOS Flash

### PWM Processor Hot

Options: Enabled (Default) / Disabled

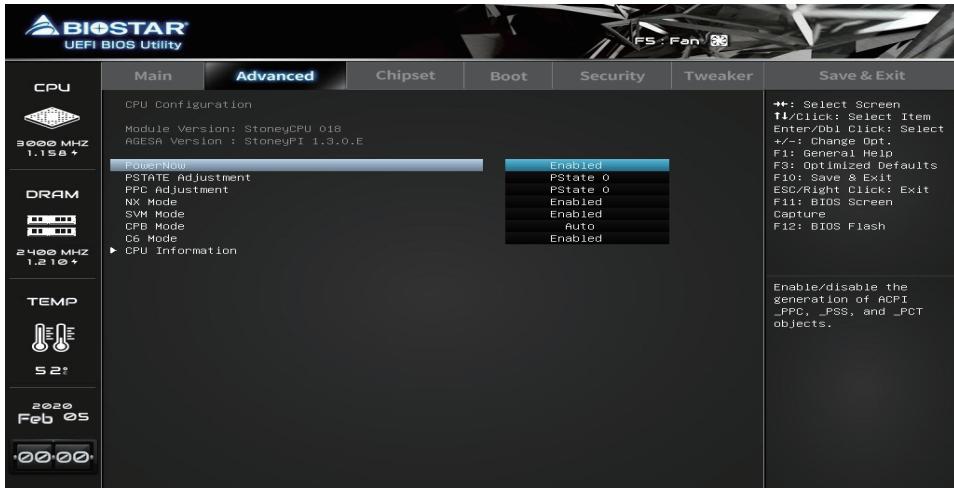
## Shutdown Temperature

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

### PSTATE Adjustment

This item allows you to adjust startup 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 allows you to adjust PPC object.

Options: PState 0 (Default) / PState 1 / PState 2 / PState 3 / PState 4

### 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 enables or disables Specifies the method of core performance boost enablement.

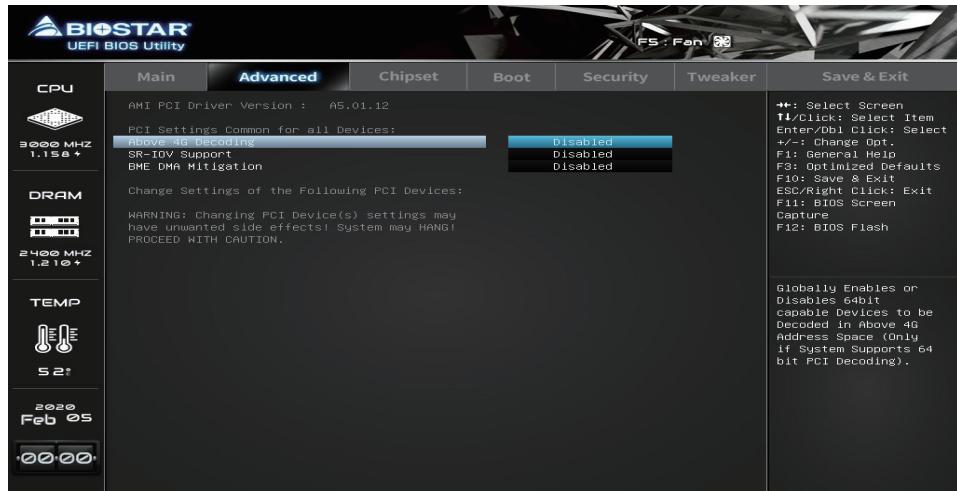
Options: Auto (Default) / Disabled

### C6 Mode

This item enables or disables C6.

Options: Enabled (Default) / Disabled

## PCI Subsystem Settings



### 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.

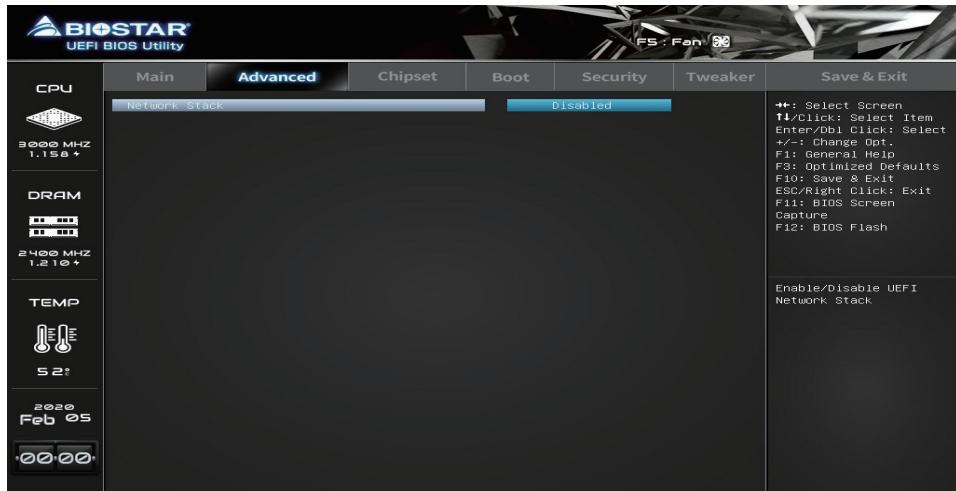
Options: Disabled (Default) / Enabled

### BME DMA Mitigation

This item Re-enable Bus Master Attribute disabled during Pci enumeration for PCI Bridges after SMM Locked.

Options: Disabled (Default) / Enabled

## 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

The screenshot shows the BIOS Utility main menu with the following sections:

- CPU:** 3000 MHz 1.158+
- DRAM:** 2400 MHz 1.210+
- TEMP:** 52°
- Date/Time:** 2020 Feb 05
- System Status:** 00:00
- Advanced:** Selected tab.
- Chipset:** Tab available.
- Boot:** Tab available.
- Security:** Tab available.
- Tweaker:** Tab available.
- Save & Exit:** Tab available.

**Compatibility Support Module Configuration**

Category	Setting	Description
CSM Support	Enabled	Enable/Disable CSM Support.
CSM16 Module Version	07.78	
GateA20 Active	Upon Request	
Option ROM Messages	Force BIOS	
INT19 Trap Response	Immediate	
Boot option filter	UEFI and Legacy	
Option ROM execution		
Network	Legacy	
Storage	Legacy	
Video	Legacy	
Other PCI device ROM priority	Legacy	

**Keyboard Shortcuts:**

- ++: Select Screen
- 1/Click: Select Item
- Enter/Db1 Click: Select
- +/-: Change Opt.
- F1: General Help
- F3: Optimized Defaults
- F10: Save & Exit
- ESC/Right Click: Exit
- F11: BIOS Screen Capture
- F12: BIOS Flash

### 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: Immediate (Default) / Postponed

### 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

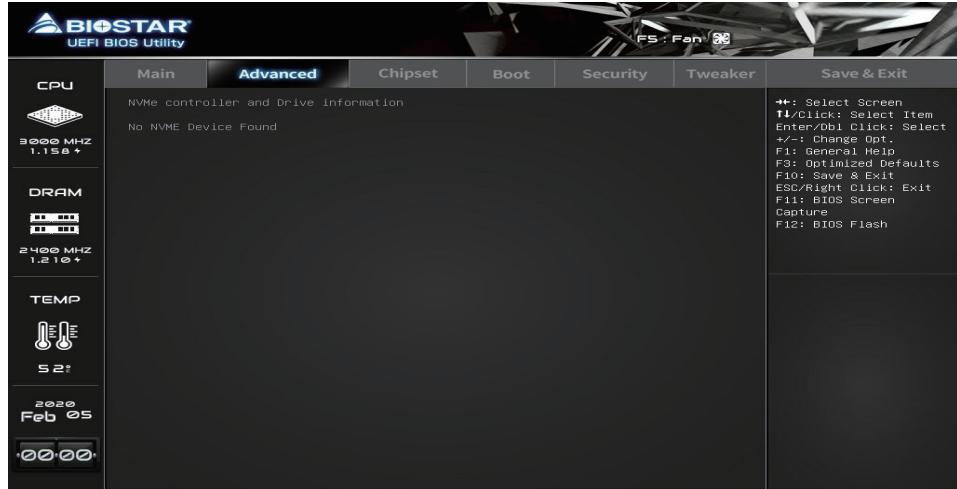
## Other PCI device ROM priority

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

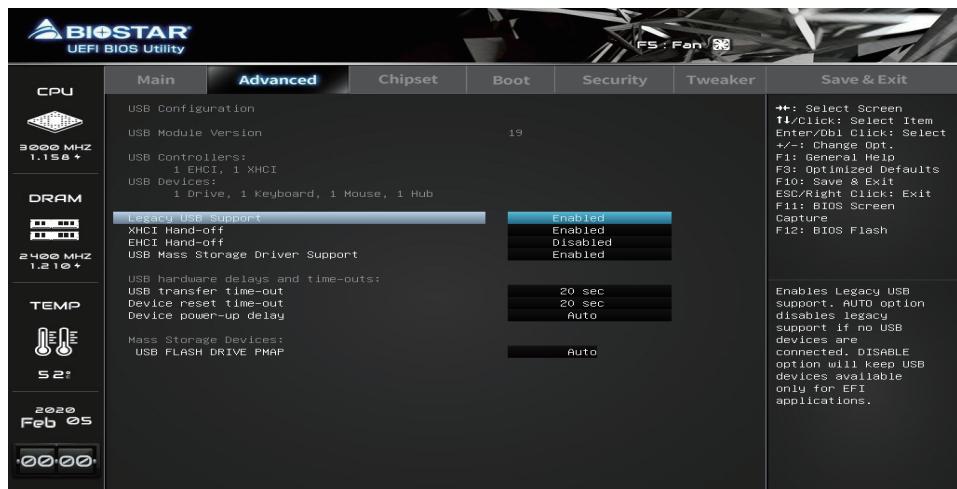
Options: Legacy (Default) / Do not launch / UEFI

## NVMe Configuration

The item shows NVMe controller and driver information.



## 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

**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

**USB Mass Storage Driver Support**

This item enables or disables USB Mass Storage Driver Support.

Options: Enabled (Default) / Disabled

**USB transfer time-out**

This item-out value for control, Bulk, and Interrupt transfers.

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

**Device reset time-out**

This item allows you to set USB mass storage device start Unit command time-out.

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

**Device power-up delay**

This item maximum time the device will take before it properly reports itself to the Host controller. "Auto" uses default value: for a Root port it is 100 ms, 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)

**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.

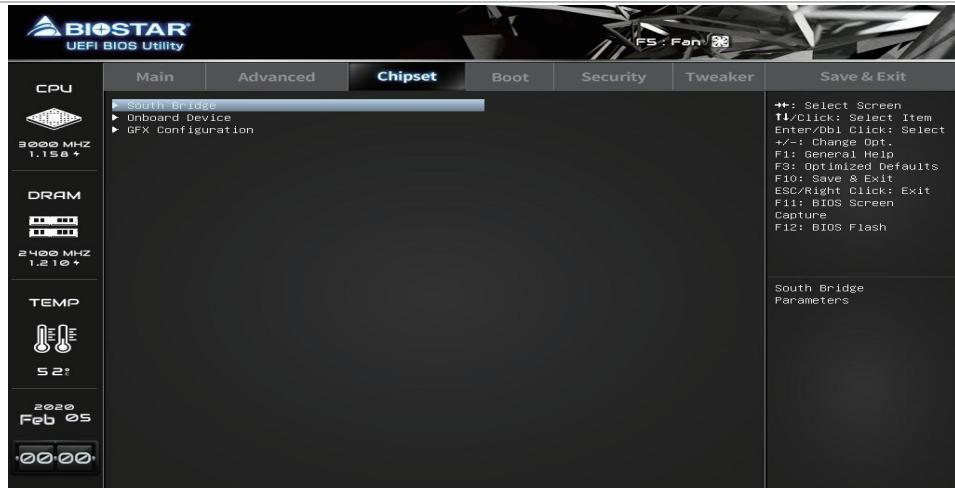
Options: Auto (Default) / Floppy / Forced FDD / Hard Disk / CD-ROM

### 3. Chipset Menu

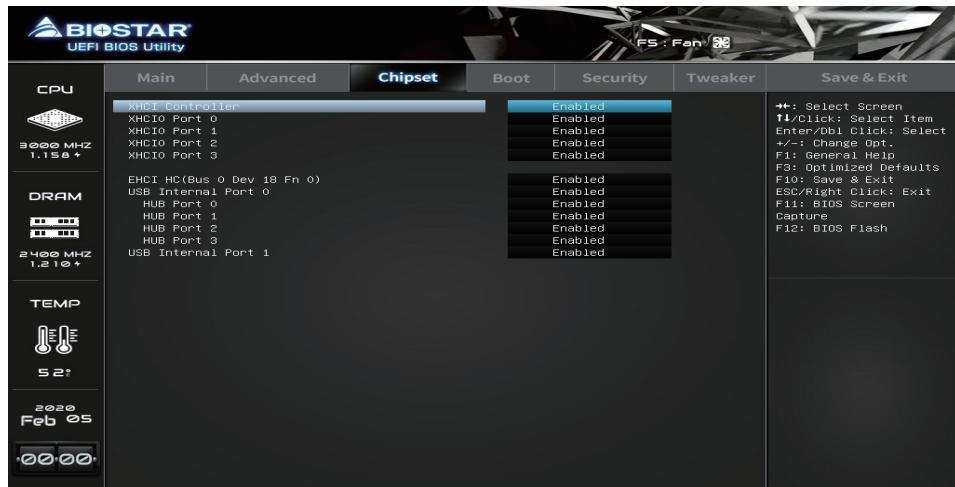
This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components.

#### Note

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



#### South Bridge



**XHCI Controller**

Options: Enabled (Default) / Disabled

**XHCI Port 0/1/2/3**

Options: Enabled (Default) / Disabled

**EHCI HC(Bus 0 Dev 18 Fn 0)**

Options: Enabled (Default) / Disabled

**USB Internal Port 0**

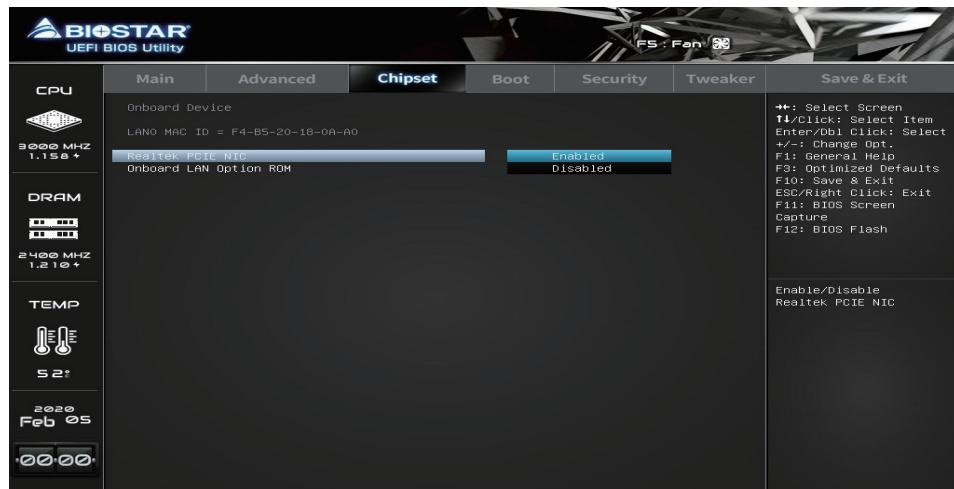
Options: Enabled (Default) / Disabled

**HUB Port 0/1/2/3**

Options: Enabled (Default) / Disabled

**USB Internal Port 1**

Options: Enabled (Default) / Disabled

**Onboard Device****Realtek PCIE NIC**

This item enables or disables Realtek PCIE NIC.

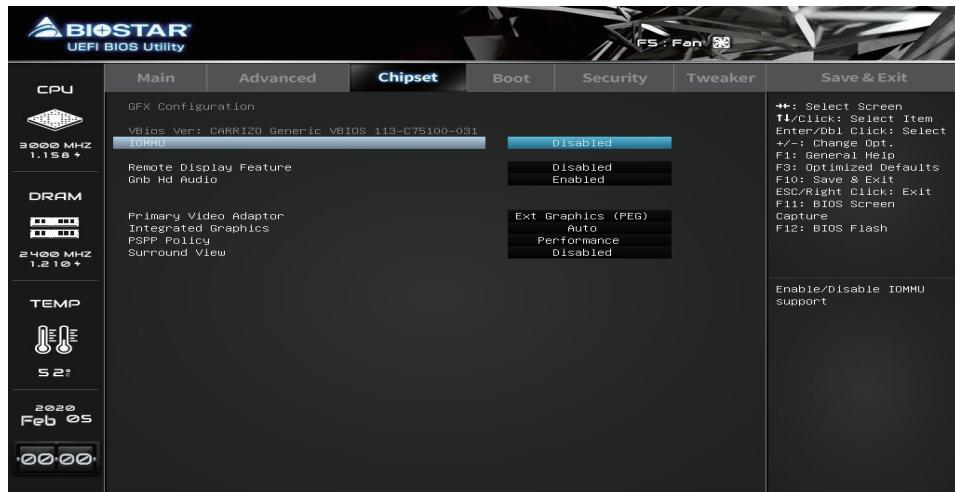
Options: Enabled (Default) / Disabled

**Onboard LAN Option ROM**

This item enables or disables Onboard LAN Option ROM.

Options: Disabled (Default) / Enabled

## GFX Configuration



The screenshot shows the BIOSTAR UEFI BIOS Utility interface. The main menu bar includes Main, Advanced, Chipset (selected), Boot, Security, Tweaker, and Save & Exit. The Chipset tab is active, displaying the 'GFX Configuration' section. Key settings shown include:

- IOMMU:** Set to **Disabled**.
- Remote Display Feature:** Set to **Enabled**.
- Primary Video Adaptor:** Set to **Ext Graphics (PEG)** (Auto).
- PSPP Policy:** Set to **Performance**.
- Surround View:** Set to **Disabled**.

The left sidebar provides real-time monitoring data:

- CPU:** 3000 MHz, 1.158 V.
- DRAM:** 2400 MHz, 1.210 V.
- TEMP:** 52°.
- Date/Time:** 2020 Feb 05.
- Battery:** 00:00.

A status bar at the bottom right shows 'FS : Fast' and a small gear icon. A legend on the right side of the menu provides keyboard shortcuts:

- ++: Select Screen
- ↑/↓ Click: Select Item
- Enter/Double Click: Select
- +/-: Change Opt.
- F1: General Help
- F3: Optimized Defaults
- F10: Save & Exit
- ESC/Right Click: Exit
- F11: BIOS Screen
- F12: Capture
- F12: BIOS Flash

### IOMMU

This item enables or disables IOMMU support.

Options: Disabled (Default) / Enabled

### Remote Display Feature

This item enables or disables Remote Display Feature.

Options: Disabled (Default) / Enabled

### Gnb Hd Audio

This item enables or disables Gnb Hd Audio.

Options: Enabled (Default) / Disabled

### Primary Video Adaptor

This item allows you to select Primary Video Adaptor.

Options: Ext Graphics (PEG) (Default) / Int Graphics (IGD)

### Integrated Graphics

This item allows you to controller the Integrated Graphics function.

Options: Auto (Default) / Force / Disabled

#### Note

» The following items appear only when you set the Integrated Graphics function to [Force].

### UMA Frame Buffer Size

This item allows you to set UMA FB Szie.

Options: 256M (Default)

### PSPP Policy

This item allows you to set PCIe speed power policy.

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

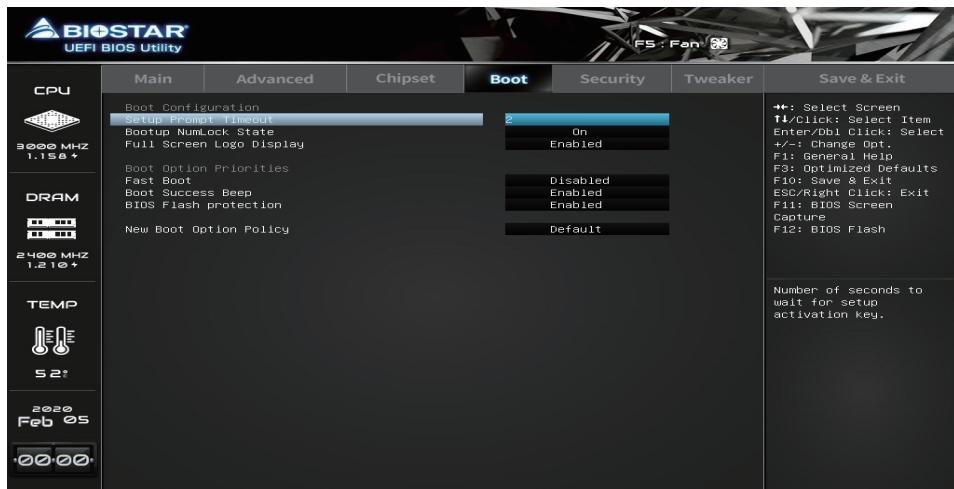
**Surround View**

This item support multi-display function.

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

**Boot Success Beep**

This item BIOS boot post beep message.

Options: Enabled (Default) / Disabled

**BIOS Flash protection**

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

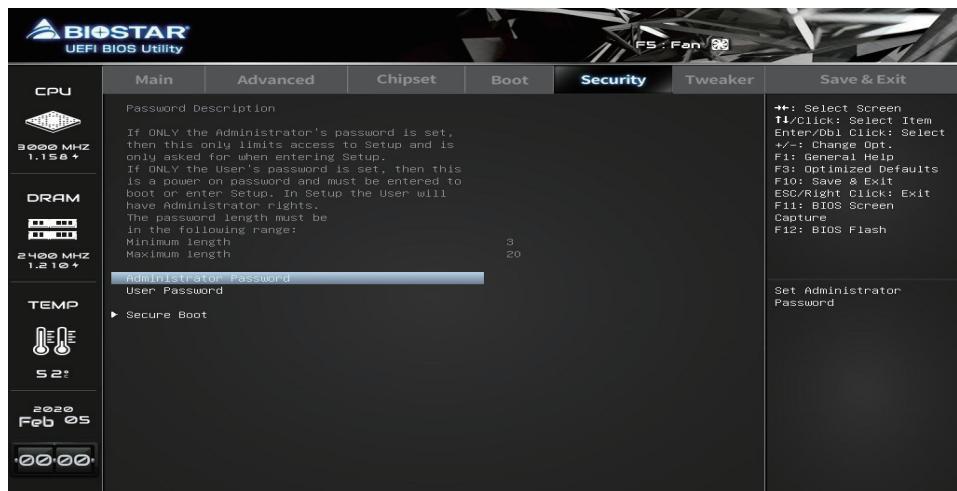
Options: Enabled (Default) / Disabled

**NEW Boot Option Policy**

This item allows you to controls the placement of newly detected UEFI boot options.

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

## 5. Security Menu



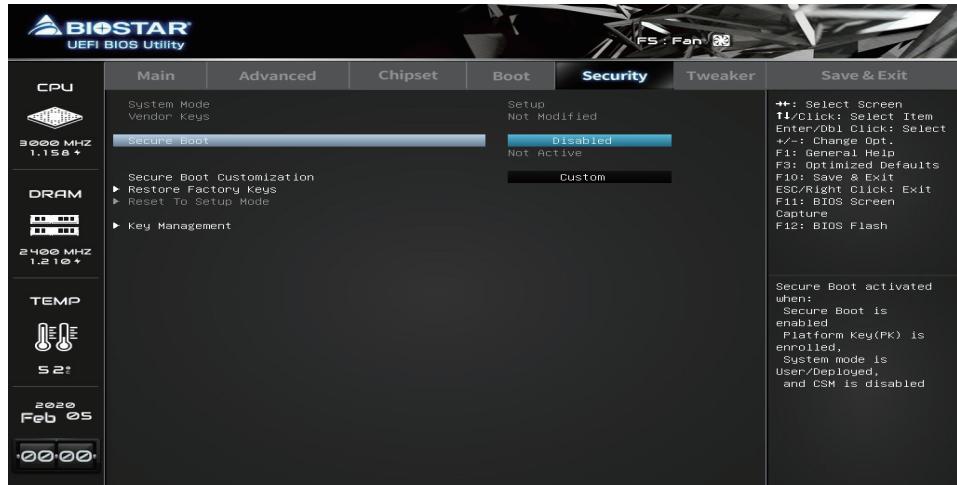
### Administrator Password

This item sets Administrator Password.

### User Password

This item sets User Password.

### Secure Boot Menu



## Secure Boot

Secure Boot feature is active if Secure Boot is enabled, Platform Key(PK) is enrolled and the system is in user mode. The mode change requires platform reset.

Options: Disabled (Default) / Enabled

## Secure Boot Customization

Secure Boot mode options : Standard or Custom. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication.

Options: Custom (Default) / Standard

## Restore Factory Keys

Force System to User Mode. Install factory default Secure Boot Key databases.

## Restore To Setup Mode

Delete all Secure Boot Key databases from NVRAM.

## Key Management



### Factory Key Provision

This item install factory default Secure Boot Keys after the platform reset and while the system is in setup mode.

Options: Disabled (Default) / Enabled

### Restore Factory Keys

This item Force system to user mode. Configure NVRAM to contain OEM-defined factory default secure boot keys.

### Reset To Setup Mode

This item delete NVRAM content of all UEFI Secure Boot key databases.

### Export Secure Boot Variables

Copy NVRAM content of Secure Boot variables to files in a root folder on a file system device.

### Enroll EFI Image

This item allows the image to run in Secure Boot mode. Enroll SHA256 hash certificate of a PE image into Authorized Signature Database(db).

**Remove ‘UEFI CA’ from DB**

Device Guard ready system must not list ‘Microsoft UEFI CA’ Certificate in Authorized Signature database(db).

**Restore DB defaults**

Restore DB variable to factory defaults.

**Platform Key (PK)**

Options: Details / Export / Update / Delete

**Key Exchange Keys**

Options: Details / Export / Update / Append / Delete

**Authorized Signatures**

Options: Details / Export / Update / Append / Delete

**Forbidden Signatures**

Options: Details / Export / Update / Append / Delete

**Authorized Timestamps**

Options: Update / Append

**OsRecovery Signatures**

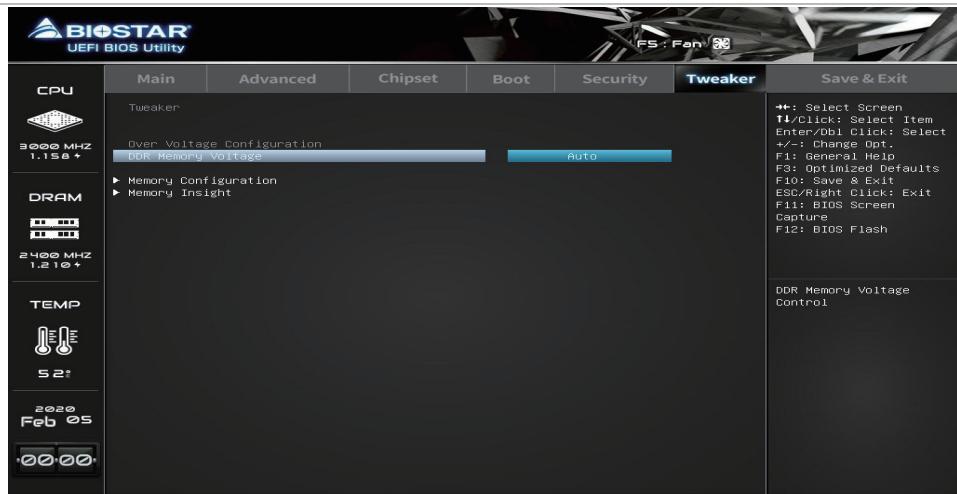
Options: Update / Append

## 6. Tweaker 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

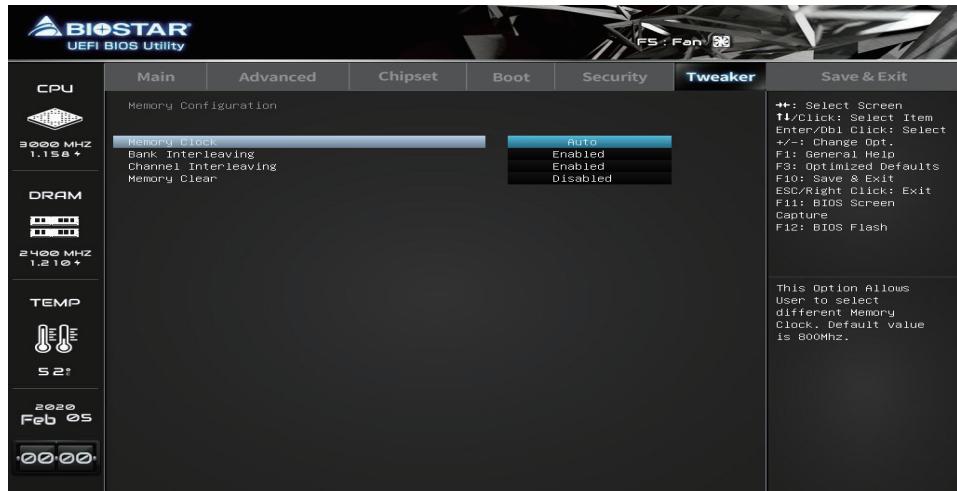


### DDR Memory Voltage

This item DDR Memory Voltage Control.

Options: Auto (Default) / 1.27V

## Memory Configuration



### Memory Clock

This item allows you to select different Memory Clock.

Options: Auto (Default)

### Bank Interleaving

This item enables or disables Bank Interleaving.

Options: Enabled (Default) / Disabled

### Channel Interleaving

This item enables or disables Channel Interleaving.

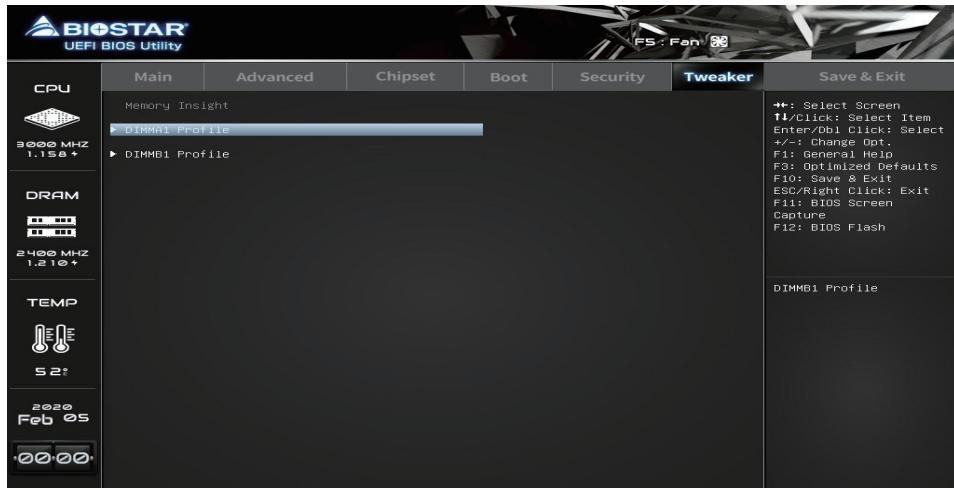
Options: Enabled (Default) / Disabled

### Memory Clear

This item enables or disables Memory Clear function.

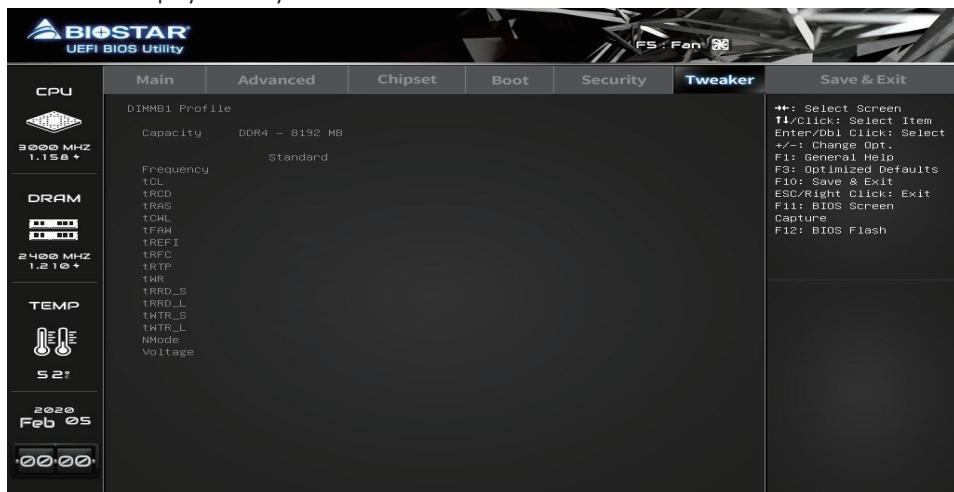
Options: Disabled (Default) / Enabled

## Memory Insight



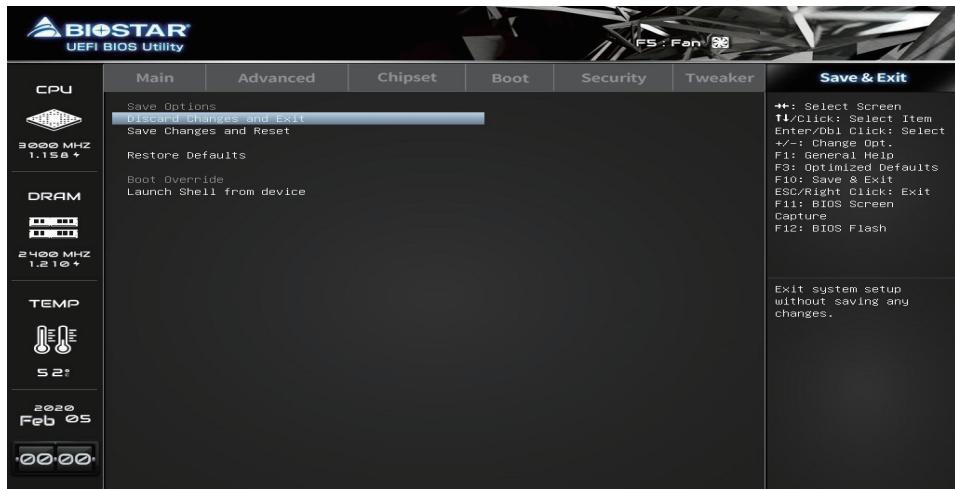
### DIMM Profile

These items display memory information.



## 7. Save & 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

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