msi®

AMD X570 series BIOS
AMD B550 series BIOS
USER GUIDE

Motherboard

Contents

UEFI BIOS

MSI UEFI BIOS is compatible with UEFI (Unified Extensible Firmware Interface) architecture. UEFI has many new functions and advantages that traditional BIOS cannot achieve, and it will completely replace BIOS in the future. The MSI UEFI BIOS uses UEFI as the default boot mode to take full advantage of the new chipset's capabilities. However, it still has a CSM (Compatibility Support Module) mode to be compatible with older devices. That allows you to replace legacy devices with UEFI compatible devices during the transition.

⚠️ *Important*

The term BIOS in this user guide refers to UEFI BIOS unless otherwise noted.

UEFI advantages

• Fast booting - UEFI can directly boot the operating system and save the BIOS self-test process. And also eliminates the time to switch to CSM mode during POST.

• Supports for hard drive partitions larger than 2 TB.

• Supports more than 4 primary partitions with a GUID Partition Table (GPT).

• Supports unlimited number of partitions.

• Supports full capabilities of new devices - new devices may not provide backward compatibility.

• Supports secure startup - UEFI can check the validity of the operating system to ensure that no malware tampers with the startup process.

Incompatible UEFI cases

• 32-bit Windows operating system - this motherboard supports only Windows 10 64-bit operating system.

• Older graphics card - the system will detect your graphics card. When display a warning message There is no GOP (Graphics Output protocol) support detected in this graphics card.

⚠️ *Important*

We recommend that you to replace with a GOP/UEFI compatible graphics card or using integrated graphics from CPU for having normal function.

How to find the BIOS version?

After entering the BIOS, find the BIOS version at the top of the screen.

BIOS Setup

The default settings offer the optimal performance for system stability in normal conditions. You should **always keep the default settings** to avoid possible system damage or failure booting unless you are familiar with BIOS.

⚠️ *Important*

• The BIOS setup screens, options and settings in this manual are for reference only and may vary from the motherboard you purchased. Please refer to the actual BIOS version of your system for detailed screens, settings and options.

*• BIOS items are continuously updated for better system performance. Therefore, the description may be slightly different from the latest BIOS and should be for reference only. You could also refer to the **HELP** information panel for the BIOS item description.*

• The BIOS options and settings for each motherboard may vary slightly with the BIOS version, please refer to the actual BIOS of your system for settings and options.

Entering BIOS Setup

Press **Delete** key, when the **Press DEL key to enter Setup Menu, F11 to enter Boot Menu** message appears on the screen during the boot process.

Function key

F1:   General Help list

F2:   Add/ Remove a favorite item

F3:   Enter Favorites menu

F4:   Enter CPU Specifications menu

F5:   Enter Memory-Z menu

F6:   Load optimized defaults

F7:   Switch between Advanced mode and EZ mode

F8:   Load Overclocking Profile

F9:   Save Overclocking Profile

F10:   Save Change and Reset*

F12:   Take a screenshot and save it to USB flash drive (FAT/ FAT32 format only).

Ctrl+F: Enter Search page

* When you press F10, a confirmation window appears and it provides the modification information. Select between Yes or No to confirm your choice.

BIOS Setting Mode

It provides two modes for you to configure BIOS: EZ mode and Advanced mode. Please press **F7** to switch between these two modes.

EZ Mode

At EZ mode, it provides the basic system information and allows you to configure the basic setting. To configure the advanced BIOS settings, please enter the Advanced Mode by pressing the Setup Mode switch or **F7** function key.
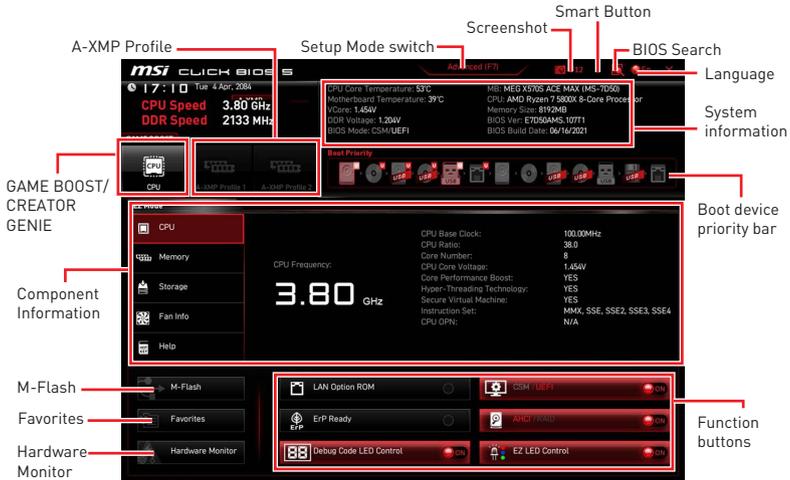
- **GAME BOOST** - click on it to toggle the GAME BOOST for overclocking. This function is only available when both of the motherboard and CPU are supporting this function.

⚠️ *Important*

*Please don't make any changes in OC menu and don't load defaults to keep the optimal performance and system stability after activating the **GAME BOOST** function.*

- **CREATOR GENIE** - click on it to toggle the CREATOR GENIE for performance optimization.

⚠️ *Important*

*Please don't make any changes in OC menu and don't load defaults to keep the optimal performance and system stability after activating the **CREATOR GENIE** function.*

- **A-XMP Profile** - allows you to select the A-XMP profile for memory to overclock. This function is only available when the system, memory and CPU are supporting this function.

• **Setup Mode switch** - press this tab or the **F7** key to switch between Advanced mode and EZ mode.

• **Screenshot** - click on this tab or the **F12** key to take a screenshot and save it to USB flash drive (FAT/ FAT32 format only).

• **BIOS Search** - click on this tab or the **Ctrl+F** keys to enter the search page. It allows you to search by BIOS item name. Move the mouse over a blank space and right click the mouse to exit the search page.

⚠️ *Important*

*In search page, only the **F6**, **F10** and **F12** function keys are available.*

• **Language** - allows you to select language of BIOS setup.

• **System information** - shows the CPU/ DDR speed, CPU/ MB temperature, MB/ CPU type, memory size, CPU/ DDR voltage, BIOS version and build date.

• **Boot device priority bar** - you can move the device icons to change the boot priority. The boot priority from high to low is left to right.

• **Component Information** - click on the **CPU**, **Memory**, **Storage**, **Fan Info** and **Help** buttons to show the information of the connected device.

• **Function buttons** - enable or disable the BIOS functions by clicking on these buttons. The button shows ON after enableing the function.

  ▪ **LAN Option ROM** - enables or disables the LAN option ROM.

  ▪ **AHCI/RAID** - select either AHCI or RAID mode for SATA devices.

  ▪ **ErP Ready** - enables or disables the system power consumption according to ErP regulation.

  ▪ **Debug Code LED Control** - enables or disables the debug code LED.

  ▪ **HD Audio Controller** - enables or disables the HD audio controller.

  ▪ **EZ LED Control** - turns on or turns off all the LEDs of motherboard.

  ▪ **CSM/ UEFI** - selects the BIOS mode, default mode is UEFI mode (ON).

• **M-Flash** - click on this button to display the **M-Flash** menu that provides the way to update BIOS with a USB flash drive.

• **Hardware Monitor** - click on this button to display the **Hardware Monitor** menu that allows you to manually control the fan speed by percentage.

• **Favorites** - click on this button or press the **F3** key to show the Favorites window. It provides 5 menus for you to create personal BIOS menu where you can save and access favorite/ frequently-used BIOS setting items.

▪ **To add a BIOS item to a favorite menu**

1. Select a BIOS item not only on BIOS menu but also on search page.

2. Right-click or press **F2** key.
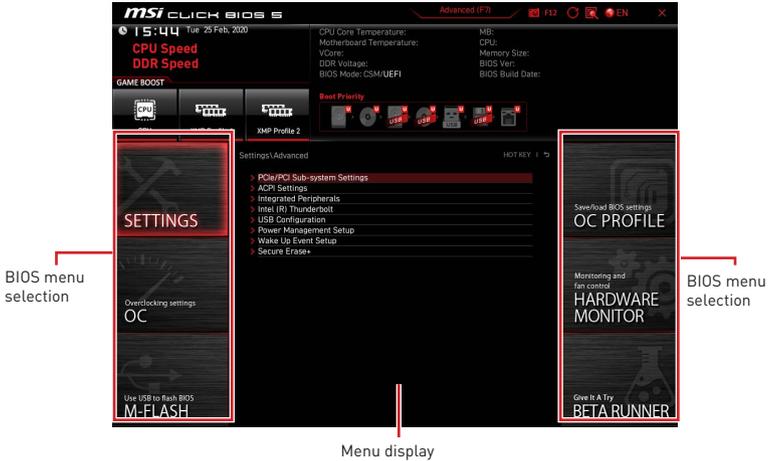
3. Choose a favorite page and click on **OK**.
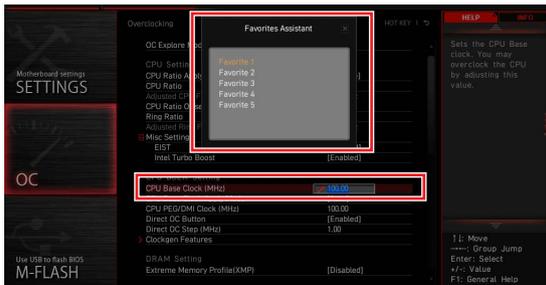
▪ **To delete a BIOS item from favorite menu**

1. Select a BIOS item on favorite menu.

2. Right-click or press **F2** key.

3. Choose Delete and click on **OK**.

Advanced Mode

Press **Setup Mode switch** or **F7** function key can switch between EZ Mode and Advanced Mode in BIOS setup.

Menu display

- **BIOS menu selection** - the following options are available:

  - **SETTINGS** - allows you to specify the parameters for chipset and boot devices.

  - **OC** - allows you to adjust the frequency and voltage. Increasing the frequency may get better performance.

  - **M-FLASH** - provides the way to update BIOS with a USB flash drive.

  - **OC PROFILE** - allows you to manage overclocking profiles.

  - **HARDWARE MONITOR** - allows you to set the speeds of fans and monitor voltages of system.

  - **Beta Runner** - provides the beta functions or features for the user who craves the new experience. However, we welcome and expect you to give us some more feedback on user experience. That will be helpful in improving the functions.

  - **Security** - allows you to set the administrator password and the user password for system security.

  - **Menu display** - provides BIOS setting items and information to be configured.

SETTINGS Menu

System Status

▶ System Date
Sets the system date. Use tab key to switch between date elements.

The format is <day> <month> <date> <year>.

<day>   Day of the week, from Sun to Sat, determined by BIOS. Read-only.
<month>   The month from Jan. through Dec.
<date>   The date from 1 to 31 can be keyed by numeric function keys.
<year>   The year can be adjusted by users.

▶ System Time
Sets the system time. Use tab key to switch between time elements.

The time format is <hour> <minute> <second>.

▶ SATA PortX/ M2_X
Shows the information of connected SATA/ M.2 devices.

⚠ *Important*
If the connected SATA/ M.2 device is not displayed, turn off computer and re-check SATA/ M.2 cable and power cable connections of the device and motherboard.

▶ System Information
Shows detailed system information, including CPU type, BIOS version, and Memory (read only).

▶ DMI Information
Shows system information, desktop Board Information and chassis Information. (Read only).

Advanced

▶ **PCIe/PCI Sub-system Settings**
Sets PCI, PCI express interface protocol and latency timer. Press Enter to enter the sub-menu.

   ▶ **Re-Size BAR Support**
   Enables or disables the Resize BAR (Base Address Register) support. It is only available if the system supports 64-bit PCI/ PCIe decoding. If the system supports 64-bit PCI/ PCIe decoding, please enable this item for compatible PCIe device.

   ▶ **Above 4G memory/ Crypto Currency mining [Disabled]**
   Enables or disables 64-bit capable devices to be decoded in above 4G address space. It is only available if the system supports 64-bit PCI decoding.

   [Enabled]   Allows you to utilize more than 4x GPUs.

   [Disabled]   Disables this function.

   ▶ **PCI_Ex Gen Switch**
   Sets PCI Express protocol for matching different installed devices.

   ▶ **Chipset Gen Switch**
   Sets PCI Express protocol (from chipset) for matching different installed devices.

   ▶ **PCIe SlotX Lanes Configuration**
   PCIe lanes configuration is for MSI M.2 Xpander / MSI M.2 Xpander-Z / Other M.2 PCIe storage card. The options in this item will vary with the installed processor.

▶ **ACPI Settings**
Sets ACPI parameters of onboard power LED behaviors. Press **Enter** to enter the sub-menu.

   ▶ **Power LED**
   Sets shining behaviors of the onboard Power LED.

   [Dual Color]   The power LED turns to another color to indicate the S3 state.

   [Blinking]   The power LED blinks to indicate the S3 state.

   ▶ **CPU Over Temperature Alert**
   Enables or disables the CPU overheating alert sound and message when CPU temperature is over 55 and 75 degrees centigrade.

▶ **Integrated Peripherals**
Sets integrated peripherals' parameters, such as LAN, HDD, USB and audio. Press **Enter** to enter the sub-menu.

   ▶ **VGA Detection**
   Allows the system to detect if there any discrete VGA card or integrated graphics unit.

▶ Onboard LAN Controller

Enables or disables the onboard LAN controller.

▶ LAN Option ROM

Enables or disables the legacy network Boot Option ROM for detailed settings. This item will appear when **Onboard LAN Controller** is enabled.

[Enabled]   Enables the onboard LAN Boot ROM.

[Disabled]   Disables the onboard LAN Boot ROM.

▶ Network Stack

Sets UEFI network stack for optimizing IPv4 / IPv6 function. This item is available when Onboard LAN Controller is Enabled.

[Enabled]   Enables UEFI network stack.

[Disabled]   Disables UEFI network stack.

▶ Ipv4 PXE Support

When **Enabled**, the system UEFI network stack will support Ipv4 protocol. This item will appear when **Network Stack** is Enabled.

[Enabled]   Enables the Ipv4 PXE boot support.

[Disabled]   Disables the Ipv4 PXE boot support.

▶ Ipv6 PXE Support

When **Enabled**, the system UEFI network stack will support Ipv6 protocol. This item will appear when **Network Stack** is enabled.

[Enabled]   Enables the Ipv6 PXE boot support.

[Disabled]   Disables the Ipv6 PXE boot support.

▶ Onboard Wi-Fi Module Control

Enables or disables the onboard Wi-Fi module controller.

▶ SATA Mode

Sets the operation mode of the onboard SATA controller.

[AHCI Mode] Specify the AHCI mode for SATA storage devices. AHCI (Advanced Host Controller Interface) offers some advanced features to enhance the speed and performance of SATA storage device, such as Native Command Queuing (NCQ) and hot-plugging.

[RAID Mode] Enables RAID function for SATA storage devices.

▶ SATA1 Hot Plug

Enables or disabled the SATA1 port hot plug support.

▶ SATA2 Hot Plug

Enables or disabled the SATA2 port hot plug support.

▶ SATA3 Hot Plug

Enables or disabled the SATA3 port hot plug support.

▶ SATA4 Hot Plug

Enables or disabled the SATA4 port hot plug support.

▶ **SATA5 Hot Plug**

Enables or disabled the SATA5 port hot plug support.

▶ **SATA6 Hot Plug**

Enables or disabled the SATA6 port hot plug support.

▶ **SATA7 Hot Plug**

Enables or disabled the SATA7 port hot plug support.

▶ **SATA8 Hot Plug**

Enables or disabled the SATA8 port hot plug support.

▶ **HD Audio Controller [Enabled]**

Enables or disables the onboard High Definition Audio controller.

▶ **Integrated Graphics Configuration**

Adjusts integrated graphics settings for optimum system. Press **Enter** to enter the sub-menu. This sub-menu is only available with the CPU integrate with IGP.

▶ **Initiate Graphic Adapter**

Selects a graphics device as the primary boot device.

[IGD]   Integrated Graphics Display.

[PEG]   PCI-Express Graphics Device.

▶ **IGD Multi-Monitor**

Enables or disables the multi-screen output from integrated graphics and external graphics card. This item appears when **Initiate Graphic Adapter** set to PEG.

[Enabled]   Enables multi-screen function for both integrated and external graphics cards.

[Disabled]   Disables this function.

▶ **UMA Frame Buffer Size**

Sets the system memory buffer size for onboard integrated graphics.

▶ **USB Configuration**

Sets the onboard USB controller and device function. Press **Enter** to enter the sub-menu.

▶ **XHCI Hand-off**

Enables or disables XHCI hand-off support for the operating system without XHCI hand-off feature.

▶ **Legacy USB Support**

Sets Legacy USB function support.

[Auto]   The system will automatically detect if any USB device is connected and enable the legacy USB support.

[Enabled]   Enable the USB support under legacy mode.

[Disabled]   The USB devices will be unavailable under legacy mode.

▶ **Enhance Mouse Pointer Speed**

Enhance the smoothness of mouse cursor movement.

▶ Super IO Configuration

Sets system Super I/O chip parameters including LPT and COM ports. Press **Enter** to enter the sub-menu.

▶ Serial (COM) Port 0 Configuration

Sets detailed configuration of serial(COM) port 0. Press **Enter** to enter the sub-menu.

▶ Serial (COM) Port 0

Enables or disables serial (COM) port 0.

▶ Serial (COM) Port 0 Settings

Sets serial (COM) port 0. If set to Auto, BIOS will optimize the IRQ automatically or you can set it manually.

▶ Parallel (LPT) Port Configuration

Sets detailed configuration of parallel port (LPT). Press Enter to enter the sub-menu.

▶ Parallel (LPT) Port

Enables or disables parallel(LPT) port.

▶ Parallel (LPT) Port Settings

Sets parallel port (LPT). If set to **Auto**, BIOS will optimize the IRQ automatically or you can set it manually.

▶ Device Mode

Selects an operating mode for parallel port.

[STD Printer Mode]	Printer port mode
[SPP]	Standard Parallel Port mode
[EPP-1.9 and SPP]	Enhanced Parallel Port-1.9 mode + Standard Parallel Port mode.

▶ Power Management Setup

Sets system Power Management of ErP and AC Power Loss behaviors. Press **Enter** to enter the sub-menu.

▶ ErP Ready

Enables or disables the system power consumption according to ErP regulation.

[Enabled]	Optimize the system power consumption according to ErP regulation. It will not support S4 & S5 wake up by USB, PCI and PCIe devices.
[Disabled]	Disables this function.

▶ Restore after AC Power Loss

Sets the system behaviors while encountering the AC power loss.

[Power Off] Leaves the system in power off state after restoring AC power.

[Power On]   Boot up the system after restoring AC power.

[Last State]   Restores the system to the previous state (power on/ power off)
                before AC power loss.

▶ System Power Fault Protection

Enables or disables the system to boot up when detecting abnormal voltage input.

[Enabled]   Protect the system from unexpected power operating and remain
                the shut down status.

[Disabled]   Disables this function.

▶ Windows OS Configuration

Sets Windows detailed configuration and behaviors. Press **Enter** to enter the sub-
menu.

▶ BIOS UEFI/ CSM Mode

Select CSM (Compatibility Suspport Module) or UEFI mode to meet the system
requirement.

[CSM]   For the non-UEFI driver add-on devices or non-UEFI mode OS.

[UEFI]   For the UEFI driver add-on devices and UEFI mode OS.

▶ GOP Information

Shows the GOP (Graphics Output Protocol) information.This sub-menu will appear
when **BIOS UEFI/CSM Mode** sets to **UEFI**.

▶ Secure Boot

Sets the Windows secure boot to prevent the unauthorized accessing. Press **Enter**
to enter the sub-menu. This sub-menu will appear when **BIOS UEFI/CSM Mode**
sets to **UEFI**.

▶ Secure Boot

Enables or disables secure boot control.

[Enabled]   Enables the secure boot function and allows you to set the secure
                boot settings.

[Disabled]   Disables this function.

▶ Secure Boot Mode

Selects the secure boot mode. This item is to select how the secure boot keys be
loaded. This item appears when **Secure Boot** is enabled.

[Standard]   The system will automatically load the secure keys from BIOS.

[Custom]   Allows user to configure the secure boot settings and manually
                load the secure keys.

▶ Enroll all Factory Default keys

Allows you to install all factory default keys.

▶ Delete all Secure Boot variables

 Delete all the secure Boot keys (PK, KEK, db, dbt, dbx).

▶ Key Management

Manages the secure boot keys. Press **Enter** to enter the sub-menu. This sub-menu will appear when **Secure Boot Mode** sets to [Custom].

▶ Provision Factory Default keys

Enables or disables the factory default keys.

▶ Enroll all Factory Default keys

Allows you to install all factory default keys.

▶ Delete all Secure Boot variables

Delete all the secure Boot keys (PK, KEK, db, dbt, dbx).

▶ Save all Secure Boot variables

Save all the secure Boot keys.

▶ Enroll Efi Image

Allows the Efi image to run in secure boot mode.

▶ Platform Key (PK)???

The Platform Key (PK) can protect the firmware from any un-authenticated changes. The system will verify the PK before your system enters the OS. Platform Key (PK) is used for updating KEK.

▶ Set New Key

Sets a new platform key to your system.

▶ Delete Key

Deletes the platform key from your system.

▶ Key Exchange Keys:???

Key Exchange Key (KEK) is used for updating DB or DBX.

▶ Set New Key

Sets a new KEK to your system.

▶ Append Key

Loads an additional KEK from storage devices to your system.

▶ Delete Key

Deletes the KEK from your system.

▶ Authorized Signatures:???

Authorized Signatures(DB) lists the authorized signatures that can be loaded.

▶ Set New Key

Sets a new DB to your system.

▶ Append Key

Loads an additional DB from storage devices to your system.

▶ Delete Key
Deletes the DB from your system.

▶ Forbidden Signatures:???
Forbidden Signatures (DBX) lists the forbidden signatures that can be loaded.

▶ Set New Key
Sets a new DBX to your system.

▶ Append Key
Loads an additional DBX from storage devices to your system.

▶ Delete Key
Deletes the DBX from your system.

▶ Authorized TimeStamps:???
Authorized TimeStamps (DBT) lists the signatures which have authorized TimeStamps.

▶ Set New Key
Sets a new DBT to your system.

▶ Append Key
Loads an additional DBT from storage devices to your system.

▶ Wake Up Event Setup
Sets system wake up behaviors for different sleep modes. Press **Enter** to enter the sub-menu.

▶ Wake Up Event By
Selects the wake up event by BIOS or operating system.

[BIOS]   Activates the following items, set wake up events of these items.

[OS]   The wake up events will be defined by OS.

▶ Resume By RTC Alarm
Disables or enables the system wake up by RTC Alarm.

[Enabled]   Enables the system to boot up on a scheduled time/ date.

[Disabled] Disables this function.

▶ Date (of month) Alarm/ Time (hh:mm:ss) Alarm
Sets RTC alarm date/ Time. If Resume By RTC Alarm is set to [Enabled], the system will automatically resume (boot up) on a specified date/hour/minute/ second in these fields (using the **+** and **-** keys to select the date & time settings).

▶ Resume By PCI/PCI-E Device
Enables or disables the wake up function of installed PCI/ PCI-E expansion cards.

[Enabled]   Enables the system to be awakened from the power saving modes when activity or input signal of PCI/ PCIe device is detected.

[Disabled] Disables this function.

▶ **Resume by USB Device**

Disables or enables system wake up from S3/S4 by USB device.

[Enabled]   Enables the system to be awakened from sleep state when activity of USB device is detected.

[Disabled]   Disables this function.

▶ **Resume From S3/S4/S5 by PS/2 Mouse**

Enables or disables the system wake up by PS/2 mouse.

[Enabled]   Enables the system to be awakened from S3/ S4/ S5 state when activity of PS/2 mouse is detected.

[Disabled]   Disables this function.

▶ **Resume From S3/S4/S5 by PS/2 Keyboard**

Enables or disables the system wake up by PS/2 keyboard.

[Any Key]   Enables the system to be awakened from S3/ S4/ S5 state when activity of any key on PS/2 keyboard is detected.

[Hot Key]   Enables the system to be awakened from S3/ S4/ S5 state when activity of hot key on PS/2 keyboard is detected.

[Disabled]   Disables this function.

▶ **Hot Key**

Selects a combination of keys as a hot key to wake the system. This item appears when you set the **Resume From S3/S4/S5 by PS/2 Keyboard** to **Hot Key**.

▶ **Secure Erase+**

Enables or disables Secure Erase+ function. **Secure Erase+** is the best way to effectively wipe all data from a SSD. Please note that data of SSD will be erased after enabling **Secure Erase+**.

▶ **Realtek PCIe GBE Family Controller**

Shows driver information and configuration of the ethernet controller parameter. This item will appear when **Network Stack** is enabled.

Boot

Sets the sequence of system boot devices.

▶ **Full Screen Logo Display**

Enables or disables to show the full screen logo while system POST.

[Enabled]   Shows the logo in full screen.

[Disabled]   Shows the POST messages.

▶ **Bootup NumLock State**

Select the keyboard NumLock state upon bootup.

▶ Info Block effect

Sets the state of **Help** information block.

[Unlock]   Sliding effect.
[Lock]   Lock the **Help** information block on the screen.

▶ POST Beep

Enables or disables the POST beep.

▶ AUTO CLR_CMOS

Enables or disables the CMOS data to be resumed automatically when the system cannot boot to OS and reboot repeatedly.

▶ Boot Mode Select [LEGACY+UEFI]

Sets the system boot mode from legacy or UEFI architecture depending on OS installation requirement. This item will become un-selectable and will be configured automatically by BIOS when **BIOS UEFI/CSM Mode** sets to **UEFI**.

[UEFI]   Enables UEFI BIOS boot mode support only.
[LEGACY+UEFI]   Enables both Legacy BIOS boot mode and UEFI BIOS boot mode.

▶ FIXED BOOT ORDER Priorities

Sets device priority for system boot.

▶ Boot Option Priorities

These items are used to prioritize the installed boot devices.

Security

▶ Administrator Password

Sets administrator password for system security. User has full rights to change the BIOS items with administrator password. After setting the administrator password, the state of this item will show **Installed**.

▶ User Password

Sets User Password for system security. User has limited rights to change the BIOS items with user password. This item will be available when administrator password is set. After setting the user password, the state of this item will show **Installed**.

▶ Password Check
Selects a condition that will request the password.

[Setup]   A password will be requested for entering the BIOS Setup.

[Boot]   A password will be requested for booting the system.

▶ Password Clear
Enables or disables the clear CMOS behavior to clear a set password.

[Enabled]   The password will be erased after clear CMOS.

[Disabled]   The password will always be kept.

⚠ *Important*
*When selecting the **Administrator / User Password** items, a password box will appear on the screen. Type the password then press **Enter.** The password typed now will replace any previous set password from CMOS memory. You will be prompted to confirm the password. You may also press **Esc** key to abort the selection.*

*To clear a set password, press **Enter** when you are prompted to enter a new password. A message will confirm the password is being disabled. Once the password is disabled, you can enter the setup and OS without authorization.*

▶ Trusted Computing
Sets TPM (Trusted Platform Module) function.

▶ Security Device Support
Enables or disables the TPM function to build the endorsement key for accessing the system.

▶ AMD fTPM switch
Selects TPM device. This item will appear when **Security Device Support** is enabled.

[AMD CPU fTPM]   Select it for AMD Firmware TPM.

[AMD CPU fTPM Disabled]   Select it for Discrete TPM.

▶ Device Select
Sets the version of the TPM device. The version must be identical with the device. Sets to **Auto**, system will auto-detect the model of TPM being used.

▶ Active PCR Banks
Shows the current active PCR banks.

▶ Available PCR banks
Shows all available PCR banks.

▶ SHA-1 PCR Bank
Enables or disables the SHA-1 160-bit encoding format.

▶ SHA256 PCR Banks
Enables or disables the SHA256 256-bit encodingn format.

▶ **TPM State**
Enables or disables the TPM support.

▶ **Pending operation**
Sets the action of pending TPM operation.
[None]   Discard the selelction
[TPM Clear]   Clear all data secured by TPM.

▶ **Platform Hierarchy**
Enables or disables the platform hierarchy.

▶ **Storage Hierarchy**
Enables or disables the storage hierarchy.

▶ **Endorsement Hierarchy**
Enables or disables the endorsement hierarchy.

▶ **TPM2.0 UEFU Spec Version**
Sets the TCG2 support version.
[TCG_1_2]   For Windows 8/ Windows 10.
[TCG_2]   For Windows 10 or later version.

▶ **Physical Presence Spec Version**
Sets the version of the testing tool (HCK) in OS.

▶ **Chassis Intrusion Configuration**
Press **Enter** to enter the sub-menu.

▶ **Chassis Intrusion**
Enables or disables recording messages while the chassis is opened. This function is ready for the chassis equips a chassis intrusion switch.
[Enabled]   Once the chassis is opened, the system will record and issue a warning message.
[Reset]   Clear the warning message. After clearing the message, please return to **Enabled** or **Disabled**.
[Disabled]   Disables this funcion.

Save & Exit

▶ **Discard Changes and Exit**
Exit BIOS setup without saving any change.

▶ **Save Changes and Reboot**
Save all changes and reboot the system.

▶ **Save Changes**
Save current changes.

▶ Discard Changes
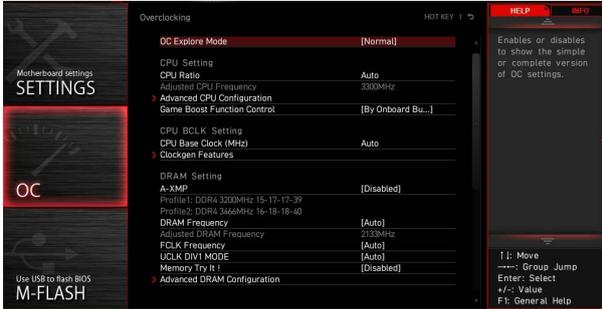
Discard all changes and restore to the previous values.

▶ Restore Defaults

Restore or load all default values.

▶ Boot Override

The installed boot-able devices will appear on this menu, you can select one of them to be the boot device.

OC Menu

⚠ *Important*

• *Overclocking your PC manually is only recommended for advanced users.*

• *Overclocking is not guaranteed, and if done improperly, it could void your warranty or severely damage your hardware.*

• *If you are unfamiliar with overclocking, we advise you to use **GAME BOOST/ CREATOR GENIE** function or easy overclocking.*

• *The BIOS options and settings in OC menu will vary from the motherboard you purchased. Please refer to the actual BIOS of your system for the BIOS settings and options.*

▶ OC Explore Mode

Enables or disables to show the normal or expert version of OC settings.

[Normal]   Provides the regular OC settings in BIOS setup.

[Expert]   Provides the advanced OC settings for OC expert to configure in BIOS setup.

▶ CPU Ratio Apply Mode

Sets applied mode for CPU ratio.

▶ CPU Ratio

Sets the CPU ratio that is used to determine CPU clock speed. This item can only be changed if the processor supports this function.

▶ Adjusted CPU Frequency

Shows the adjusted CPU frequency. Read-only.

▶ CCD0 CCX0 Ratio

Sets the CPU CCD0 CCX0 ratio. This item will appear when CPU Ratio Apply Mode is set to **Per CCX**.

▶ CCD0 CCX1 Ratio (optional)

Sets the CPU CCD0 CCX1 ratio.This item will appear when CPU Ratio Apply Mode is set to **Per CCX**.

▶ **CCD1 CCX0 Ratio (optional)**

Sets the CPU CCD1 CCX0 ratio. This item will appear when **CPU Ratio Apply Mode** is set to **Per CCX**.

▶ **CCD1 CCX1 Ratio (optional)**

Sets the CPU CCD1 CCX1 ratio. This item will appear when **CPU Ratio Apply Mode** is set to **Per CCX**.

▶ **Advanced CPU Configuration**

Press **Enter** to enter the sub-menu. You can set the parameters about CPU power/ current/ overclocking.

⚠ *Important*

The system may become unstable or unbootable after changing the power parameters. If it occurs, please clear the CMOS data and restore the default settings.

▶ **AMD Overclocking**

Press **Enter** to enter the sub-menu. You can set the parameters about CPU overclocking. This sub-menu will appear when the CPU and chipset support this function.

▶ **Precision Boost Overdrive**

Enables or disables Precision Boost Overdrive (PBO) that is a performance-maximizing technology available in AMD CPU. This item will appear only when the CPU supports this function.

▶ **PBO Limits**

Sets the PBD limits control mode. This item will appear when **Precision Boost Overdrive** is set to **Advanced**.

▶ **PPT Limit [W]**

Sets PPT (Package Power Tracking) limit. This item will appear when **PBO Limits** is set to **Manual**.

▶ **TDC Limit [A]**

Sets TDC (Thermal Design Current) limit. This item will appear when **PBO Limits** is set to **Manual**.

▶ **EDC Limit [A]**

Sets EDC (Electrical Design Current) limit. This item will appear when **PBO Limits** is set to **Manual**.

▶ **Precision Boost Overdrive Scalar**

Sets to control the PBO automatically or manually.

▶ **Precision Boost Overdrive Scalar**

Sets PBO scalar. This item will appear when **Precision Boost Overdrive Scalar** is set to **Manual**.

▶ **Max CPU Boost Clock Override**

It allows you to set CPU boost clock. If set to **Auto**, BIOS will configure the clock. This item will appear when **Precision Boost Overdrive** is set to **Advanced**.

▶ **Platform Thermal Throttle Limit**

It allows you to set the maximum processor temperature. If set to **Auto**, BIOS will configure this settings. This item will appear when **Precision Boost Overdrive** is set to **Advanced**.

▶ **Curve Optimizer**

Press **Enter** to enter the sub-menu. This sub-menu will appear when the CPU supports this function.

▶ **Curve Optimizer**

Enables or disables the Curve Optimizer for CPU cores.

▶ **All Core Curve Optimizer Sign**

Sets the shifting direction of the curve for all cores. This item will appear when **Curve Optimizer** is set to **All Cores**.

▶ **All Core Curve Optimizer Magnitude**

Sets Curve Optimizer value for all cores. This item will appear when **Curve Optimizer** is set to **All Cores**.

▶ **Core[n] Curve Optimizer Sign**

Sets the shifting direction of the curve for the single core. This item will appear when **Curve Optimizer** is set to **Per Core**.

▶ **Core[n]s Curve Optimizer Magnitude**

Sets Curve Optimizer value for the signle core. This item will appear when **Curve Optimizer** is set to **Per Core**.

▶ **CPU CCD Control**

Sets the number of CCDs to be used.

▶ **CPU Core Control**

Sets the number of CPU cores to be used.

▶ **SMT Control**

It allows you to disable the SMT (Symmetric Multithreading).

▶ **AMD CBS**

Press **Enter** to enter the sub-menu. This sub-menu will appear when the CPU supports this function.

▶ **Core Performance Boost**

Enables or disables the Core Performance Boost (CPB). This item appears when a CPU that support CPB is installed.

[Auto]	Allows the processor to dynamically overclocking when the system request the highest performance state.
[Disabled]	Disables this function.

▶ **Global C-state Control**

Enables/ disables IO based C-state generation and DF C-states.

▶ Power Supply Idle Controls

It allows you to select the power-saving control mode for the CPU when all cores are in a non-CO state. If set to **Auto**, BIOS will configure these settings. This item will appear only when the CPU supports this function.

▶ IOMMU Mode (optional)

Enables/disables the IOMMU (I/O Memory Management Unit) for I/O Virtualization.

▶ Precision Boost Overdrive

Enables or disables Precision Boost Overdrive (PBO) that is a performance-maximizing technology available in AMD CPU. This item will appear only when the CPU supports this function.

▶ PPT Limit [W]

Sets PPT (Package Power Tracking) limit. This item will appear when **PBO Limits** is set to **Manual**.

▶ TDC Limit [A]

Sets TDC (Thermal Design Current) limit. This item will appear when **PBO Limits** is set to **Manual**.

▶ EDC Limit [A]

Sets EDC (Electrical Design Current) limit. This item will appear when **PBO Limits** is set to **Manual**.

▶ Precision Boost Overdrive Scalar

Enables or disables the PBO control.

▶ Customized Precision Boost Overdrive Scalar

Sets PBO scalar. This item will appear when **Precision Boost Overdrive Scalar** is set to **Manual**.

▶ Customized Precision Boost Overdrive Scalar

Sets PBO scalar. This item will appear when **Precision Boost Overdrive Scalar** is set to **Manual**.

▶ Max Voltage Offset

Sets the maximun offset value for CPU core voltage. This item will appear when **CPU Core Voltage** is set to **AMD Overclocking**.

▶ Package Power Limit

Sets package power limit.

▶ SVM Mode

Enables or disables the AMD SVM (Secure Virtual Machine) Mode.

▶ NX Mode

Enables or disables the AMD NX (No excute) protections.

▶ PSS Support

Enables or disables the generation of ACPI _PPC,_PSS, and _PCT objects.

▶ Performance Regulator

Enables a specific option to optimize performance.

▶ Spread Spectrum (optional)

This function reduces the EMI (Electromagnetic Interference) generated by modulating clock generator pulses. If set to **Auto**, BIOS will configure the setting automatically.

[Enabled]   Enables the spread spectrum function to reduce the EMI (Electromagnetic Interference) problem.

[Disabled]   Enhances the overclocking ability of CPU Base clock.

⚠ *Important*

• *If you do not have any EMI problem, leave the setting at [Disabled] for optimal system stability and performance. But if you are plagued by EMI, select the value of Spread Spectrum for EMI reduction.*

• *The greater the Spread Spectrum value is, the greater the EMI is reduced, and the system will become less stable. For the most suitable Spread Spectrum value, please consult your local EMI regulation.*

• *Remember to disable Spread Spectrum if you are overclocking because even a slight jitter can introduce a temporary boost in clock speed which may just cause your overclocked processor to lock up.*

▶ CPU VDD_SoC Current Opimization

It allows you to set the CPU VDD_SoC current for optimizing performance.

▶ CPU VDD Full Scale Current

Sets CPU VDD current. This item will appear when **CPU VDD_SoC Current Opimization** is set to **Custom Setting**.

▶ CPU SoC Full Scale Current

Sets CPU SoC current. This item will appear when **CPU VDD_SoC Current Opimization** is set to **Custom Setting**.

▶ CPU Temperature Display (optional)

Enables or disables the debug LED to display the CPU temperature when POST.

▶ Game Boost Function Control

Sets to enable the Game Boost control by virtual button in BIOS or physical button on motherboard.

▶ CPU Base Clock (MHz)

Sets the CPU base clock. You may overclock the CPU by adjusting this item. Please note that overclocking behavior and stability is not guaranteed.

▶ FCH Base Clock (MHz) (optional)

Sets the FCH base clock. Please note that overclocking behavior and stability is not guaranteed.

▶ A-XMP

Selects and loads memory profile with optimized timing and voltage settings supported by installed memory module. This item is available only when the installed processor, memory modules and motherboard support this function.

▶ DRAM Frequency

Sets the DRAM frequency. Please note the overclocking behavior is not guaranteed.

▶ Adjusted DRAM Frequency

Shows the adjusted DRAM frequency. Read-only.

▶ FCLK Frequency

Sets the FCLK frequency (Internal Data Fabric clock of DRAM). Please note the overclocking behavior is not guaranteed.

▶ UCLK DIV1 MODE

Sets UCLK (Internal memory controller clock) mode.

▶ Memory Try It !

It can improve memory compatibility or performance by choosing optimized memory preset.

▶ Memory Failure Retry

Enables or disables the system to reboot with default settings when the memory OC fails.

▶ Memory Retry Count (optional)

Sets the counts of memory OC retry. When memory retry fails reach the count, the system will go back to the last available settings. This item will appear when **Memroy Failure Retry** is **Enabled**.

▶ Memory Fast Boot

Enables or disables the memory fast boot function.

▶ Advanced DRAM Configuration

Press **Enter** to enter the sub-menu. User can set the memory timing for each/ all memory channel. The system may become unstable or unbootable after changing memory timing. If it occurs, please clear the CMOS data and restore the default settings. (Refer to the Clear CMOS jumper section to clear the CMOS data, and enter the BIOS to load the default settings.)

▶ DigitALL Power

Press **Enter** to enter the sub-menu. Controls the digital powers related to CPU PWM.

▶ CPU Loadline Calibration Control

The CPU voltage will decrease proportionally according to CPU loading. Higher load-line calibration could get higher voltage and good overclocking performance, but increase the temperature of the CPU and VRM. If set to **Auto**, BIOS will configure this setting automatically.

▶ **CPU Over Voltage Protection**

Sets the voltage limit for CPU over-voltage protection. If set to **Auto**, BIOS will configure this setting automatically. Higher voltage provides less protection and may damage the system.

▶ **CPU Under Voltage Protection**

Sets the voltage limit for CPU under-voltage protection. If set to **Auto**, BIOS will configure this setting automatically. Higher voltage provides less protection and may damage the system.

▶ **CPU Over Current Protection**

Sets the current limit for CPU over-current protection. If set to **Auto**, BIOS will configure this setting automatically.

[Auto]   This setting will be configured automatically by BIOS.

[Enhanced]   Extends the current range for over-current protection.

▶ **CPU Switching Frequency**

Sets the PWM working speed to stabilize CPU Core voltage and minimize ripple range. Increasing the PWM working speed will cause higher temperature of MOSFET. So please make sure a cooling solution is well-prepared for MOSFET before you increase the value. If set to **Auto**, BIOS will configure this setting automatically.

▶ **CPU VRM Over Temperature Protection**

Sets the temperature limit on CPU VRM for over-temperature protection. The CPU frequency may be throttled when CPU temperature over the specified temperature. If set to **Auto**, BIOS will configure this settings.

▶ **CPU NB Loadline Calibration Control**

The CPU-NB voltage will decrease proportionally according to CPU-NB loading. Higher load-line calibration could get higher voltage and good overclocking performance, but increase the temperature. If set to **Auto**, BIOS will configure this setting automatically.

▶ **CPU NB Over Current Protection**

Sets the current limit for CPU-NB over-current protection. If set to **Auto**, BIOS will configure this setting 0utomatically.

[Auto]   This setting will be configured automatically by BIOS.

[Enhanced]   Extends the current range for over-current protection.

▶ **CPU NB Switching Frequency**

Sets the PWM working speed to stabilize CPU-NB voltage and minimize ripple range. Increasing the PWM working speed will cause higher temperature of MOSFET. So please make sure a cooling solution is well-prepared for MOSFET before you increase the value. If set to **Auto**, BIOS will configure this setting automatically.

▶ **VR 12VIN OCP Expander**

Expands the limitation of VR Over Current Protection with 12V input voltage. The higher expanding value indicates less protection. Therefore, please adjust the current carefully if needed, or it may damage the CPU/ VR MOS. If set to "Auto", BIOS will configure this setting automatically.

▶ **CPU Core Voltage Mode**

Sets the CPU Core voltage mode. If set to **Auto**, BIOS will configure this setting automatically.

[Auto]	This setting will be configured automatically by BIOS.
[Override Mode]	Allows you to set the voltage manually.
[Offset Mode]	Allows you to set the offset voltage and select the voltage offset mode.
[AMD Overclocking]	Sets the adaptive voltage automatically for optimizing the system performance.
[Override + Offset]	Sets the voltage manually and allows you to set the offset voltage.

▶ **Override CPU Core Voltage**

It allows you to set CPU core voltage. If set to **Auto**, BIOS will set the voltage automatically. This item will appear when **CPU Core Voltage** sets to **Override mode** or **AMD Overclock**.

▶ **CPU Offset Mode Mark**

Sets the CPU offset mode. This item will appear when **CPU Core Voltage** sets to **Offset mode** or **Override + Offset Mode**.

▶ **CPU Offset Voltage**

Sets the CPU offset voltage. This item will appear when **CPU Core Voltage** sets to **Offset mode** or **Override + Offset Mode**.

▶ **Max Voltage Offset**

Sets the maximun offset value for CPU core voltage. This item will appear when **CPU Core Voltage** is set to **AMD Overclocking**.

▶ **CPU NB/SoC Voltage**

Sets the CPU NB/ SoC voltage mode. If set to **Auto**, BIOS will configure this setting automatically.

[Auto]	This setting will be configured automatically by BIOS.
[Override Mode]	Allows you to set the voltage manually.
[Offset Mode]	Allows you to set the offset voltage and select the voltage offset mode.
[AMD Overclocking]	Sets the adaptive voltage automatically for optimizing the system performance.

▶ **Override CPU NB/SoC Voltage**

Sets CPU NB/SoC voltage. If set to **Auto**, BIOS will set the voltage automatically. This item will appear when **CPU NB/SoC Voltage** sets to **Override mode**.

▶ **CPU NB/SoC Offset Mode Mark**
Sets the CPU NB/SoC offset mode. This item will appear when **CPU NB/SoC Voltage** sets to **Offset mode**.

▶ **CPU NB/SoC Offset Voltage**
Sets the CPU NB/SoC offset voltage value. This item will appear when **CPU Core Voltage** sets to **Offset mode** or **Override + Offset Mode**.

▶ **SOC Voltage**
Sets CPU VDD_SOC voltage. If set to **Auto**, BIOS will set the voltage automatically. This item will appear when **CPU NB/SoC Voltage** sets to **AMD Overclock**.

▶ **VDDP Voltage**
Sets VDDP voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **VDDG CCD Voltage (optional)**
Sets VDDG CCD voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **VDDG IOD Voltage (optional)**
Sets VDDG IOD voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **CPU VDDP Voltage (optional)**
Sets CPU VDDP voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **CPU 1P8 Voltage**
Sets CPU 1P8 voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **DRAM Voltage**
Sets DRAM voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **DRAM VPP Voltage**
Sets DRAM VPP voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **DRAM CH-A VREF Voltage**
Sets DRAM channel A VREF voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **DRAM CH-B VREF Voltage**
Sets DRAM channel B VREF voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **CHIPSET SOC Voltage**
Sets chip SOC voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **CHIPSET CLDO Voltage**
Sets chip CLDO voltage. If set to **Auto**, BIOS will set the voltage automatically.

▶ **Memory Changed Detect**

Enables or disables the system to issue a warning message during boot when the memory has been replaced.

[Enabled]   The system will issue a warning message during boot and then you have to load the default settings for new devices.

[Disabled]   Disables this function and keeps the current BIOS settings.

▶ **CPU Specifications**

Press **Enter** to enter the sub-menu. This sub-menu displays the information of installed CPU. You can also access this information menu at any time by pressing [F4]. Read only.

    ▶ **CPU Technology Support**

    Press **Enter** to enter the sub-menu. The sub-menu shows the key features of installed CPU. Read only.

▶ **MEMORY-Z**

Press **Enter** to enter the sub-menu. This sub-menu displays all the settings and timings of installed memory. You can also access this information menu at any time by pressing [F5].

    ▶ **DIMMx Memory SPD**

    Press **Enter** to enter the sub-menu. The sub-menu displays the information of installed memory. Read only.
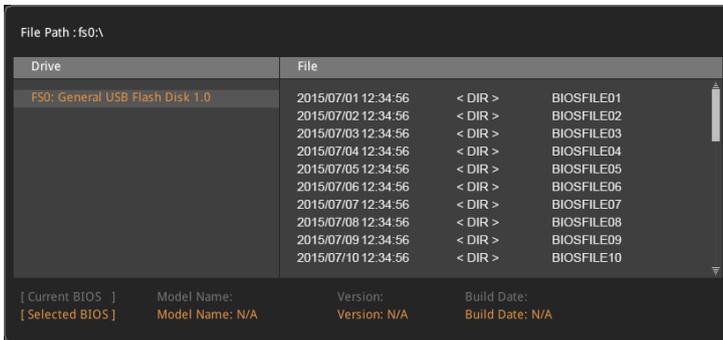
M-FLASH Menu

M-FLASH provides the way to update BIOS with a USB flash drive. Please download the latest BIOS file that matches your motherboard model from MSI website, save the BIOS file into your USB flash drive. And then follow the steps below to update BIOS.

1. Insert the USB flash drive that contains the update file into the computer.

2. Click on **M-FLASH** tab, a demand message will be prompted. Click on **Yes** to reboot and enter the flash mode.

> System will auto reboot and enter flash mode.
> Do you want to enter flash mode?
>
> Yes   No
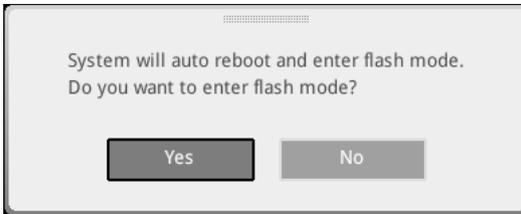
3. The system will enter the flash mode and a file selection menu will appear after rebooting.

File Path : fs0:\

Drive	File		
FS0: General USB Flash Disk 1.0	2015/07/01 12:34:56	< DIR >	BIOSFILE01
	2015/07/02 12:34:56	< DIR >	BIOSFILE02
	2015/07/03 12:34:56	< DIR >	BIOSFILE03
	2015/07/04 12:34:56	< DIR >	BIOSFILE04
	2015/07/05 12:34:56	< DIR >	BIOSFILE05
	2015/07/06 12:34:56	< DIR >	BIOSFILE06
	2015/07/07 12:34:56	< DIR >	BIOSFILE07
	2015/07/08 12:34:56	< DIR >	BIOSFILE08
	2015/07/09 12:34:56	< DIR >	BIOSFILE09
	2015/07/10 12:34:56	< DIR >	BIOSFILE10

[Current BIOS]   Model Name: Version: Build Date:
[Selected BIOS]   Model Name: N/A   Version: N/A   Build Date: N/A

4. Select a BIOS file to perform the BIOS update process.

5. After the flashing process is 100% completed, the system will reboot automatically.

OC PROFILE Menu
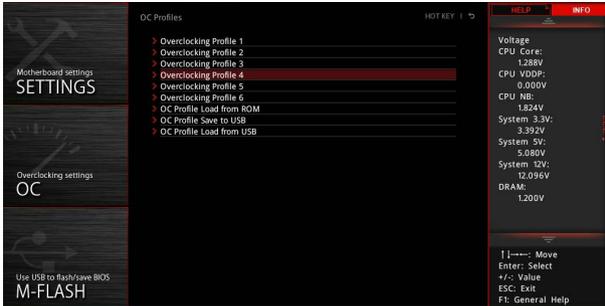
▶ **Overclocking Profile 1/ 2/ 3/ 4/ 5/ 6**

Overclocking Profile 1/ 2/ 3/ 4/ 5/ 6 management. Press **Enter** to enter the sub-menu.

  ▶ **Set Name for Overclocking Profile 1/ 2/ 3/ 4/ 5/ 6**

  Name the current overclocking profile.

  ▶ **Save Overclocking Profile 1/ 2/ 3/ 4/ 5/ 6**

  Save the current overclocking profile.

  ▶ **Load Overclocking Profile 1/ 2/ 3/ 4/ 5/ 6**

  Load the current overclocking profile.

  ▶ **Clear Overclocking Profile 1/ 2/ 3/ 4/ 5/ 6**

  Clear the current overclocking profile.

▶ **OC Profile Load from ROM**

Load OC profile from BIOS ROM.

▶ **OC Profile Save to USB**

Save OC profile to the USB flash drive. The USB flash drive should be FAT/ FAT32 format only.

▶ **OC Profile Load from USB**

Load OC profile from the USB flash drive. The USB flash drive should be FAT/ FAT32 format only.

HARDWARE MONITOR Menu

This menu allows you to adjust the fan speed manually and monitor CPU/ system voltage.

Select a temperature curve line (white) to be showed in Fan operating window

Select a fan mode for target fan

Select a fan to be configured

Click to enable the Smart Fan

Smart Fan duty information

Fan operating window

Setting Buttons

Temperature information

Voltage information

• **Smart Fan** - This setting enables/disables the Smart Fan function. Smart Fan is an excellent feature which will adjust the CPU/system fan speed automatically depending on the current CPU/system temperature, avoiding the overheating to damage your system.

▶ **Settings Buttons**

  ▪ **All Full Speed** - configures all fans to run at full operating speed.

  ▪ **All Set Default** - configures all fans' speeds return the BIOS default values.

  ▪ **All Set Cancel** - discards current changes and restores previous settings for all fan .

⚠️ *Important*

Make sure fans are working properly after adjusting the fan speed and switching the fan mode.

Adjusting fans

1. Selects a fan that you want to adjust and to display the fan duty curve line (yellow) in fan operating windows.

2. Click and drag the duty points to adjust the fan speed.

Select a fan to be adjusted

Duty points
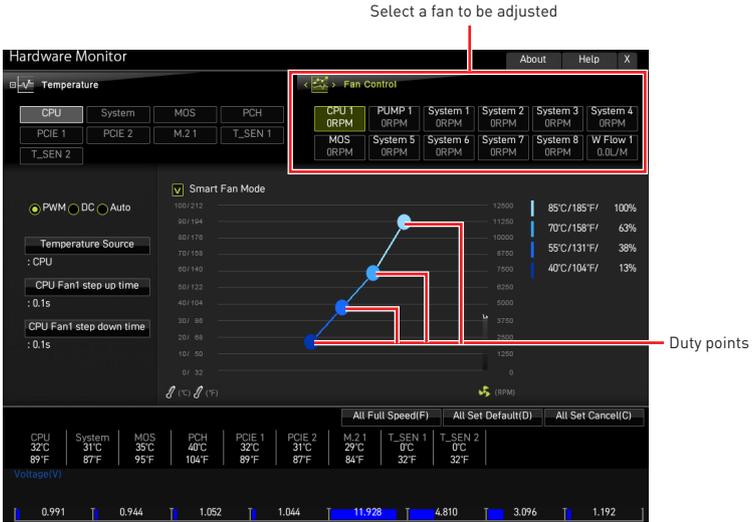
Resetting BIOS

You might need to restore the default BIOS setting to solve certain problems. There are several ways to reset BIOS:

• Go to BIOS and press **F6** to load optimized defaults.

• Short the Clear CMOS jumper on the motherboard.

• Press the Clear CMOS button (optional) on the rear I/O panel.

⚠ *Important*

Be sure the computer is off before clearing CMOS data. Please refer to the Clear CMOS jumper/ button section in the user guide for resetting BIOS.

Updating BIOS

Updating BIOS with M-FLASH

Before updating:

Please download the latest BIOS file that matches your motherboard model from MSI website. And then save the BIOS file into the USB flash drive.

Updating BIOS:

1. Switch to the target BIOS ROM by Multi-BIOS switch. Skip this step if your motherboard does not have this switch.

2. Insert the USB flash drive that contains the update file into the USB port.

3. Please refer the following methods to enter flash mode.

    ▪ Reboot and press **Ctrl + F5** key during **POST** and click on Yes to reboot the system.

    ▪ Reboot and press **Del** key during **POST** to enter BIOS. Click the M-FLASH button and click on Yes to reboot the system.

4. Select a BIOS file to perform the BIOS update process.

5. When prompted click on **Yes** to start recovering BIOS.

6. After the flashing process is 100% completed, the system will reboot automatically.

Updating the BIOS with MSI Center

Before updating:

• Make sure the LAN driver is already installed and the internet connection is set properly.

• Please close all other application software before updating the BIOS.

To update BIOS:

1. Install and launch MSI Center and go to **Support** page.

2. Select **Live Update** and click on the **Advanced** button.

3. Select the BIOS file and click on the **Install** button.

4. The installation reminder will appear, then click the **Install** button on it.

5. The system will automatically restart to update BIOS.

6. After the flashing BIOS process is 100% completed, the system will restart automatically.

Updating BIOS with Flash BIOS Button

1. Please download the latest BIOS file that matches your motherboard model from the MSI® website.

2. **Rename** the BIOS file to **MSI.ROM**, and save it to the root of your USB flash drive.

3. Connect the power supply to **CPU_PWR1** and **ATX_PWR1**. (No need to install CPU and memory.)

4. Plug the USB flash drive that contains the **MSI.ROM** file into the **Flash BIOS Port** on the rear I/O panel.

5. Press the **Flash BIOS Button** to flash BIOS, and the LED starts flashing.

6. The LED will be turned off when the process is completed.

Notices

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Revision History

Version 1.0, 2021/06, First release.

Version 1.1, 2022/01, add B550 chipset.