BIOS Setup

3.1   Knowing BIOS

The new UEFI BIOS is a Unified Extensible Interface that complies with UEFI architecture, offering a user-friendly interface that goes beyond the traditional keyboard-only BIOS controls to enable a more flexible and convenient mouse input. You can easily navigate the new UEFI BIOS with the same smoothness as your operating system. The term "BIOS" in this user manual refers to "UEFI BIOS" unless otherwise specified.

BIOS (Basic Input and Output System) stores system hardware settings such as storage device configuration, overclocking settings, advanced power management, and boot device configuration that are needed for system startup in the motherboard CMOS. In normal circumstances, the default BIOS settings apply to most conditions to ensure optimal performance. **DO NOT change the default BIOS settings** except in the following circumstances:

- An error message appears on the screen during the system bootup and requests you to run the BIOS Setup.

- You have installed a new system component that requires further BIOS settings or update.

Inappropriate BIOS settings may result to instability or boot failure. **We strongly recommend that you change the BIOS settings only with the help of a trained service personnel**.

When downloading or updating the BIOS file, rename it as **X99A2.CAP** for this motherboard.

3.2 BIOS setup program

Use the BIOS Setup to update the BIOS or configure its parameters. The BIOS screen include navigation keys and brief onscreen help to guide you in using the BIOS Setup program.

Entering BIOS at startup

To enter BIOS Setup at startup, press <Delete> during the Power-On Self Test (POST). If you do not press <Delete>, POST continues with its routines.

Entering BIOS Setup after POST

To enter BIOS Setup after POST:

- Press <Ctrl>+<Alt>+<Delete> simultaneously.

- Press the reset button on the system chassis.

- Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first two options.

After doing either of the three options, press <Delete> key to enter BIOS.

- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

- Ensure that a USB mouse is connected to your motherboard if you want to use the mouse to control the BIOS setup program.

- If the system becomes unstable after changing any BIOS setting, load the default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** item under the **Exit** menu or press hotkey <F5>. See section **3.10 Exit menu** for details.

- If the system fails to boot after changing any BIOS setting, try to clear the CMOS and reset the motherboard to the default value. See section **1.1.6 Onboard buttons and switches** for information on how to erase the RTC RAM via the Clear CMOS button.

- The BIOS setup program does not support the Bluetooth devices.

BIOS menu screen

The BIOS Setup program can be used under two modes: **EZ Mode** and **Advanced Mode**. You can change modes from **Setup Mode** in **Boot menu** or by pressing the <F7> hotkey.

3.2.1 EZ Mode

By default, the EZ Mode screen appears when you enter the BIOS setup program. The EZ Mode provides you an overview of the basic system information, and allows you to select the display language, system performance, mode and boot device priority. To access the Advanced Mode, select **Advanced Mode** or press the <F7> hotkey for the advanced BIOS settings.

> The default screen for entering the BIOS setup program can be changed between EZ Mode or Advanced Mode. Refer to the **Setup Mode** item in section **3.8 Boot menu** for details.

Displays the system properties of the selected mode. Click < or > to switch EZ System Tuning modes

Displays the CPU/motherboard temperature, CPU voltage output, CPU/chassis/power fan speed, and SATA information

Selects the display language of the BIOS setup program

Creates storage RAID and configures system overclocking

Enables or disables the SATA RAID mode for Intel Rapid Storage Technology

Saves the changes and resets the system

Displays the Advanced mode menus

Search on the FAQ

Displays the CPU Fan's speed. Click the button to manually tune the fans

Shows the bootable devices

Selects the boot device priority

Loads optimized default settings

> The boot device options vary depending on the devices you installed to the system.

3.2.2   Advanced Mode

The Advanced Mode provides advanced options for experienced end-users to configure the BIOS settings. The figure below shows an example of the Advanced Mode. Refer to the following sections for the detailed configurations.

> To switch from EZ Mode to Advanced Mode, click **Advanced Mode(F7)** or press the <F7> hotkey.

Menu bar

The menu bar on top of the screen has the following main items:

My Favorites	For saving the frequently-used system settings and configuration.
Main	For changing the basic system configuration
Ai Tweaker	For changing the overclocking settings
Advanced	For changing the advanced system settings
Monitor	For displaying the system temperature, power status, and changing the fan settings.
Boot	For changing the system boot configuration
Tool	For configuring options for special functions
Exit	For selecting the exit options and loading default settings

Menu items

The highlighted item on the menu bar displays the specific items for that menu. For example, selecting **Main** shows the Main menu items.

The other items (My Favorites, Ai Tweaker, Advanced, Monitor, Boot, Tool, and Exit) on the menu bar have their respective menu items.

Submenu items

A greater than sign (>) before each item on any menu screen means that the item has a submenu. To display the submenu, select the item and press <Enter>.

Language

This button above the menu bar contains the languages that you can select for your BIOS. Click this button to select the the language that you want to display in your BIOS screen.

MyFavorites (F3)

This button above the menu bar shows all BIOS items in a Tree Map setup. Select frequently-used BIOS settings and save it to MyFavorites menu.

Refer to section **3.3 My Favorites** for more information.

Q-Fan Control (F6)

This button above the menu bar displays the current settings of your fans. Use this button to manually tweak the fans to your desired settings.

Refer to section **3.2.3 QFan Control** for more information.

EZ Tuning Wizard (F11)

This button above the menu bar allows you to view and tweak the overclocking settings of your system. It also allows you to change the motherboard's SATA mode from AHCI to RAID mode.

Refer to section **3.2.4 EZ Tuning Wizard** for more information.

Search on FAQ

Move your mouse over this button to show a QR code, scan this QR code on your mobile device to connect to the BIOS FAQ web page of the support website. You can also scan the following QR code:

Quick Note (F9)

This button above the menu bar allows you to key in notes of the activities that you have done in BIOS.

> • The Quick Note function does not support the following keyboard functions: delete, cut, copy and paste.
>
> • You can only use the alphanumeric characters to enter your notes.

Hot keys

This button above the menu bar contains the navigation keys for the BIOS setup program. Use the navigation keys to select items in the menu and change the settings.

Scroll bar

A scroll bar appears on the right side of a menu screen when there are items that do not fit on the screen. Press the Up/Down arrow keys or <Page Up> / <Page Down> keys to display the other items on the screen.

General help

At the bottom of the menu screen is a brief description of the selected item. Use <F12> key to capture the BIOS screen and save it to the removable storage device.

Configuration fields

These fields show the values for the menu items. If an item is user-configurable, you can change the value of the field opposite the item. You cannot select an item that is not user-configurable.

A configurable field is highlighted when selected. To change the value of a field, select it and press <Enter> to display a list of options.

Last Modified button

This button shows the items that you last modified and saved in BIOS Setup.

3.2.3 QFan Control

The QFan Control allows you to set a fan profile or manually configure the operating speed of your CPU and chassis fans.

Click to select a fan to be configured

Click to activate PWM Mode

Click to activate DC Mode

Select a profile to apply to your fans

Click to apply the fan setting

Click to undo the changes

Click to go back to main menu

Select to manually configure your fans

Configuring fans manually

Select **Manual** from the list of profiles to manually configure your fans' operating speed.
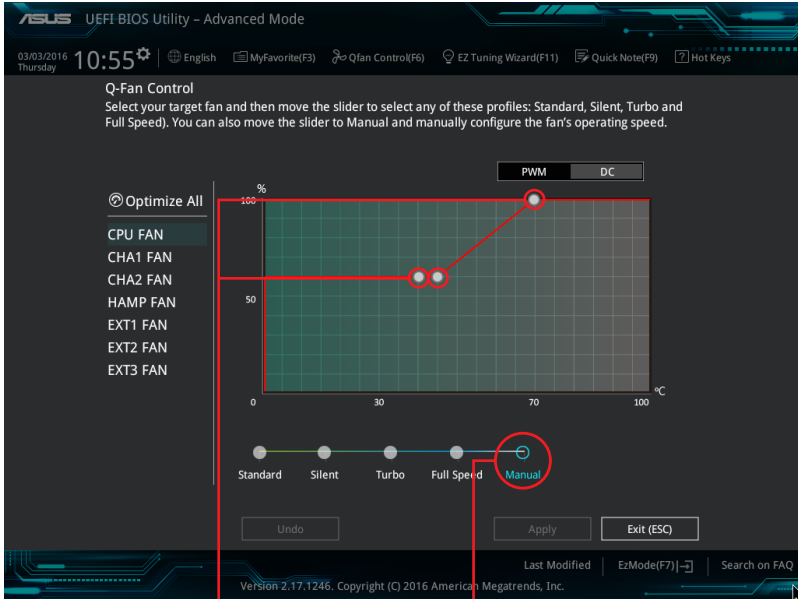
Speed points

Click or tap to manually configure your fans

To configure your fans:

1.   Select the fan that you want to configure and to view its current status.

2.   Click and drag the speed points to adjust the fans' operating speed.

3.   Click **Apply** to save the changes then click **Exit (ESC)**.
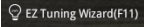
3.2.4   EZ Tuning Wizard

EZ Tuning Wizard allows you to overclock your CPU and DRAM, computer usage, and CPU fan to their best settings. You can also easily set RAID in your system using this feature.

System OC setup   **RAID setup**
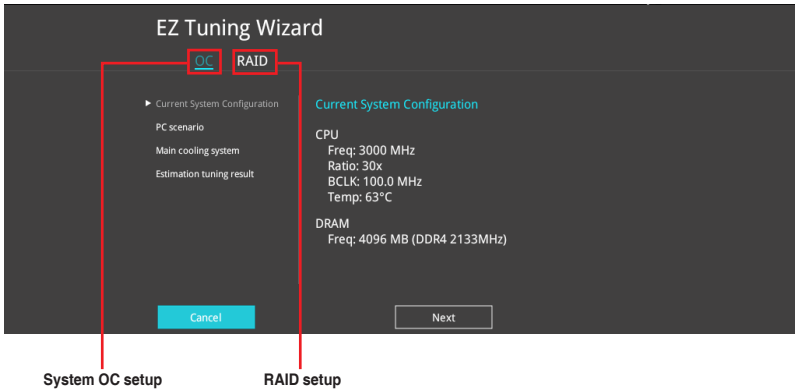
OC Tuning

To start OC Tuning:

1.   Press <F11> on your keyboard or click from the BIOS screen to open EZ Tuning Wizard screen.

2.   Click **OC** then click **Next**.

3.   Select a PC scenario **Daily Computing** or **Gaming/Media Editing,** then click **Next**.
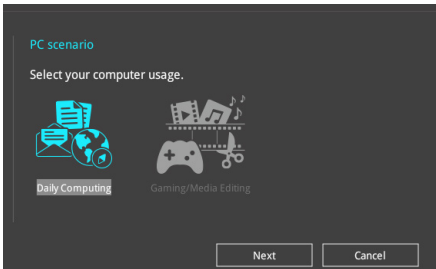
4.   Select a Main Cooling System **BOX cooler, Tower cooler, Water cooler,** or **I'm not sure,** then click **Next**.
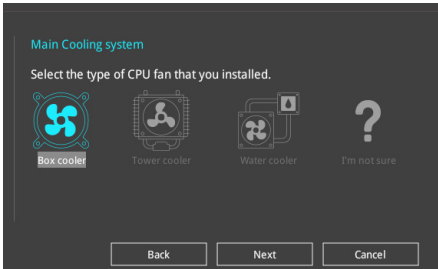
5.   After selecting the Main Cooling System, click **Next** then click **Yes** to start the OC Tuning.

Creating RAID

To create RAID:

1.   Press <F11> on your keyboard or click ⬚ EZ Tuning Wizard(F11) from the BIOS screen to open EZ Tuning Wizard screen.

2.   Click **RAID** then click **Next**.

- Ensure that your HDDs have no existing RAID volumes.

- Ensure to connect your HDDs to Intel® SATA connectors.

3.   Select the port that you want to set to [RAID] mode, **PCIE** or **SATA**, then click **Next**.
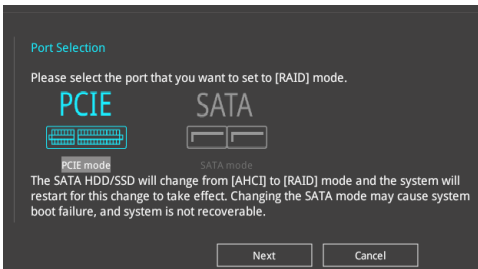
4. Select the type of storage for your RAID, **Easy Backup** or **Super Speed**, then click **Next**.
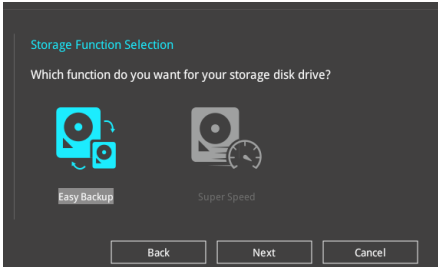
a. For Easy Backup, click **Next** then select from **Easy Backup (RAID1)** or **Easy Backup (RAID10)**.
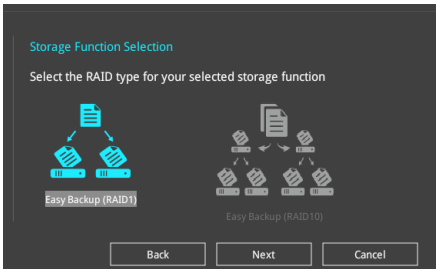
You can only select Easy Backup (RAID 10) if you connect four (4) HDDs.

b. For Super Speed, click **Next** then select from **Super Speed (RAID0)** or **Super Speed (RAID5)**.
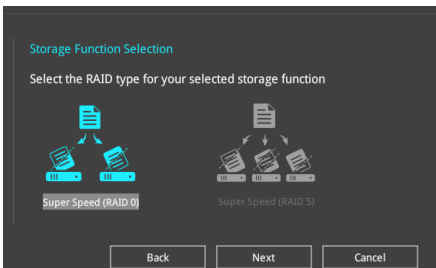
5. After selecting the type of RAID, click **Next** then click **Yes** to continue the RAID setup.

6. After the RAID setup is done, click **Yes** to exit the setup then click **OK** to reset your system.

3.3 My Favorites
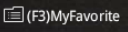
MyFavorites is your personal space where you can easily save and access your favorite BIOS items.
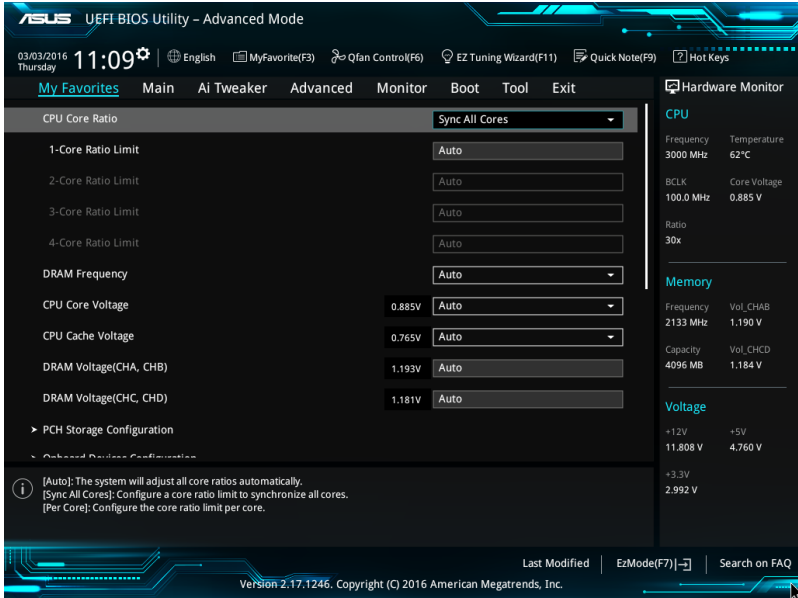
My Favorites comes with several performance, power saving, and fast boot related items by default. You can personalize this screen by adding or removing items.

Adding items to My Favorites

To add BIOS items:

1. Press <F3> on your keyboard or click [≣ (F3)MyFavorite] from the BIOS screen to open Setup Tree Map screen.

2. On the Setup Tree Map screen, select the BIOS items that you want to save in MyFavorites screen.
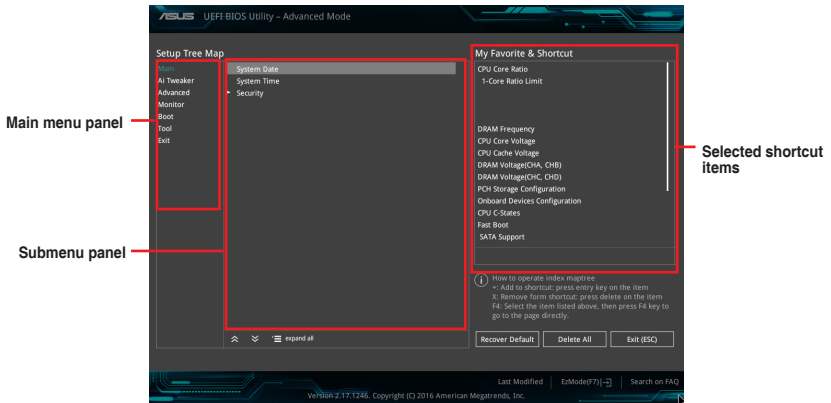
3. Select an item from main menu panel, then click the submenu that you want to save as favorite from the submenu panel and tap or click [+] or press <Enter> on your keyboard.

> You cannot add the following items to My Favorite items:
>
> *   Items with submenu options
>
> *   User-managed items such as language and boot order
>
> *   Configuration items such as Memory SPD Information, system time and date.

4. Click **Exit (ESC)** or press <esc> key to close Setup Tree Map screen.

5. Go to My Favorites menu to view the saved BIOS items.

3.4 Main menu

The Main menu screen appears when you enter the Advanced Mode of the BIOS Setup program. The Main menu provides you an overview of the basic system information, and allows you to set the system date, time, language, and security settings.
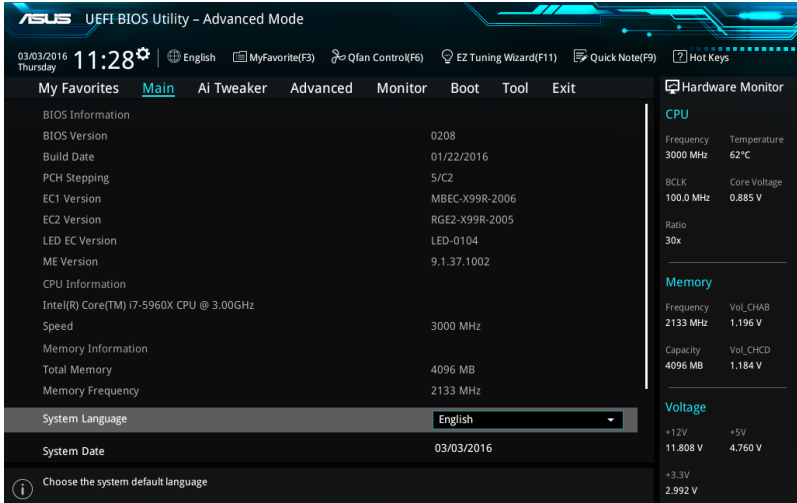
Security

The Security menu items allow you to change the system security settings.
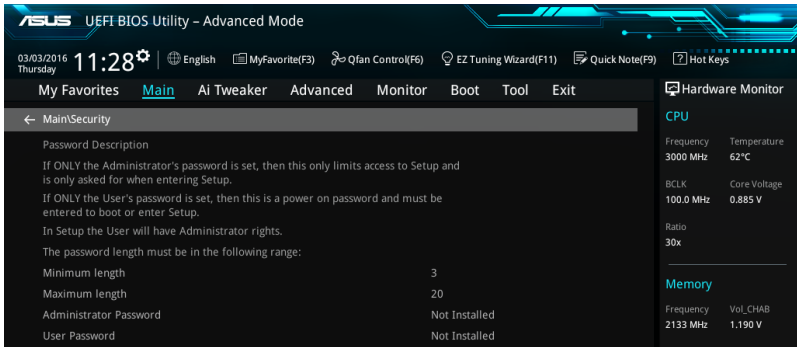
> • If you have forgotten your BIOS password, erase the CMOS Real Time Clock (RTC) RAM to clear the BIOS password. See section **1.1.6 Onboard buttons and switches** for information on how to erase the RTC RAM via the Clear CMOS button.
>
> • The Administrator or User Password items on top of the screen show the default **[Not Installed]**. After you set a password, these items show **[Installed]**.

3.5   Ai Tweaker menu

The Ai Tweaker menu items allow you to configure overclocking-related items.

> ⚠️ Be cautious when changing the settings of the Ai Tweaker menu items. Incorrect field values can cause the system to malfunction.

> 📝 The configuration options for this section vary depending on the CPU and DIMM model you installed on the motherboard.

Scroll down to display other BIOS items.
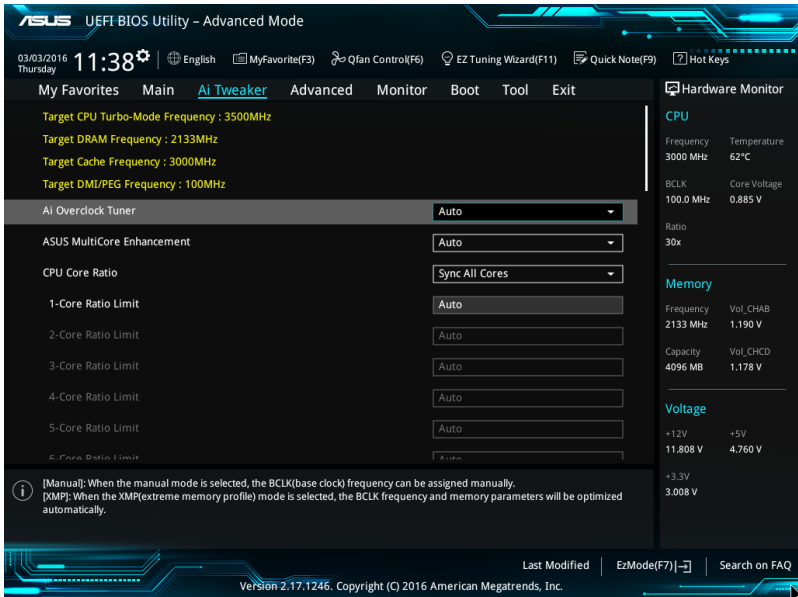
Ai Overclock Tuner

This item allows you to select the CPU overclocking options to achieve the desired CPU internal frequency. Select any of these preset overclocking configuration options:

[Auto]   Loads the optimal settings for the system.

[Manual]   Automatically optimizes the CPU ratio and BCLK frequency.

> 📝 The following item appears only when you set the Ai Overclocking Tuner to **[Manual]**.

BCLK Frequency

This item allows you to set the BCLK (base clock) frequency to enhance the system performance. Use the <+> or <-> to adjust the value. The values range from 80.0 MHz to 300.0 MHz.

We recommend you to set the value based on the CPU specification, as high BCLK frequencies may damage the CPU permanently.

MultiCore Enhancement

[Auto]   This item allows you to maximize the oveclocking performance optimized by core ratio settings.

[Disabled]   This item allows you to set to default core ratio settings.

CPU Core Ratio

This item allows you to set the CPU core ratio limit per core or synchronize automatically to all cores.

Configuration options: [Auto] [Sync All Cores] [Per Core]

1-Core Ratio Limit [Auto]
Select **[Auto]** to apply the CPU default Turbo Ratio setting or manually assign a 1-Core Limit value that must be higher than or equal to the 2-Core Ratio Limit.

BCLK Frequency: DRAM Frequency Ratio

This item allows you to set the base clock frequency of the DRAM frequency ratio.

[Auto]   The DRAM ratio is set to its optimized settings.

[100:100]   The DRAM ratio is set to 100:100.

[100:133]   The DRAM ratio is set to 100:133.

DRAM Frequency

This item allows you to set the memory operating frequency. The configurable options vary with the BCLK (base clock) frequency setting. Select the auto mode to apply the optimized setting.

Configuration options: [Auto] [DDR4-800MHz] [DDR4-4000MHz]

TPU

This item allows you to automatically overclock the CPU and DRAM frequencies and voltage for an enhanced system performance.

[Keep Current Settings] Keep the current settings without changing anything.
[TPU I]   Applies air cooling overclocking conditions.
[TPU II]   Applies water cooling overclocking conditions.

Ensure to use water cooling device before selecting **[TPU II].**

EPU Power Saving Mode

The EPU (Energy Processing Unit) sets the CPU in its minimum power consumption settings. Enable this item to set lower CPU VCCIN and Vcore voltages and achieve the best energy saving condition.

Configuration options: [Disabled] [Enabled]

Internal CPU Power Management

The subitems in this menu allow you to set the CPU ratio and its features.

Enhanced Intel SpeedStep Technology [Enabled]

This item allows the operating system to dynamically adjust the processor voltage and cores frequency which decreases the average power consumption the average heat production.
Configuration options: [Enabled] [Disabled]

Turbo Mode [Enabled]

This item allows you to enable your core processor's speed to run faster than the base operating frequency when it is below operating power, current and temperature specification limit.
Configuration options: [Disabled] [Enabled]

3.6 Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.

Chapter 3: BIOS Setup

3.6.1   CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects.

The items in this menu may vary based on the CPU installed.

Hyper-Threading [ALL]

This item allows you to enable/disable the Hyper-Threading for logical processor threads.

Configuration options: [Enabled] [Disabled]

CPU Power Management Configuration

The items in this menu allow you to manage and configure the CPU's power.

Enhanced Intel SpeedStep Technology [Enabled]

This item allows your system to adjust the CPU's voltage and cores frequency, resulting in decreased power consumption and heat production.

[Disabled]   The CPU runs at its default speed.

[Enabled]   The system controls the CPU speed.

Turbo Mode [Enabled]

This item allows you to automatically set the CPU cores to run faster than the base operating frequency when it is below the operating power, current and temperature specification limit.

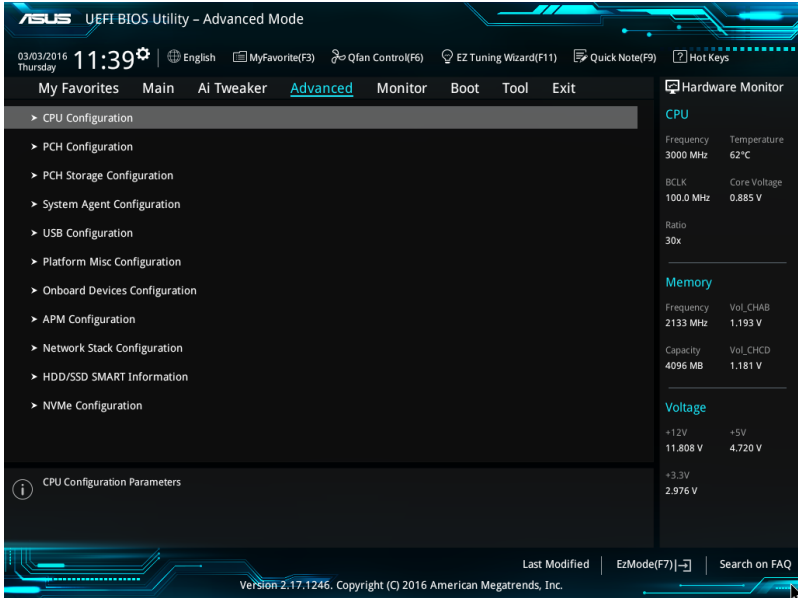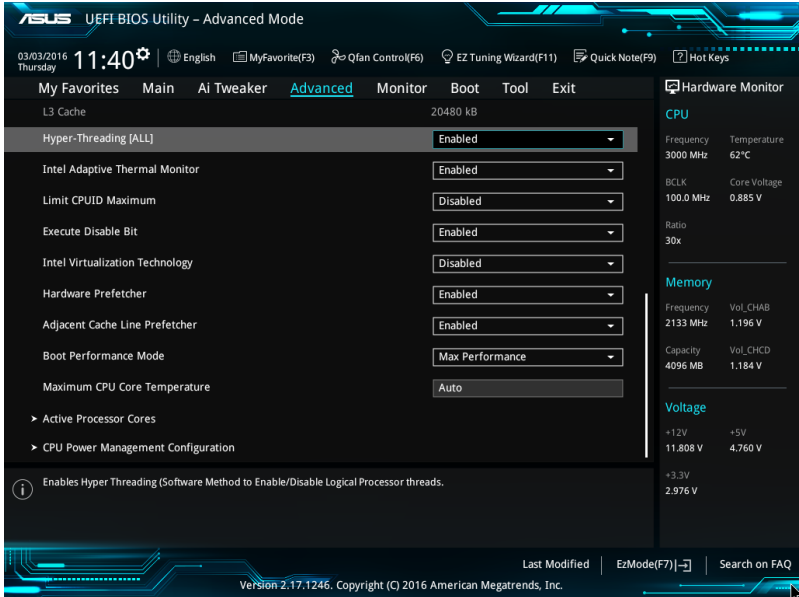Configuration options: [Enabled] [Disabled]

CPU C-states [Auto]

This item allows you to set the power saving of the CPU states.

Configuration options: [Auto] [Disabled] [Enabled]

3.6.2   PCH Configuration
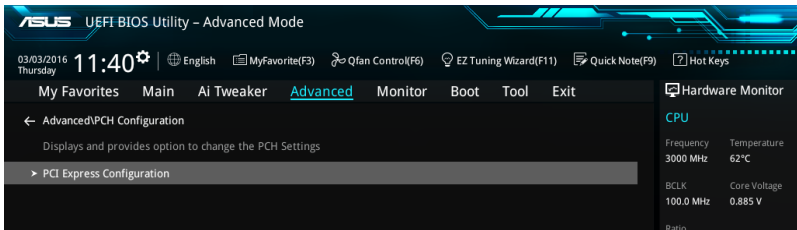
PCI Express Configuration

This item allows your system to automatically select the PCI Express port speed.

Configuration options: [Auto] [Gen1] [Gen2] [Gen3]

3.6.3 PCH Storage Configuration

While entering Setup, the BIOS automatically detects the presence of SATA devices. The SATA Port items show **Not Present** if no SATA device is installed to the corresponding SATA port.

Scroll down to display the other BIOS items.
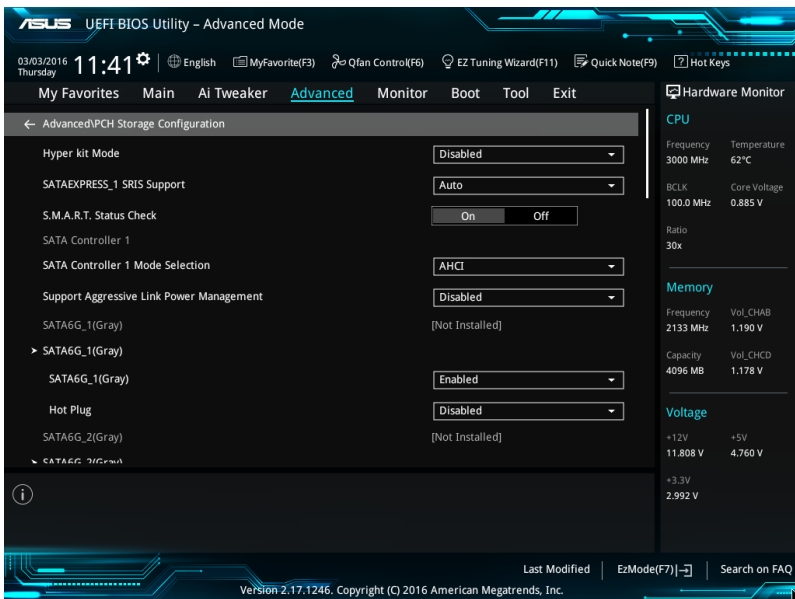
SATA Controller(s)

This item allows you to enable or disable the SATA Device.

Configuration options: [Disabled] [Enabled]

SATA Mode Selection

This item allows you to set the SATA configuration.

[AHCI]   Set to **[AHCI]** when you want the SATA hard disk drives to use the AHCI (Advanced Host Controller Interface). The AHCI allows the onboard storage driver to enable advanced Serial ATA features that increases storage performance on random workloads by allowing the drive to internally optimize the order of commands.

[RAID]   Set to **[RAID]** when you want to create a RAID configuration from the SATA hard disk drives.

S.M.A.R.T. Status Check

S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) is a monitoring system that shows a warning message during POST (Power-on Self Test) when an error occurs in the hard disks.

Configuration options: [On] [Off]

SATA6G_1(Gray) - SATA6G_10(Black)

This item allows you to enable or disable the selected SATA port.

Configuration options: [Disabled] [Enabled]

Hot Plug

These items appears only when the SATA Mode Selection is set to **[AHCI]** and allows you to enable or disable SATA Hot Plug Support.

Configuration options: [Disabled] [Enabled]

3.6.4 System Agent Configuration
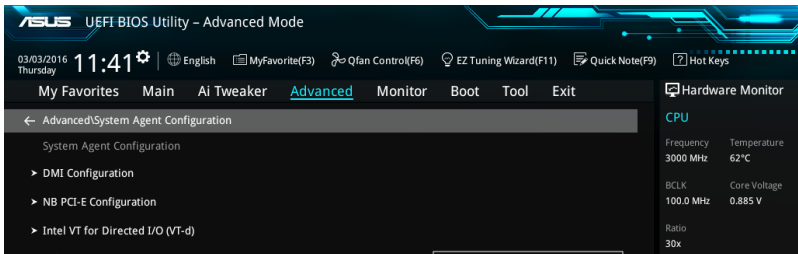
3.6.5 USB Configuration

The items in this menu allow you to change the USB-related features.
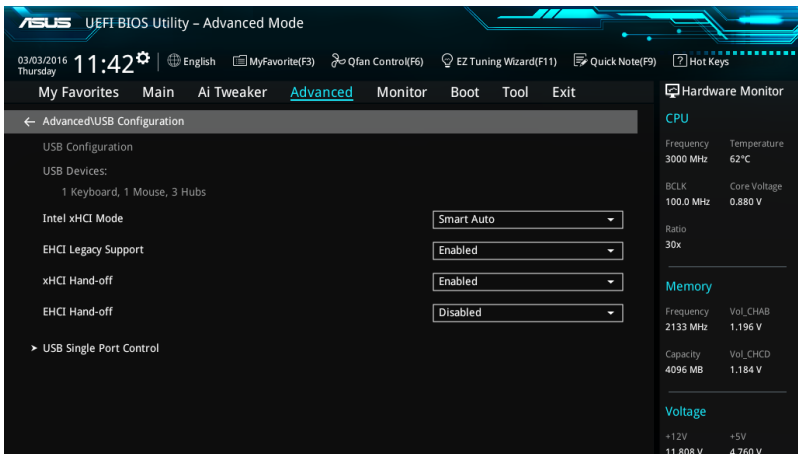
The **Mass Storage Devices** item shows the auto-detected values. If no USB device is detected, the item shows **None**.

USB Single Port Control

This item allows you to enable or disable the individual USB ports.

Refer to section **1.1.2 Motherboard layout** for the location of the USB ports.

3.6.6 Platform Misc Configuration

The items in this menu allow you to configure the platform-related features.
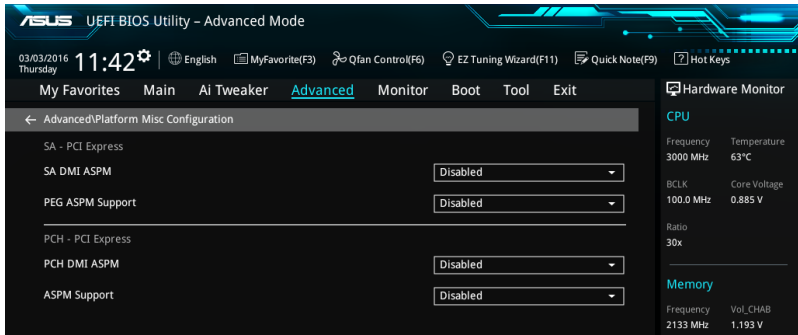
3.6.7 Onboard Devices Configuration

Scroll down to view the other BIOS items.

HD Audio Controller

This item allows you to use the Azalia High Definition Audio Controller

Configuration options: [Disabled] [Enabled]

PCIEX16_2 Slot Bandwidth

[Auto]   Runs at AUTO with USB3_E56 port and PCIEX1_1 slot enabled.

[X1 Mode]   Runs at x1 mode with USB3_E56 port and PCIEX1_1 slot enabled.

[X4 Mode]   Runs at x4 mode for a high performance support with USB3_E56 port and PCIEX1_1 slot disabled.

PCIEX16_4 Slot Bandwidth

[Auto]   When a PCIE device higher than x4 interface is installed on the PCIEX16_4 slot, PCIEX16_1 and PCIEX16_4 slots will automatically run at x8 mode.

[X8 Mode]   PCIEX16_1 and PCIEX16_4 slots run at x8 mode. Supports x1/x2/x4/x8 devices.

M2/U2 Switch

[Auto]   The bandwidth will be switched to U.2 by default. When a M.2 device is detected, the bandwidth will automatically be switched to M.2.

[M.2 Mode]   The bandwidth will be switched to M.2 with U.2 mode disabled.

[U.2 Mode]   The bandwidth will be switched to U.2 with M.2 mode disabled.

ASMedia USB 3.1 Controller

This item allows you to enable/disable the ASMedia® USB 3.1 controller of your system.

Configuration options: [Disabled] [Enabled]

RGB LED lighting

This item allows you to turn the RGB LED lighting on or off.

Configuration options: [On] [Off]

RGB LED lighting color

This item allows you to select the RGB LED lighting color.

RGB LED lighting effects

This item allows you to select the RGB LED lighting effects.

Configuration options: [Default] [Static] [Breathing] [Strobing] [Color Cycle]

Intel LAN Controller

This item allows you to enable or disable the Intel LAN controller.
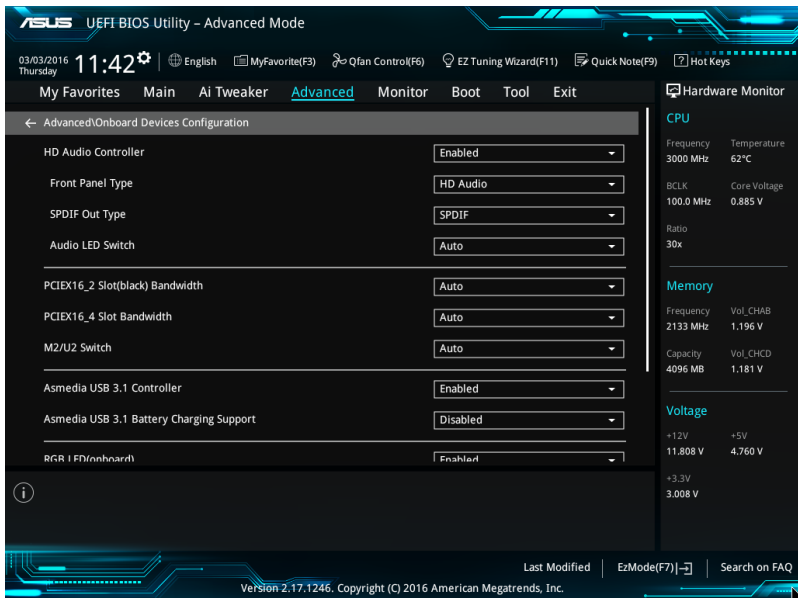
Configuration options: [Disabled] [Enabled]

3.6.8   APM Configuration
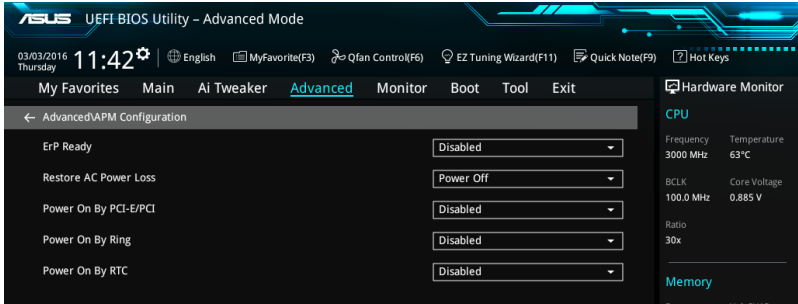
ErP Ready

This item allows you to switch off some power at S4+S5 or S5 to get the system ready for ErP requirement. When set to **[Enabled]**, all other PME options are switched off.
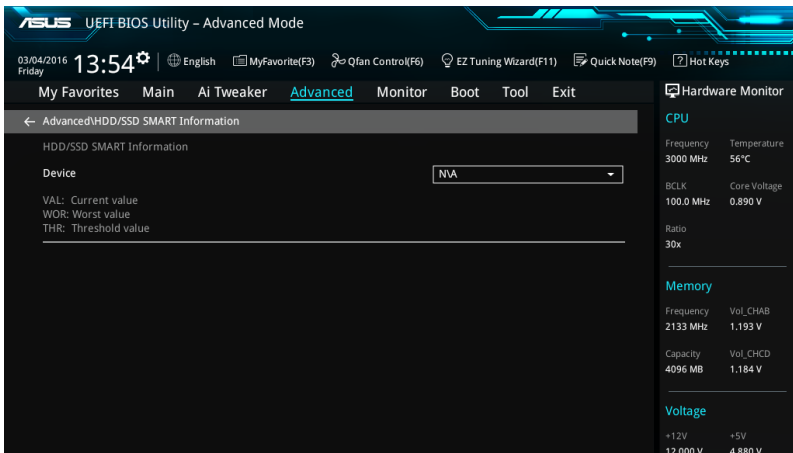
Configuration options: [Disabled] [Enabled (S4+S5] [Enabled (S5)]

3.6.9   Network Stack Configuration
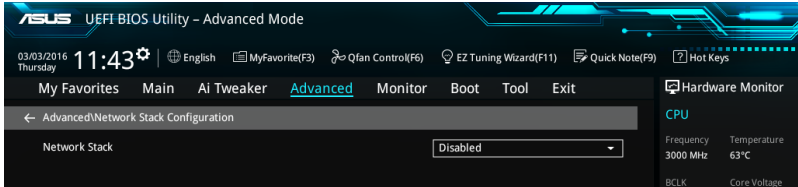
3.6.10 HDD/SSD SMART Information

This menu displays the SMART information of the connected devices.

NVM Express devices currently do not support SMART information.

3.7   Monitor menu

The Monitor menu displays the system temperature/power status, and allows you to change the fan settings.

Scroll down to display the other BIOS items.
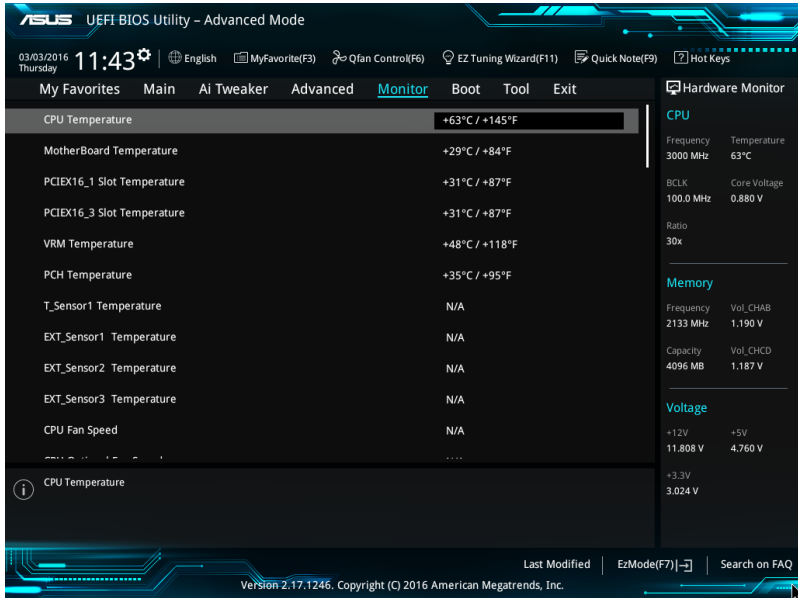
Qfan Configuration

Qfan Tuning

Click this item to automatically detect the lowest speed and configure the minimum duty cycle for each fan.

Water Pump Control

[Disabled]   Disable the Water Pump control feature.

[DC mode]   Enable the Water Pump control in DC mode for 3-pin chassis fan.

[PWM mode]   Enable the Water Pump control in PWM mode for 4-pin chassis fan.

3.8 Boot menu

The Boot menu items allow you to change the system boot options.
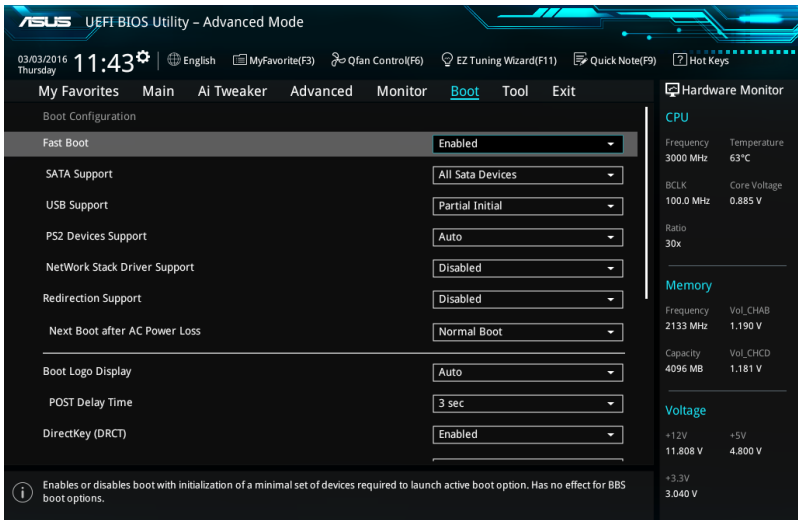
Boot Configuration

Fast Boot

[Disabled]   This item allows your system to go back to its normal boot speed.

[Enabled]   This item allows your system to accelerate the boot speed.

> The following items appear only when you set the Fast Boot to **[Enabled]**.

Next Boot after AC Power Loss [Normal Boot]

[Normal Boot]   Returns to normal boot on the next boot after an AC power loss.

[Fast Boot]   Accelerates the boot speed on the next boot after an AC power loss.

DirectKey (DRCT)

[Disabled]   Disables the DirectKey button. The system will only power on or off when you press the DirectKey button.

[Enabled]   Allows the system to power on and go to the BIOS Setup directly when you press the Reset button. Connect the 2-pin connector of the chassis reset buton button cable to the onboard DRCT header.

Setup Mode

[Advanced Mode]   This item allows you to go to Advanced Mode of the BIOS after POST.

[EZ Mode]   This item allows you to go to EZ Mode of the BIOS after POST.

CSM (Compatibility Support Module)

This item allows you to configure the CSM (Compatibility Support Module) items to fully support the various VGA, bootable devices and add-on devices for better compatibility.

Launch CSM [Enabled]

[Auto]   The system automatically detects the bootable devices and the add-on devices.

[Enabled]   For better compatibility, enable the CSM to fully support the non-UEFI driver add-on devices or the Windows® UEFI mode.

[Disabled]   Disables the CSM to fully support the non-UEFI driver add-on devices or the Windows® UEFI mode.

> The following items appear only when you set the Launch CSM to **[Enabled]**.

Boot Device Control [UEFI and Legacy OPROM]
This item allows you to select the type of devices that you want to boot.

Configuration options: [UEFI and Legacy OpROM] [Legacy OpROM only] [UEFI only]

Boot from Network Devices [Legacy only]
This item allows you to select the type of network devices that you want to launch.

Configuration options: [Legacy only] [UEFI driver first] [Ignore]

Boot from Storage Devices [Legacy only]
This item allows you to select the type of storage devices that you want to launch.

Configuration options: [Legacy only] [UEFI driver first] [Ignore]

Boot from PCIE/PCI Expansion Devices [Legacy only]
This item allows you to select the type of PCIe/PCI expansion devices that you want to launch.

Configuration options: [Legacy only] [UEFI driver first]

Secure Boot

This item allows you to configure the Windows® Secure Boot settings and manage its keys to protect the system from unauthorized access and malwares during POST

Boot Option Priorities

These 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.

- To access Windows® OS in Safe Mode, press <F8 > after POST (Windows® 8 not supported).

- To select the boot device during system startup, press <F8> when Logo appears.

Boot Override

These item displays the available devices. The number of device items that appear on the screen depends on the number of devices installed in the system. Click an item to start booting from the selected device.

3.9 Tool menu

The Tool menu items allow you to configure options for special functions. Select an item then press <Enter> to display the submenu.
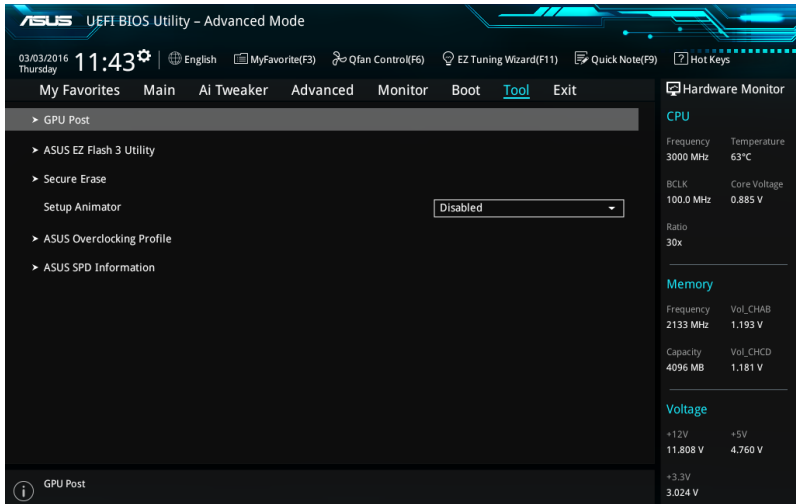
Setup Animator

This item allows you to enable or disable the Setup animator.

Configuration options: [Disabled] [Enabled]

GPU Post

This item displays the information and recommended configuration for the PCIE slots that the graphics card is installed in your system.

> This feature is only supported on selected graphics cards.

3.9.1 EZ Flash 3 Utility

This item allows you to run EZ Flash 3. When you press <Enter>, a confirmation message appears. Use the left/right arrow key to select between [Yes] or [No], then press <Enter> to confirm your choice.

> For more details, refer to section **3.11.2 EZ Flash 3**.

3.9.2 Secure Erase

SSD speeds may lower over time as with any storage medium due to data processing. Secure Erase completely and safely cleans your SSD, restoring it to factory performance levels.

> Secure Erase is only available in AHCI mode. Ensure to set the SATA mode to AHCI. Click **Advanced > SATA Configuration > AHCI.**

To launch Secure Erase, click **Tool > Secure Erase** on the Advanced mode menu.

> ⚠ Check the support site for a full list of SSDs tested with Secure Erase. The drive may become unstable if you run Secure Erase on an incompatible SSD.

> • The time to erase the contents of your SSD may take a while depending on its size. Do not turn off the system during the process.
>
> • Secure Erase is only supported on Intel SATA port. For more information about Intel SATA ports, refer to section **1.1.2 Motherboard layout** of this manual.


Displays the available SSDs
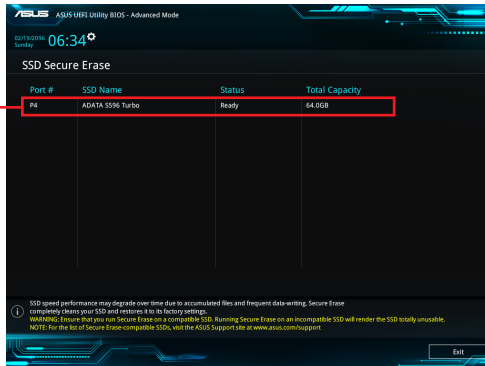
> **Status definition:**
>
> • **Frozen.** The frozen state is the result of a BIOS protective measure. The BIOS guards drives that do not have password protection by freezing them prior to booting. If the drive is frozen, a power off or hard reset of your PC must be performed to proceed with the Secure Erase.
>
> • **Locked.** SSDs might be locked if the Secure Erase process is either incomplete or was stopped. This may be due to a third party software that uses a different password defined by . You have to unlock the SSD in the software before proceeding with Secure Erase.

3.9.3 Overclocking Profile

This item allows you to store or load multiple BIOS settings.
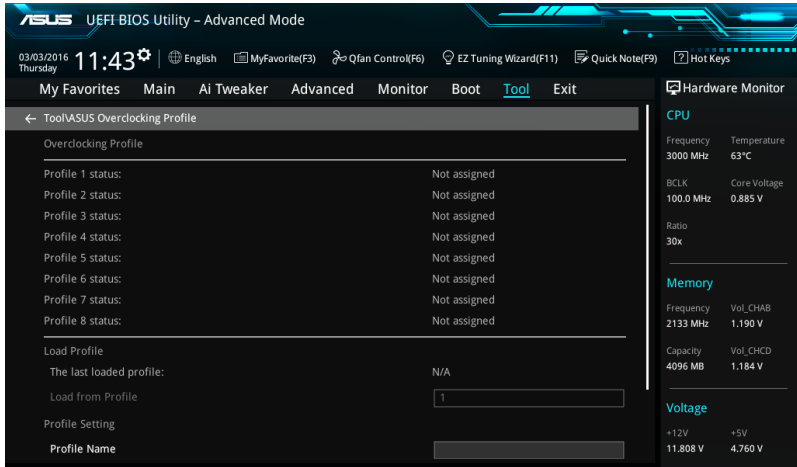
Load from Profile

This item allows you to load the previous BIOS settings saved in the BIOS Flash. Key in the profile number that saved your BIOS settings, press <Enter>, and then select **Yes**.

- DO NOT shut down or reset the system while updating the BIOS to prevent the system boot failure!

- We recommend that you update the BIOS file only coming from the same memory/ CPU configuration and BIOS version.

Profile Name

This item allows you to key in a profile name.

Save to Profile

This item allows you to save the current BIOS settings to the BIOS Flash, and create a profile. Key in a profile number from one to eight, press <Enter>, and then select **Yes**.

Load/Save Profile from/to USB Drive

This item allows you to load or save profile from your USB drive, load and save profile to your USB drive.

3.9.4   SPD Information

This item allows you to view the DRAM SPD information.

3.10   Exit menu

The Exit menu items allow you to load the optimal default values for the BIOS items, and save or discard your changes to the BIOS items. You can access the EZ Mode from the Exit menu.
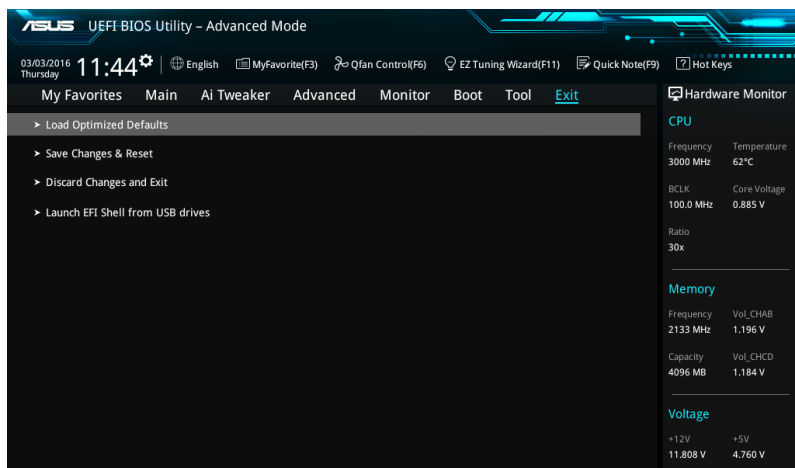
Load Optimized Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select **OK** to load the default values.

Save Changes & Reset

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved. When you select this option or if you press <F10>, a confirmation window appears. Select **OK** to save changes and exit.

Discard Changes and Exit

This option allows you to exit the Setup program without saving your changes. When you select this option or if you press <Esc>, a confirmation window appears. Select **Yes** to discard changes and exit.

Launch EFI Shell from USB drives

This option allows you to attempt to launch the EFI Shell application (shellx64.efi) from one of the available filesystem devices.

3.11   Updating BIOS

The website publishes the latest BIOS versions to provide enhancements on system stability, compatibility,and performance. However, BIOS updating is potentially risky. If there is no problem using the current version of BIOS, DO NOT manually update the BIOS. Inappropriate BIOS updating may result to system's failure to boot. Carefully follow the instructions in this chapter to update your BIOS when necessary.

The following utilities allow you to manage and update the motherboard BIOS setup program.

1.   EZ Update: Updates the BIOS in Windows® environment.

2.   EZ Flash 3: Updates the BIOS using a USB flash drive.

3.   CrashFree BIOS 3: Restores the BIOS using the motherboard support DVD or a USB flash drive when the BIOS file fails or gets corrupted.

3.11.1   EZ Update

The EZ Update is a utility that allows you to update the motherboard BIOS in Windows® environment.

- • EZ Update requires an Internet connection either through a network or an ISP (Internet Service Provider).

- • This utility is available in the support DVD that comes with the motherboard package.

3.11.2   EZ Flash 3

 EZ Flash 3 allows you to download and update to the latest BIOS through the Internet without having to use a bootable floppy disk or an OS-based utility.

Updating through the Internet varies per region and Internet conditions. Check your local Internet connection before updating through the Internet.

To update the BIOS by USB:

1.   Enter the Advanced Mode of the BIOS setup program. Go to the Tool menu to select **EZ Flash Utility** and press <Enter>.

2.   Insert the USB flash disk that contains the latest BIOS file to the USB port.

3.   Select **by USB.**
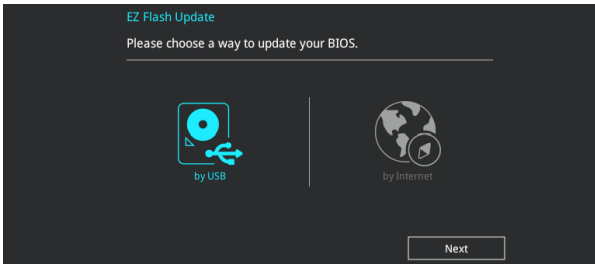
4.   Press <Tab> to switch to the Drive field.

5.   Press the Up/Down arrow keys to find the USB flash disk that contains the latest BIOS, and then press <Enter>.

6.   Press <Tab> to switch to the Folder Info field.

7.   Press the Up/Down arrow keys to find the BIOS file, and then press <Enter> to perform the BIOS update process. Reboot the system when the update process is done.
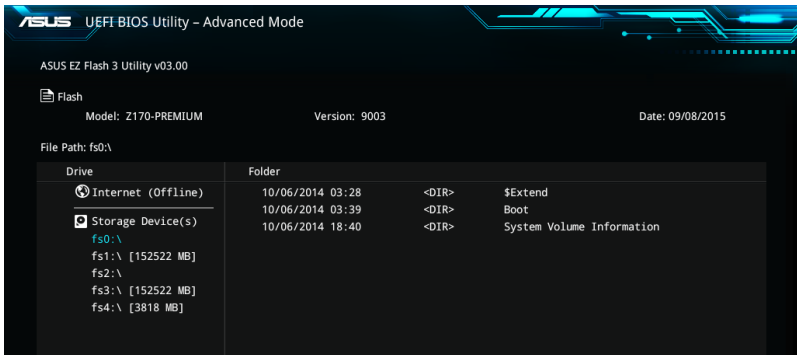
- This function can support devices such as a USB flash disk with FAT 32/16 format and single partition only.

- DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure!

Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu. See section **3.10 Exit Menu** for details.

To update the BIOS by Internet:

1. Enter the Advanced Mode of the BIOS setup program. Go to the Tool menu to select **EZ Flash Utility** and press <Enter>.

2. Select **by Internet.**
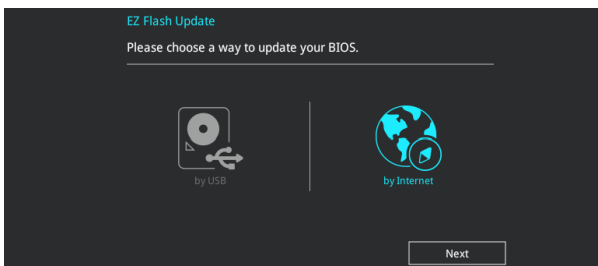
3. Press the Left/Right arrow keys to select an Internet connection method, and then press <Enter>.

4. Follow the onscreen instructions to complete the update.

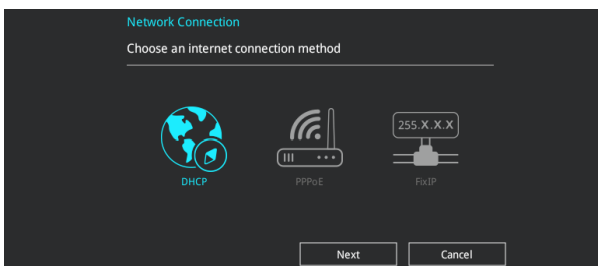5. Reboot the system when the update process is done.

Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu. See section **3.10 Exit Menu** for details.

3.11.3   CrashFree BIOS 3

The CrashFree BIOS 3 utility is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can restore a corrupted BIOS file using the motherboard support DVD or a USB flash drive that contains the BIOS file.

The BIOS file in the motherboard support DVD may be older than the BIOS file published on the official website. If you want to use the newer BIOS file, download the file and save it to a USB flash drive.

Recovering the BIOS

To recover the BIOS:

1.   Turn on the system.

2.   Insert the motherboard support DVD to the optical drive, or the USB flash drive containing the BIOS file to the USB port.

3.   The utility automatically checks the devices for the BIOS file. When found, the utility reads the BIOS file and enters EZ Flash 3 automatically.

4.   The system requires you to enter BIOS Setup to recover the BIOS setting. To ensure system compatibility and stability, we recommend that you press <F5> to load default BIOS values.

DO NOT shut down or reset the system while updating the BIOS! Doing so can cause system boot failure!