

# BIOS Setup (AMD AM4 Series)

BIOS Setup .....	2
Startup Screen .....	2
The Main Menu .....	3
M.I.T. ....	4
System .....	9
BIOS .....	10
Peripherals .....	13
Chipset.....	16
Power.....	18
Save & Exit .....	20



The BIOS Setup menus described in this section may differ from the exact settings for your motherboard. The actual BIOS Setup menu options you will see shall depend on the motherboard you have and the BIOS version.

## BIOS Setup

BIOS (Basic Input and Output System) records hardware parameters of the system in the CMOS on the motherboard. Its major functions include conducting the Power-On Self-Test (POST) during system startup, saving system parameters and loading operating system, etc. BIOS includes a BIOS Setup program that allows the user to modify basic system configuration settings or to activate certain system features.

When the power is turned off, the battery on the motherboard supplies the necessary power to the CMOS to keep the configuration values in the CMOS.

To access the BIOS Setup program, press the <Delete> key during the POST when the power is turned on.

To upgrade the BIOS, use either the GIGABYTE Q-Flash or @BIOS utility.

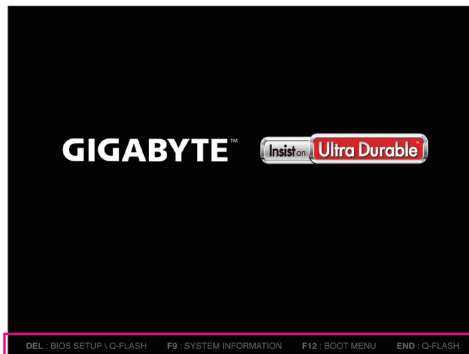
- Q-Flash allows the user to quickly and easily upgrade or back up BIOS without entering the operating system.
- @BIOS is a Windows-based utility that searches and downloads the latest version of BIOS from the Internet and updates the BIOS.



- Because BIOS flashing is potentially risky, if you do not encounter problems using the current version of BIOS, it is recommended that you not flash the BIOS. To flash the BIOS, do it with caution. Inadequate BIOS flashing may result in system malfunction.
- It is recommended that you not alter the default settings (unless you need to) to prevent system instability or other unexpected results. Inadequately altering the settings may result in system's failure to boot. If this occurs, try to clear the CMOS values and reset the board to default values. (Refer to the "Load Optimized Defaults" section in this chapter or introductions of the battery/clear CMOS jumper in Chapter 1 for how to clear the CMOS values.)

## Startup Screen

The following startup Logo screen will appear when the computer boots.

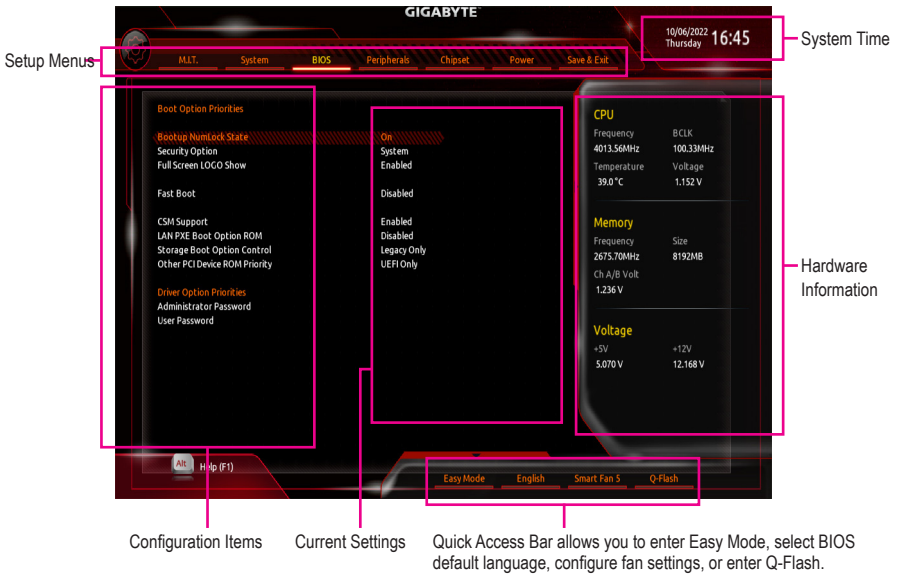


There are two different BIOS modes as follows and you can use the <F2> key to switch between the two modes. The Classic Setup mode provides detailed BIOS settings. You can press the arrow keys on your keyboard to move among the items and press <Enter> to accept or enter a sub-menu. Or you can use your mouse to select the item you want. Easy Mode allows users to quickly view their current system information or to make adjustments for optimum performance. In Easy Mode, you can use your mouse to move through configuration items.



- When the system is not stable as usual, select the **Load Optimized Defaults** item to set your system to its defaults.
- The BIOS Setup menus described in this chapter are for reference only and may differ by BIOS version.

# The Main Menu



## Classic Setup Function Keys

<<->>>	Move the selection bar to select a setup menu
<↑><↓>	Move the selection bar to select an configuration item on a menu
<Enter>/Double Click	Execute command or enter a menu
<+>/<Page Up>	Increase the numeric value or make changes
<->/<Page Down>	Decrease the numeric value or make changes
<F1>	Show descriptions of the function keys
<F2>	Switch to Easy Mode
<F3>	Save the current BIOS settings to a profile
<F4>	Load the BIOS settings from a profile created before
<F5>	Restore the previous BIOS settings for the current submenus
<F7>	Load the Optimized BIOS default settings for the current submenus
<F8>	Access the Q-Flash utility
<F9>	Display system information
<F10>	Save all the changes and exit the BIOS Setup program
<F12>	Capture the current screen as an image and save it to your USB drive
Left <Alt>	Show descriptions of the items
Right <Alt>	Decrease the Hardware Information
<Esc>	Main Menu: Exit the BIOS Setup program Submenus: Exit current submenu



Whether the system will work stably with the overclock/overvoltage settings you made is dependent on your overall system configurations. Incorrectly doing overclock/overvoltage may result in damage to CPU, chipset, or memory and reduce the useful life of these components. This page is for advanced users only and we recommend you not to alter the default settings to prevent system instability or other unexpected results. (Inadequately altering the settings may result in system's failure to boot. If this occurs, clear the CMOS values and reset the board to default values.)

## ▶ **Advanced Frequency Settings**

### ☞ **CPU Clock Control**

Allows you to manually set the CPU base clock in 1 MHz increments.

**Important:** It is highly recommended that the CPU frequency be set in accordance with the CPU specifications.

### ☞ **Host Clock Value**

Displays the current operating Host Clock frequency.

### ☞ **GFX Clock Frequency** <sup>(Note)</sup>

Allows you to alter the frequency for the GPU. After you alter the **GFX Clock Frequency** settings, make sure to adjust the **GFX Core Voltage** settings.

**NOTE:** The adjustable range is dependent on the CPU being installed. **Auto** lets the BIOS automatically configure this setting.

### ☞ **GFX Core Voltage** <sup>(Note)</sup>

Allows you to alter the voltage for the GPU.

**NOTE:** The adjustable range is dependent on the CPU being installed. **Auto** lets the BIOS automatically configure this setting.

### ☞ **CPU Clock Ratio**

Allows you to alter the clock ratio for the installed CPU. The adjustable range is dependent on the CPU being installed.

### ☞ **CPU Frequency**

Displays the current operating CPU frequency.

(Note) This item is present only when you install a CPU that supports this feature.

▶ **Advanced CPU Settings**

☞ **CPU Clock Ratio, CPU Frequency**

The settings above are synchronous to those under the same items on the **Advanced Frequency Settings** menu.

☞ **Core Performance Boost** <sup>(Note 1)</sup>

Allows you to determine whether to enable the Core Performance Boost (CPB) technology, a CPU performance-boost technology.

☞ **AMD Cool&Quiet function**

- ▶▶ Enabled                      Lets the AMD Cool'n'Quiet driver dynamically adjust the CPU clock and VID to reduce heat output from your computer and its power consumption.
- ▶▶ Disabled                     Disables this function.

☞ **SVM Mode**

Virtualization enhanced by Virtualization Technology will allow a platform to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple virtual systems.

☞ **PPC Adjustment**

Allows you to fix the PState of the CPU.

☞ **Global C-state Control** <sup>(Note 1)</sup>

Allows you to determine whether to let the CPU enter C states. When enabled, the CPU core frequency will be reduced during system halt state to decrease power consumption.

☞ **Power Supply Idle Control**

Enables or disables Package C6 State.

- ▶▶ Typical Current Idle       Disables this function.
- ▶▶ Low Current Idle           Enables this function.
- ▶▶ Auto                         Lets the BIOS automatically configure this setting.

☞ **CCD Control** <sup>(Note 1)</sup>

Sets the number of CCDs to be used.

☞ **Downcore Control**

Allows you to select the number of CPU cores to enable (the number of CPU cores may vary by CPU). **Auto** lets the BIOS automatically configure this setting.

☞ **SMT Mode**

Allows you to enable or disable the CPU Simultaneous Multi-Threading technology. This feature only works for operating systems that support multi-processor mode. **Auto** lets the BIOS automatically configure this setting.

☞ **Extreme Memory Profile (X.M.P.)** <sup>(Note 2)</sup>

Allows the BIOS to read the SPD data on XMP memory module(s) to enhance memory performance when enabled.

- ▶▶ Disabled                     Disables this function.
- ▶▶ Profile1                     Uses Profile 1 settings.
- ▶▶ Profile2 <sup>(Note 2)</sup>            Uses Profile 2 settings.

(Note 1) This item is present only when you install a CPU that supports this feature.

(Note 2) This item is present only when you install a CPU and a memory module that support this feature.

### ☞ **System Memory Multiplier**

Allows you to set the system memory multiplier. **Auto** sets memory multiplier according to memory SPD data.

### ☞ **Memory Frequency (MHz)**

The first memory frequency value is the normal operating frequency of the memory being used; the second is the memory frequency that is automatically adjusted according to the **System Memory Multiplier** settings.

## ▶ **Advanced Memory Settings**

### ☞ **Extreme Memory Profile (X.M.P.)<sup>(Note)</sup>, System Memory Multiplier, Memory Frequency(MHz)**

The settings above are synchronous to those under the same items on the **Advanced Frequency Settings** menu.

### ☞ **XMP High Frequency Support<sup>(Note)</sup>**

Allows you to select the compatibility level for high-frequency memory. This item is configurable only when **Extreme Memory Profile (X.M.P.)** is set to **Profile1** or **Profile2**.

### ☞ **Memory Timing Mode**

**Manual** and **Expert** allows the memory timing settings below to be configurable. Options are: **Auto**, **Manual**.

### ☞ **Profile DDR Voltage**

When using a non-XMP memory module or **Extreme Memory Profile (X.M.P.)** is set to **Disabled**, the value is displayed according to your memory specification. When **Extreme Memory Profile (X.M.P.)** is set to **Profile1** or **Profile2**, the value is displayed according to the SPD data on the XMP memory.

## ▶ **Standard Timing Control, Advanced Timing Control, CAD Bus Setup Timing, CAD Bus Drive Strength, Data Bus Configuration**

These sections provide memory timing settings. The respective timing setting screens are configurable only when **Memory Timing Mode** is set to **Manual**. Note: Your system may become unstable or fail to boot after you make changes on the memory timings. If this occurs, please reset the board to default values by loading optimized defaults or clearing the CMOS values.

## ▶ **Advanced Voltage Settings**

This sub-menu allows you to set CPU, chipset and memory voltages.

## ▶ **PC Health**

### ☞ **Reset Case Open Status**

- ▶ Disabled      Keeps or clears the record of previous chassis intrusion status.
- ▶ Enabled        Clears the record of previous chassis intrusion status and the **Case Open** field will show "No" at next boot.

(Note) This item is present only when you install a CPU and a memory module that support this feature.

## ☞ **Case Open**

Displays the detection status of the chassis intrusion detection device attached to the motherboard CI header. If the system chassis cover is removed, this field will show "Yes", otherwise it will show "No". To clear the chassis intrusion status record, set **Reset Case Open Status to Enabled**, save the settings to the CMOS, and then restart your system.

## ☞ **CPU Vcore/CPU VDDP/DRAM Channel A/B Voltage/+3.3V/+5V/+12V/VCORE SOC**

Displays the current system voltages.

## ▶ **Miscellaneous Settings**

### ☞ **PCIEX16 Slot Configuration**

Allows you to set the operation mode of the PCIEX16 slot to Gen 1, Gen 2, Gen 3, or Gen 4 <sup>(Note)</sup>. **Auto** lets the BIOS automatically configure this setting.

### ☞ **PCIe Slot Configuration**

Allows you to set the operation mode of the PCI Express slots to Gen 1, Gen 2, or Gen 3. Actual operation mode is subject to the hardware specification of each slot. **Auto** lets the BIOS automatically configure this setting.

### ☞ **PCIe ASPM Mode**

Allows you to configure the ASPM mode for the device connected to the CPU/Chipset PCI Express bus.

### ☞ **3DMark01 Enhancement**

Allows you to determine whether to enhance some legacy benchmark performance.

## ▶ **Smart Fan 5**

### ☞ **Monitor**

Allows you to select a target to monitor and to make further adjustment.

### ☞ **Fan Speed Control**

Allows you to determine whether to enable the fan speed control function and adjust the fan speed.

- ▶▶ **Normal**            Allows the fan to run at different speeds according to the temperature. You can adjust the fan speed with System Information Viewer based on your system requirements.
- ▶▶ **Silent**            Allows the fan to run at slow speeds.
- ▶▶ **Manual**            Allows you to control the fan speed in the curve graph.
- ▶▶ **Full Speed**        Allows the fan to run at full speeds.

### ☞ **Fan Control Use Temperature Input**

Allows you to select the reference temperature for fan speed control.

### ☞ **Temperature Interval**

Allows you to select the temperature interval for fan speed change.

### ☞ **Fan Control Mode**

- ▶▶ **Auto**                Lets the BIOS automatically detect the type of fan installed and sets the optimal control mode.
- ▶▶ **Voltage**            Voltage mode is recommended for a 3-pin fan.
- ▶▶ **PWM**                PWM mode is recommended for a 4-pin fan.

(Note) This item is present only when you install a CPU and a memory module that support this feature.

☞ **Fan Stop**

Enables or disables the fan stop function. You can set the temperature limit using the temperature curve. The fan stops operation when the temperature is lower than the limit.

☞ **Temperature**

Displays the current temperature of the selected target area.

☞ **Fan Speed**

Displays current fan speeds.

☞ **Flow Rate**

Displays the flow rate of your water cooling system.

☞ **Temperature Warning**

Sets the warning threshold for temperature. When temperature exceeds the threshold, BIOS will emit warning sound. Options are: Disabled, 60°C/140°F, 70°C/158°F, 80°C/176°F, 90°C/194°F.

☞ **Fan Fail Warning**

Allows the system to emit warning sound if the fan is not connected or fails. Check the fan condition or fan connection when this occurs.

▶ **Q-Flash**

Allows you to access the Q-Flash utility to update the BIOS or back up the current BIOS configuration.



# System



This section provides information on your motherboard model and BIOS version. You can also select the default language used by the BIOS and manually set the system time.

## System Language

Selects the default language used by the BIOS.

## System Date

Sets the system date. The date format is week (read-only), month, date, and year. Use <Enter> to switch between the Month, Date, and Year fields and use the <Page Up> or <Page Down> key to set the desired value.

## System Time

Sets the system time. The time format is hour, minute, and second. For example, 1 p.m. is 13:00:00. Use <Enter> to switch between the Hour, Minute, and Second fields and use the <Page Up> or <Page Down> key to set the desired value.

## Access Level

Displays the current access level depending on the type of password protection used. (If no password is set, the default will display as **Administrator**.) The Administrator level allows you to make changes to all BIOS settings; the User level only allows you to make changes to certain BIOS settings but not all.

# BIOS



## ☞ **Boot Option Priorities**

Specifies the overall boot order from the available devices. Removable storage devices that support GPT format will be prefixed with "UEFI:" string on the boot device list. To boot from an operating system that supports GPT partitioning, select the device prefixed with "UEFI:" string.

Or if you want to install an operating system that supports GPT partitioning such as Windows 10 64-bit, select the optical drive that contains the Windows 10 64-bit installation disc and is prefixed with "UEFI:" string.

## ☞ **Hard Drive/CD/DVD ROM Drive/Floppy Drive/Network Device BBS Priorities**

Specifies the boot order for a specific device type, such as hard drives, optical drives, floppy disk drives, and devices that support Boot from LAN function, etc. Press <Enter> on this item to enter the submenu that presents the devices of the same type that are connected. This item is present only if at least one device for this type is installed.

## ☞ **Bootup NumLock State**

Enables or disables Numlock feature on the numeric keypad of the keyboard after the POST.

## ☞ **Security Option**

Specifies whether a password is required every time the system boots, or only when you enter BIOS Setup. After configuring this item, set the password(s) under the **Administrator Password/User Password** item.

- ▶▶ Setup                      A password is only required for entering the BIOS Setup program.
- ▶▶ System                     A password is required for booting the system and for entering the BIOS Setup program.

## ☞ **Full Screen LOGO Show**

Allows you to determine whether to display the GIGABYTE Logo at system startup. **Disabled** skips the GIGABYTE Logo when the system starts up.

### ☞ **Fast Boot**

Enables or disables Fast Boot to shorten the OS boot process. **Ultra Fast** provides the fastest bootup speed.

### ☞ **SATA Support**

- ▶▶ All Sata Devices All SATA devices are functional in the operating system and during the POST.
- ▶▶ Last Boot HDD Only Except for the previous boot drive, all SATA devices are disabled before the OS boot process completes.

This item is configurable only when **Fast Boot** is set to **Enabled** or **Ultra Fast**.

### ☞ **NVMe Support**

Allows you to enable or disable NVMe device(s).

This item is configurable only when **Fast Boot** is set to **Enabled** or **Ultra Fast**.

### ☞ **VGA Support**

Allows you to select which type of operating system to boot.

- ▶▶ Auto Enables legacy option ROM only.
- ▶▶ EFI Driver Enables EFI option ROM.

This item is configurable only when **Fast Boot** is set to **Enabled** or **Ultra Fast**.

### ☞ **USB Support**

- ▶▶ Disabled All USB devices are disabled before the OS boot process completes.
- ▶▶ Full Initial All USB devices are functional in the operating system and during the POST.
- ▶▶ Partial Initial Part of the USB devices are disabled before the OS boot process completes.

This item is configurable only when **Fast Boot** is set to **Enabled**. This function is disabled when **Fast Boot** is set to **Ultra Fast**.

### ☞ **PS2 Devices Support**

- ▶▶ Disabled All PS/2 devices are disabled before the OS boot process completes.
- ▶▶ Enabled All PS/2 devices are functional in the operating system and during the POST.

This item is configurable only when **Fast Boot** is set to **Enabled**. This function is **disabled** when **Fast Boot** is set to **Ultra Fast**.

### ☞ **NetWork Stack Driver Support**

- ▶▶ Disabled Disables booting from the network.
- ▶▶ Enabled Enables booting from the network.

This item is configurable only when **Fast Boot** is set to **Enabled** or **Ultra Fast**.

### ☞ **CSM Support**

Enables or disables UEFI CSM (Compatibility Support Module) to support a legacy PC boot process.

- ▶▶ Enabled Enables UEFI CSM.
- ▶▶ Disabled Disables UEFI CSM and supports UEFI BIOS boot process only.

### ☞ **LAN PXE Boot Option ROM**

Allows you to select whether to enable the legacy option ROM for the LAN controller.

This item is configurable only when **CSM Support** is set to **Enabled**.

### ☞ **Storage Boot Option Control**

Allows you to select whether to enable the UEFI or legacy option ROM for the storage device controller.

- ▶▶ Disabled                      Disables option ROM.
- ▶▶ UEFI Only                      Enables UEFI option ROM only.
- ▶▶ Legacy Only                    Enables legacy option ROM only.

This item is configurable only when **CSM Support** is set to **Enabled**.

### ☞ **Other PCI Device ROM Priority**

Allows you to select whether to enable the UEFI or Legacy option ROM for the PCI device controller other than the LAN, storage device, and graphics controllers.

- ▶▶ Disabled                      Disables option ROM.
- ▶▶ UEFI Only                      Enables UEFI option ROM only.
- ▶▶ Legacy Only                    Enables legacy option ROM only.

This item is configurable only when **CSM Support** is set to **Enabled**.

### ☞ **Administrator Password**

Allows you to configure an administrator password. Press <Enter> on this item, type the password, and then press <Enter>. You will be requested to confirm the password. Type the password again and press <Enter>. You must enter the administrator password (or user password) at system startup and when entering BIOS Setup. Differing from the user password, the administrator password allows you to make changes to all BIOS settings.

### ☞ **User Password**

Allows you to configure a user password. Press <Enter> on this item, type the password, and then press <Enter>. You will be requested to confirm the password. Type the password again and press <Enter>. You must enter the administrator password (or user password) at system startup and when entering BIOS Setup. However, the user password only allows you to make changes to certain BIOS settings but not all. To cancel the password, press <Enter> on the password item and when requested for the password, enter the correct one first. When prompted for a new password, press <Enter> without entering any password. Press <Enter> again when prompted to confirm.

NOTE: Before setting the User Password, be sure to set the Administrator Password first.

### ☞ **Secure Boot**

Allows you to enable or disable Secure Boot and configure related settings. This item is configurable only when **CSM Support** is set to **Disabled**.

# Peripherals



## AMD CPU fTPM

Enables or disables the TPM 2.0 function integrated in the AMD CPU.

## Initial Display Output

Specifies the first initiation of the monitor display from the installed PCI Express graphics card or the onboard graphics.

- ▶▶ IGD Video <sup>(Note)</sup> Sets the onboard graphics as the first display.
- ▶▶ PCIe 1 Slot Sets the graphics card on the PCIEX16 slot as the first display.
- ▶▶ PCIe 2 Slot Sets the graphics card on the PCIEX16 slot as the first display.

## HD Audio Controller

Enables or disables the onboard audio function.

If you wish to install a 3rd party add-in audio card instead of using the onboard audio, set this item to **Disabled**.

## Above 4G Decoding

Enables or disables 64-bit capable devices to be decoded in above 4 GB address space (only if your system supports 64-bit PCI decoding). Set to **Enabled** if more than one advanced graphics card are installed and their drivers are not able to be launched when entering the operating system (because of the limited 4 GB memory address space).

## Re-Size BAR Support

Enables or disables support for Resizable BAR.

## Trusted Computing 2.0

Enables or disables Trusted Platform Module (TPM).

(Note) This item is present only when you install a CPU that supports this feature.

- **USB Configuration**

- ▶ **USB Configuration**

- ↳ **Legacy USB Support**

Allows USB keyboard/mouse to be used in MS-DOS.

- ↳ **XHCI Hand-off**

Determines whether to enable XHCI Hand-off feature for an operating system without XHCI Hand-off support.

- ↳ **USB Mass Storage Driver Support**

Enables or disables support for USB storage devices.

- ↳ **Port 60/64 Emulation**

Enables or disables emulation of I/O ports 64h and 60h. This should be enabled for full legacy support for USB keyboards/mice in MS-DOS or in operating system that does not natively support USB devices.

- ↳ **Mass Storage Devices**

Displays a list of connected USB mass storage devices. This item appears only when a USB storage device is installed.

- **APP Center Download & Install Configuration**

- ↳ **APP Center Download & Install**

Allows you to determine whether to automatically download and install GIGABYTE APP Center after entering the operating system. Before installing APP Center, make sure the system is connected to the Internet.

- ▶ **Network Stack Configuration**

- ↳ **Network Stack**

Disables or enables booting from the network to install a GPT format OS, such as installing the OS from the Windows Deployment Services server.

- ↳ **Ipv4 PXE Support**

Enables or disables IPv4 PXE Support. This item is configurable only when **Network Stack** is enabled.

- ↳ **Ipv4 HTTP Support**

Enables or disables HTTP boot support for IPv4. This item is configurable only when **Network Stack** is enabled.

- ↳ **Ipv6 PXE Support**

Enables or disables IPv6 PXE Support. This item is configurable only when **Network Stack** is enabled.

- ↳ **Ipv6 HTTP Support**

Enables or disables HTTP boot support for IPv6. This item is configurable only when **Network Stack** is enabled.

- ↳ **PXE boot wait time**

Allows you to configure how long to wait before you can press <Esc> to abort the PXE boot.

- ↳ **Media detect count**

Allows you to set the number of times to check the presence of media.

- ▶ **NVMe Configuration**

Displays information on your M.2 NVMe PCIe SSD if installed.

- **AMD CBS**

This sub-menu provides AMD CBS-related configuration options.

- **Realtek PCIe 2.5GBE Family Controller**

This sub-menu provides information on LAN configuration and related configuration options.

# Chipset



## ⌄ IOMMU

Enables or disables AMD IOMMU support.

## ⌄ PCIEX16 Bifurcation <sup>(Note)</sup>

Allows you to determine how the bandwidth of the PCIEX16 slot is divided. Options: Auto, PCIe 4x4.

## ⌄ Integrated Graphics <sup>(Note)</sup>

Enables or disables the onboard graphics function.

- ▶▶ Auto           The BIOS will automatically enable or disable the onboard graphics depending on the graphics card being installed.
- ▶▶ Forces           Enables the onboard graphics.
- ▶▶ Disabled        Disables the onboard graphics.

## ⌄ UMA Mode <sup>(Note)</sup>

Specify the UMA mode.

- ▶▶ Auto            Lets the BIOS automatically configure this setting.
- ▶▶ UMA Specified   Sets the UMA Frame Buffer Size.
- ▶▶ UMA Auto        Sets the display resolution.

This item is configurable only when **Integrated Graphics** is set to **Forces**.

## ⌄ UMA Frame Buffer Size <sup>(Note)</sup>

Frame buffer size is the total amount of system memory allocated solely for the onboard graphics controller. MS-DOS, for example, will use only this memory for display. Options are: Auto, 64M~16G.

This item is configurable only when **UMA Mode** is set to **UMA Specified**.

If you want to set the size to 4G or above, make sure to set **CSM Support** to **Disabled** first.

(Note) This item is present only when you install a CPU that supports this feature.



☞ **Display Resolution** <sup>(Note)</sup>

Allows you to set the display resolution. Options are: Auto, 1920x1080 and below, 2560x1600, 3840x2160. This item is configurable only when **UMA Mode** is set to **UMA Auto**.

☞ **SATA Mode**

Enables or disables RAID for the SATA controllers integrated in the Chipset or configures the SATA controllers to AHCI mode.

- ▶▶ RAID            Enables RAID for the SATA controller.
- ▶▶ AHCI            Configures the SATA controllers to AHCI mode. Advanced Host Controller Interface (AHCI) is an interface specification that allows the storage driver to enable advanced Serial ATA features such as Native Command Queuing and hot plug.

☞ **NVMe RAID mode (M2F\_32G Connector)**

Allows you to determine whether to use your M.2 NVMe PCIe SSDs to configure RAID.

☞ **Chipset SATA Port Enable (SATA3 0, 1, 2, 3 Connectors)**

Enables or disables the integrated SATA controllers.

☞ **Chipset SATA Port 0/1/2/3 (SATA3 0, 1, 2, 3 Connectors)**

Displays the information of the connected SATA device(s).

(Note) This item is present only when you install a CPU that supports this feature.

# Power



## AC BACK

Determines the state of the system after the return of power from an AC power loss.

- ▶▶ Memory The system returns to its last known awake state upon the return of the AC power.
- ▶▶ Always On The system is turned on upon the return of the AC power.
- ▶▶ Always Off The system stays off upon the return of the AC power.

## Power On By Keyboard

Allows the system to be turned on by a PS/2 keyboard wake-up event.

Note: To use this function, you need an ATX power supply providing at least 1A on the +5VSB lead.

- ▶▶ Disabled Disables this function.
- ▶▶ Password Set a password with 1~5 characters to turn on the system.
- ▶▶ Keyboard 98 Press POWER button on the Windows 98 keyboard to turn on the system.
- ▶▶ Any key Press any key to turn on the system.

## Power On Password

Set the **password** when **Power On By Keyboard** is set to Password.

Press <Enter> on this item and set a password with up to 5 characters and then press <Enter> to accept. To turn on the system, enter the password and press <Enter>.

Note: To cancel the password, press <Enter> on this item. When prompted for the password, press <Enter> again without entering the password to clear the password settings.

## Power On By Mouse

Allows the system to be turned on by a PS/2 mouse wake-up event.

Note: To use this function, you need an ATX power supply providing at least 1A on the +5VSB lead.

- ▶▶ Disabled Disables this function.
- ▶▶ Move Move the mouse to turn on the system.
- ▶▶ Double Click Double click on left button on the mouse to turn on the system.

## ErP

Determines whether to let the system consume least power in S5 (shutdown) state. Note: When this item is set to **Enabled**, the following functions will become unavailable: Resume by Alarm, power on by mouse, and power on by keyboard.

## Soft-Off by PWR-BTTN

Configures the way to turn off the computer in MS-DOS mode using the power button.

- ▶▶ Instant-Off Press the power button and then the system will be turned off instantly.
- ▶▶ Delay 4 Sec. Press and hold the power button for 4 seconds to turn off the system. If the power button is pressed for less than 4 seconds, the system will enter suspend mode.

## Resume by Alarm

Determines whether to power on the system at a desired time.

If enabled, set the date and time as following:

- ▶▶ Wake up day: Turn on the system at a specific time on each day or on a specific day in a month.
- ▶▶ Wake up hour/minute/second: Set the time at which the system will be powered on automatically.

Note: When using this function, avoid inadequate shutdown from the operating system or removal of the AC power, or the settings may not be effective.

## Wake on LAN

Enables or disables the wake on LAN function.

## High Precision Event Timer

Enables or disables High Precision Event Timer (HPET) in the operating system.

## CEC 2019 Ready

Allows you to select whether to allow the system to adjust power consumption when it is in shutdown, idle, or standby state in order to comply with the CEC (California Energy Commission) 2019 Standards.

# Save & Exit



## Save & Exit Setup

Press <Enter> on this item and select **Yes**. This saves the changes to the CMOS and exits the BIOS Setup program. Select **No** or press <Esc> to return to the BIOS Setup Main Menu.

## Exit Without Saving

Press <Enter> on this item and select **Yes**. This exits the BIOS Setup without saving the changes made in BIOS Setup to the CMOS. Select **No** or press <Esc> to return to the BIOS Setup Main Menu.

## Load Optimized Defaults

Press <Enter> on this item and select **Yes** to load the optimal BIOS default settings. The BIOS default settings help the system to operate in optimum state. Always load the Optimized defaults after updating the BIOS or after clearing the CMOS values.

## Boot Override

Allows you to select a device to boot immediately. Press <Enter> on the device you select and select **Yes** to confirm. Your system will restart automatically and boot from that device.

## Save Profiles

This function allows you to save the current BIOS settings to a profile. You can create up to 8 profiles and save as Setup Profile 1~ Setup Profile 8. Press <Enter> to complete. Or you can select **Select File in HDD/FDD/USB** to save the profile to your storage device.

## Load Profiles

If your system becomes unstable and you have loaded the BIOS default settings, you can use this function to load the BIOS settings from a profile created before, without the hassles of reconfiguring the BIOS settings. First select the profile you wish to load and then press <Enter> to complete. You can select **Select File in HDD/FDD/USB** to input the profile previously created from your storage device or load the profile automatically created by the BIOS, such as reverting the BIOS settings to the last settings that worked properly (last known good record).