Unique Features (Z690 Series)

Actual software supported may vary by motherboard model and OS verison. The software setup menus are for reference only.

BIOS Update Utilities

GIGABYTE motherboards provide two unique BIOS update tools, Q-Flash™ and @BIOS™. GIGABYTE Q-Flash and @BIOS are easy-to-use and allow you to update the BIOS without the need to enter MS-DOS mode. Additionally, this motherboard features the DualBIOS™ design and supports Q-Flash Plus, providing multiple protection for the safety and stability of your computer.

What is DualBIOS™?
Motherboards that support DualBIOS have two BIOS onboard, a main BIOS and a backup BIOS. Normally, the system works on the main BIOS. However, if the main BIOS is corrupted or damaged, the backup BIOS will take over on the next system boot to ensure normal system operation.

What is Q-Flash Plus?
Q-Flash Plus allows you to update the BIOS when your system is off (S5 shutdown state). Save the latest BIOS on a USB thumb drive and plug it into the dedicated port, and then you can now flash the BIOS automatically by simply pressing the Q-Flash Plus button.

What is Q-Flash™?
With Q-Flash you can update the system BIOS without having to enter operating systems like MS-DOS or Window first. Embedded in the BIOS, the Q-Flash tool frees you from the hassles of going through complicated BIOS flashing process.

What is @BIOS™?
@BIOS allows you to update the system BIOS while in the Windows environment. @BIOS will download the latest BIOS file from the nearest @BIOS server site and update the BIOS.

1-1 Updating the BIOS with the Q-Flash Utility

A. Before You Begin
1. From GIGABYTE's website, download the latest compressed BIOS update file that matches your motherboard model.
2. Extract the file and save the new BIOS file (e.g. Z690AORUSMASTER.F1) to your USB flash drive, or hard drive. Note: The USB flash drive or hard drive must use FAT32/16/12 file system.
3. Restart the system. During the POST, press the <End> key to enter Q-Flash. Note: You can access Q-Flash by either pressing the <End> key during the POST or click the Q-Flash icon (or press the <F8> key) in BIOS Setup. However, if the BIOS update file is saved to a hard drive in RAID/AHCI mode or a hard drive attached to an independent SATA controller, use the <End> key during the POST to access Q-Flash.

Because BIOS flashing is potentially risky, please do it with caution. Inadequate BIOS flashing may result in system malfunction.

Click **Q-Flash (F8)** or select the Q-Flash item on the System Info menu to access Q-Flash.

B. Updating the BIOS

In the main menu of Q-Flash, use the keyboard or mouse to select an item to execute. When updating the BIOS, choose the location where the BIOS file is saved. The following procedure assumes that you have saved the BIOS file to a USB flash drive.

Step 1:
1. Insert the USB flash drive containing the BIOS file into the computer. In the main screen of Q-Flash, select **Update BIOS**.

- The **Save BIOS** option allows you to save the current BIOS file.
- Q-Flash only supports USB flash drive or hard drives using FAT32/16/12 file system.
- If the BIOS update file is saved to a hard drive in RAID/AHCI mode or a hard drive attached to an independent SATA controller, use the <End> key during the POST to access Q-Flash.

2. Select the BIOS update file.

Make sure the BIOS update file matches your motherboard model.

Step 2:
The screen will show that the BIOS file is being read from your USB flash drive. Please select **Fast** or **Intact** to begin the BIOS update. The screen will then display the update process.

⚠️
- **To ensure the integrity of the BIOS update, the system will shut down and restart automatically. Then it will begin to flash the BIOS with Q-Flash.**
- **Do not turn off or restart the system when the system is reading/updating the BIOS.**
- **Do not remove the USB flash drive or hard drive when the system is updating the BIOS.**

Step 3:
The system will restart after the update process is complete.

Step 4:
During the POST, press <Delete> to enter BIOS Setup. Select **Load Optimized Defaults** on the Save & Exit screen and press <Enter> to load BIOS defaults. System will re-detect all peripheral devices after a BIOS update, so we recommend that you reload BIOS defaults.

Select **Yes** to load BIOS defaults

Step 5:
Select **Save & Exit Setup** and press <Enter>. And then select **Yes** to save settings to CMOS and exit BIOS Setup. The procedure is complete after the system restarts.

1-2 Updating the BIOS with the @BIOS Utility

A. Before You Begin
1. In Windows, close all applications and TSR (Terminate and Stay Resident) programs. This helps prevent unexpected failures when performing a BIOS update.
2. If the BIOS is being updated via the Internet, ensure the Internet connection is stable and do NOT interrupt the Internet connection (for example, avoid a power loss or switching off the Internet). Failure to do so may result in a corrupted BIOS or a system that is unable to start.
3. GIGABYTE product warranty does not cover any BIOS damage or system failure resulting from an inadequate BIOS flashing.

B. Using @BIOS

1. Update the BIOS Using the Internet Update Function:

Click **Update from Server**, select the @BIOS server site closest to your location and then download the BIOS file that matches your motherboard model. Follow the on-screen instructions to complete.

If the BIOS update file for your motherboard is not present on the @BIOS server site, please manually download the BIOS update file from GIGABYTE's website and follow the instructions in "Update the BIOS without Using the Internet Update Function" below.

2. Update the BIOS without Using the Internet Update Function:

Click **Update from File**, then select the location where you save the BIOS update file obtained from the Internet or through other source. Follow the on-screen instructions to complete.

3. Save the Current BIOS File:

Click Save to File to save the current BIOS file.

4. Change the Boot-up Logo:

Click **Upload new image** in Face-Wizard and you will be able to change the boot-up logo with your own picture, creating a personalized boot-up screen. Click **Backup current image** to save the current boot-up logo.

Supported image formats include jpg, bmp, and gif.

C. After Updating the BIOS
Restart your system after updating the BIOS.

- Make sure that the BIOS file to be flashed matches your motherboard model. Updating the BIOS with an incorrect BIOS file could cause your system not to boot.
- Do not turn off the system or remove the power during the BIOS update process, or the BIOS may corrupt and the system may not boot.

1-3   Using Q-Flash Plus

A. Before You Begin
1. From GIGABYTE's website, download the latest compressed BIOS update file that matches your motherboard model.
2. Uncompress the downloaded BIOS file, save it to your USB flash drive, and rename it to **GIGABYTE.bin**. (**Note:** The USB flash drive must use the FAT32 file system.)
3. Connect the power cables to the 12V power connector (connect either one if there are two) and main power connector.
4. Please turn on the power supply before connecting the USB flash drive to the Q-Flash Plus port on the back panel.

B. Using Q-Flash Plus
Press the Q-Flash Plus button and the system will automatically search and match the BIOS file in the USB flash drive on the Q-Flash Plus port. The QFLED and the Q-Flash Plus button on the rear panel will flash during the BIOS matching and flashing process. Wait for 6-8 minutes and the LEDs will stop flashing when the BIOS flashing is complete.

> • If you choose to update the BIOS manually, first make sure that your system is off (S5 shutdown state).
> • If your motherboard has a BIOS switch and a SB switch, reset them to their default settings. (Default setting for the BIOS switch: Boot from the main BIOS; default setting for the SB switch: Dual BIOS)
> • On motherboards with DualBIOS™, the DualBIOS™ feature will continue to update the backup BIOS after the main BIOS has been flashed and the system restarts. After completion, the system will reboot again and boot from the main BIOS.

APP Center

GIGABYTE App Center gives you easy access to a wealth of GIGABYTE apps that help you get the most from your GIGABYTE motherboard ^(Note). Using a simple, unified user interface, GIGABYTE App Center allows you to easily launch all GIGABYTE apps installed on your system, check related updates online, and download the apps, drivers, and BIOS.

Drivers Installation

After you install the operating system, a dialog box will appear on the bottom-right corner of the desktop asking if you want to download and install the drivers and GIGABYTE applications via APP Center. Click **Install** to proceed with the installation. (In BIOS Setup, make sure Settings\IO Ports\APP Center Download & Install Configuration\APP Center Download & Install is set to **Enabled**.)

When the End User License Agreement dialog box appears, press <Accept> to install APP Center. On the APP Center screen, select the drivers and applications you want to install and click Install.

Before the installation, make sure the system is connected to the Internet.

(Note)   Available applications in APP Center may differ by motherboard model. Supported functions of each application may also vary depending on motherboard specifications.

Running the APP Center

In Desktop mode, click the App Center icon ⚙ in the notification area to launch the App Center utility (Figure 1).
On the main menu, you can select an app to run or click **LiveUpdate** to update an app online.

Figure 1

If the App Center is closed, you can restart it by clicking **Launch App Center** on the Start menu (Figure 2).

Figure 2

2-1   EasyTune

GIGABYTE's EasyTune is a simple and easy-to-use interface that allows users to fine-tune their system settings or do overclock/overvoltage in Windows environment.

The EasyTune Interface

Tabs Information

Tab	Description
	The **Smart Boost** tab provides you with different levels of CPU frequency to choose to achieve desired system performance. After making changes, be sure to restart your system for these changes to take effect.
	The **Advanced CPU OC** tab allows you to set CPU base clock, frequency, and voltages, and integrated graphics frequency. You can save the current settings to a profile. You can create up to 2 profiles.
	The **Advanced DDR OC** tab allows you to set the memory clock.
	The **Advanced Power** tab allows you to adjust voltages.
	The **HotKey** tab allows you to set hotkeys for your profiles.

Available functions in EasyTune may vary by motherboard model and CPU. Grayed-out area(s) indicates that the item is not configurable or the function is not supported.
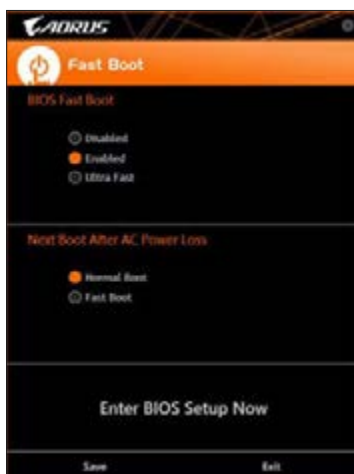
Incorrectly doing overclock/overvoltage may result in damage to the hardware components such as CPU, chipset, and memory and reduce the useful life of these components. Before you do the overclock/overvoltage, make sure that you fully know each function of EasyTune, or system instability or other unexpected results may occur.

2-2 Fast Boot

Through the simple GIGABYTE Fast Boot interface, you can enable or change the **Fast Boot** or **Next Boot After AC Power Loss** setting right in the operating system.

The Fast Boot Interface

Using Fast Boot

- **BIOS Fast Boot:**
  This option is the same as the **Fast Boot** option [(Note)] in BIOS Setup. It allows you to enable or disable the fast boot function to shorten OS boot time.
- **Next Boot After AC Power Loss:**
  This option is the same as the **Next Boot After AC Power Loss** option [(Note)] in BIOS Setup. It allows you to select the system bootup mode upon the return of an AC power loss. (This mode is configurable only when **BIOS Fast Boot** is set to **Enabled** or **Ultra Fast**.)

After you configure the settings, click **Save** to save and click **Exit**. The settings will take effect on next boot. If you click the **Enter BIOS Setup Now** button, the system will restart and enter BIOS Setup immediately.

(Note)   For more details about this function, refer to Chapter 2, "BIOS Setup."

2-3　Game Boost

This app allows you to flexibly manage your applications to optimize your gaming performance by freeing up system resources and memory usage.

The Game Boost Interface

Using Game Boost
Select the application you want to suspend and then click **Go** to optimize your system for gaming. To revert the computer back to the state it was before, click Revert. In addition, two hotkeys are provided as follows:

• **Optimize(Ctrl+Alt+B):** Automatically optimizes your gaming platform and gaming performance.

• **Revert(Ctrl+Alt+R):** Restores your computer back to the state before the gaming begins.

2-4   RGB Fusion

This application allows you to enable or specify the lighting mode of the select device [Note 1] while in the Windows environment.

The RGB Fusion Interface

Using RGB Fusion

*   The ▬ **icon on the top right corner:** Allows your computer to connect to the GIGABYTE RGB Fusion app installed on your handheld devices. [Note 2]

*   Click the icon of the desired device and select the LED color/ lighting behaviour on the right section of the screen.

Static	All LEDs emit a single color.
Pulse	All LEDs simultaneously fade in and fade out.
Flash	All LEDs simultaneously flash on and off.
Double Flash	All LEDs flash in an interlaced pattern.
Color Cycle	All LEDs simultaneously cycle through a full spectrum of colors.
Music	All LEDs are synchronized with your music.
Random	Single LED regions flash randomly.
Wave	A full color spectrum cascades throughout the LED.
Game	All LEDs are synchronized with your game.
Off	Turn off all LEDs.

(Note 1)   RGB Fusion will automatically search for the devices that have LED lighting feature and display them on the list.
(Note 2)   Please download the **GIGABYTE RGB Fusion** app from App Store or Google Play.

• Options for controlling the LEDs on the motherboard and digital LED strip. Click the motherboard icon for further settings. (Note)

Select your desired area and select the LED color/ lighting behaviour on the right section of the screen.

Static	The selected region LEDs emit a single color.
Pulse	The selected region LEDs simultaneously fade in and fade out.
Flash	The selected region LEDs simultaneously flash on and off.
Double Flash	All LEDs flash in an interlaced pattern.
Color Cycle	All LEDs simultaneously cycle through a full spectrum of colors.
Digital Wave	A full color spectrum cascades throughout the armor LED.
Digital A~I Mode	Provides multiple digital lighting mode throughout the armor LED and LED strip.
Off	Disable the selected region LEDs.

(Note)   Regions/Modes/Colors available may vary by motherboard.

2-5 Smart Backup

Smart Backup allows you to back up a partition as an image file every hour. You can use these images to restore your system or files when needed.

The Smart Backup main menu:

Button	Description
Settings	Allows you to select the source and destination partition
Start	Allows you to create a rescue drive
Backup Now	Allows you to perform the backup immediately
File Recovery...	Allows you to recover your files from the backup image
System Recovery...	Allows you to recover your system from the backup image

- Smart Backup only supports NTFS file system.
- You need to select the destination partition in **Settings** the first time you use Smart Backup.
- The **Backup Now** button will be available only after 10 minutes you have logged in Windows.
- Select the **Always run on next reboot** checkbox to automatically enable Smart Backup after system reboot.

Creating a backup:
Click the **Settings** button on the main menu. In the **Settings** dialog box, select the source partition and destination partition and click **OK**. The initial backup will start after 10 minutes and regular backup will be performed hourly. Note: By default, all partitions on the system drive are selected as the backup source. The backup destination cannot be on the same partition as the backup source.
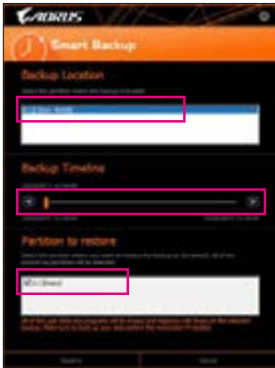
Saving the backup to a network location:
If you want to save the backup to a network location, select **Browse network location**. Make sure your computer and the computer where you want to save the backup are in the same domain. Choose the network location where you want to store the backup and enter the user name and password. Follow the on-screen instructions to complete.

Recovering a file:
Click the **File Recovery** button on the main menu. Use the time slider on the top of the popped out window to select a previous backup time. The right pane will display the backed-up partitions in the backup destination (in the **My Backup** folder). Browse to the file you want and copy it.

Recovering your system with Smart Backup:
Steps:
1. Click the **System Recovery** button on the main menu.
2. Select the location where your backup is saved.
3. Use the time slider to select a time point.
4. Select a partition backup created on the selected time point and click **Restore**.
5. Confirm whether to restart your system to proceed with the restore immediately or later. Once you respond "Yes" the system will restart to the Windows recovery environment. Follow the onscreen instructions to restore your system.

⚠️ All of your files and programs will be deleted and replaced with those on the selected backup. If needed, be sure to make a copy of your data before the restore.

2-6   System Information Viewer

GIGABYTE System Information Viewer allows you to monitor and adjust the fan speed in the operating system. You can also display the hardware monitor information on the desktop to view the system status at any time.

The System Information Viewer Interface

Tabs Information

Tab	Description
	The **System Information** tab provides information on the installed CPU, motherboard, and the BIOS version.
	The **Smart Fan 6 Auto** tab allows you to specify a Smart Fan mode.
	The **Smart Fan 6 Advanced** tab allows you to adjust the smart fan speed. The fans will run at different speeds according to system temperatures. Using the **Smart Fan** option you can adjust the fan's workload according system temperatures or you can fix the fan speeds using the **RPM Fixed Mode** option. Click the **Calibrate** button and the fan speed will be shown in relation to overall fan workload after calibration. The **Reset** button can revert the fan settings back to the last saved values. 🔲 Noise Detection provides detection of the noise level (measured in decibels) inside the chassis.
	The **System Alert** tab allows you to monitor hardware temperature, voltage and fan speed, and set temperature/fan speed alarm. 🔲 allows you to select what information to be displayed in quick mode (by default, all of the hardware information are displayed); 🔺 allows you to enable alert notification, click **Apply** after selection.
	The **Record** tab allows you to record changes in system voltages, temperatures, fan speeds, and noise. Please note, the recording will stop if you exit the **Record** tab during the recording process.

- • The speed control function requires the use of a fan with fan speed control design.
- • To use the noise detection function, you must have a motherboard with a noise detection header.