Exclusive Boot Features

Fast Boot

Fast Boot allows you to shorten the system bootup time in as fast as two* seconds for a smoother Windows® 8 experience.

> Before installing or upgrading your system's operating system into Windows® 8, ensure that your motherboard's BIOS and packaged software are updated to their latest versions. Check the latest BIOS and software versions at www.asus.com.

You can configure the Fast Boot feature from the Boot menu in BIOS setup or ASUS Boot Setting.

> •   Download ASUS Boot Setting from the ASUS Support site at http://support.asus.com and install in your system.
>
> •   *Bootup time may vary on selected models.
>
> •   Fast Boot is also supported for systems running on Windows® XP, Windows® Vista, or Windows® 7.
>
> •   Refer to sections **ASUS Boot Setting** and **Windows® 8 BIOS Boot Settings** for more information in using Fast Boot.

ASUS Boot Setting

ASUS Boot Setting utility allows you to quickly enter the BIOS setup with a click of the DirectBIOS button. It also allows you to select the system bootup process using Normal Boot or Fast Boot.

> To fully support ASUS Boot Setting on your motherboard, download the latest BIOS from ASUS Support site at http://www.asus.com and update the BIOS in your system.

Click to enter BIOS Setup directly.

Click to show Advanced Setup settings

Click to enable or disable Fast Boot

Click to select the bootup setting

Using DirectBIOS button

This button allows you to restart your system and directly enter the BIOS Setup program without having to press the <DEL> key during POST.
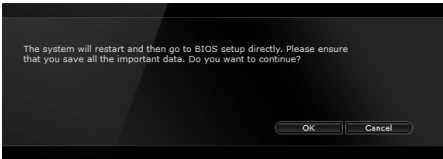
> Using the DirectBIOS function may result to data loss. Ensure that you backup your data before clicking this button.

To use DirectBIOS:

1. From the ASUS Boot Setting screen, click **DirectBIOS**.

2. On the confirmation message, click **OK** to restart your system and go to the BIOS setup directly.

Using Advanced setup

Advanced setup allows you to configure your system's bootup process in any of these two settings: **Fast Boot** and **Next boot after AC power loss**.

Enabling or disabling Fast Boot

This setting allows your system to quickly boot up.

To enable or disable Fast Boot:

1. Click **Advanced Setup** to show the boot setup settings.

2. In **Fast Boot**, click **Enabled**. If you want to turn off Fast Boot function, click **Disabled**.

3. On the confirmation message, click **Yes** to apply the setting.

> When enabled, Fast Boot takes effect after a normal system shutdown or restart.

Using Next boot after AC power loss

This setting allows your system to boot up in Fast Boot or Normal Boot on the next boot up after a power failure.

To use Fast Boot under AC power loss:

1.   Click **Advanced Setup** to show the boot setup settings.

2.   In **Fast Boot**, click **Enabled**.

3.   In **Next boot after AC power loss**, click **Fast Boot**.

4.   On the confirmation message, click **Yes** to apply this setting.

To use Normal Boot under AC power loss:

1.   Click **Advanced Setup** to show the boot setup settings.

2.   In **Next boot after AC power loss**, click **Normal Boot**.

3 .   On the confirmation message, click **Yes** to apply this setting.

Windows® 8 BIOS Boot settings

Windows® 8 BIOS boot settings allow you to configure the new items of boot options for systems running in Windows® 8 operating system.

Fast Boot [Enabled]

[Enabled]   Select to accelerate the boot speed.

[Disabled]   Select to go back to normal boot.

> The following four items appear when you set Fast Boot to [Enabled].

USB Support [Partial Initialization]

[Disabled]   All USB devices will not be available until OS boot up for the fastest POST time.

[Full Initialization]   All USB devices will be available during POST. This process will extend the POST time.

[Partial Initialization]   For a faster POST time, only the USB ports with keyboard and mouse connections will be detected.

PS/2 Keyboard and Mouse Support [Auto]

Select any of these settings when PS/2 keyboard and mouse are installed. These settings only apply when Fast Boot is enabled.

[Auto]   For a faster POST time, PS/2 devices will only be available when the system boots up or rebooted when the PS/2 devices have not been reconnected or changed. If you disconnect or change PS/2 devices before restarting the system, PS/2 devices will not be available and BIOS setup program will not be accessible via PS/2 devices.

[Full Initialization] For full system control, PS/2 devices will be available during POST at any circumstances. This process will extend POST time.

[Disabled]   For the fastest POST time, all PS/2 devices will not be available until your computer enters the operating system.

Network Stack Driver Support [Disabled]

[Disabled]   Select to skip the network stack driver from loading during POST.

[Enabled]   Select to load the network stack driver during POST.

Next Boot after AC Power Loss [Normal Boot]

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

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

DirectKey [Go to BIOS...]

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

[Go to BIOS   Allows the system to power on and go to BIOS Setup directly when you
Setup]   press the DirectKey button.

Full Screen Logo [Enabled]

[Enabled]   Enables the full screen logo display feature.

[Disabled]   Disables the full screen logo display feature.

> Set this item to [Enabled] to use ASUS MyLogo 2™ feature.

POST Delay Time [3 sec]

This item appears only when you set Full Screen Logo to [Enabled]. This item allows you to select the desired additional POST waiting time to easily enter the BIOS setup. You can only execute the POST delay time during Normal Boot. The values range from 1 to 10 seconds.

> This feature will only work under normal boot.

Post Report [5 sec]

This item appears only when you set Full Screen Logo to [Disabled]. This item allows you to select a desired post report waiting time.
Configuration options: [1] - [10] [Until Press ESC]

CSM (Compatibility Support Module)

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

Launch CSM [Auto]

[Auto]	The system automatically detects the bootable devices and the add-on devices.
[Enabled]	For better compatibility, enable the CSM to fully support the non-UEFI driver add-on devices or the Windows® UEFI mode.
[Disabled]	Disable the CSM to fully support the Windows® Security Update and Security Boot.

The following four items appear when you set Launch CSM to [Enabled].

Boot Devices Control [UEFI and Legacy OpROM]
Allows you to select the type of devices that you want to boot up.

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

Boot from Network Devices [Legacy OpROM first]
Allows you to select the type of network devices that you want to launch.

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

Boot from Storage Devices [Legacy OpROM first]
Allows you to select the type of storage devices that you want to launch.

Configuration options: [Both, Legacy OpROM first] [Both, UEFI first] [Legacy OpROM first] [UEFI driver first] [Ignore]

Boot from PCIe/PCI Expansion Devices [Legacy OpROM first]
Allows you to select the type of PCIe/PCI expansion devices that you want to launch.

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

Secure Boot

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

OS Type [Windows UEFI mode]

Allows you to select your installed operating system.

[Windows UEFI mode]	Executes the Microsoft® Secure Boot check. Only select this option when booting on Windows® UEFI mode or other Microsoft® Secure Boot compliant OS.
[Other OS]	Get the optimized function when booting on Windows® non-UEFI mode, Windows® Vista/XP, or other Microsoft® Secure Boot non-compliant OS. Microsoft® Secure Boot only supports Windows® UEFI mode.

Secure Boot Mode [Standard]

Allows you to select how the Secure Boot prevents unauthorized firmware, operating systems, or UEFI drivers from running during boot time.

[Standard]	Allows the system to automatically load the Secure Boot keys from the BIOS database.
[Custom]	Allows you to customize the Secure Boot settings and manually load its keys from the BIOS database.

This item only appears when you set OS Type item to [Windows UEFI mode]

Key Management

This item appears only when you set Secure Boot Mode to [Custom]. It allows you to manage the Secure Boot keys.

Manage the Secure Boot Keys (PK, KEK, db, dbx)

Install Default Secure Boot keys
Allows you to immediately load the default Security Boot keys, Platform key (PK), Key-exchange Key (KEK), Signature database (db), and Revoked Signatures (dbx). The Platform Key (PK) state will change from Unloaded mode to Loaded mode. The settings are applied after reboot or at the next reboot.

Key-exchange Key (KEK) refers to Microsoft® Secure Boot Key database (KEK).

Clear Secure Boot keys
This item appears only when you load the default Secure Boot keys. This item allows you to clear all default Secure Boot keys.

PK Management

The Platform Key (PK) locks and secures the firmware from any permissible changes. The system verifies the PK before your system enters the OS.

>   ***Load PK from File***
>   Allows you to load the downloaded PK from a USB storage device.
>
>   ***Copy PK to File***
>   Allows you to store the PK to a USB storage device.
>
>   ***Delete PK***
>   Allows you to delete the PK from your system. Once the PK is deleted, all the system's Secure Boot keys will not be active.
>
>   Configuration options: [Yes] [No]

The PK file must be formatted as a UEFI variable structure with time-based authenticated variable.

KEK Management

The KEK (Key-exchange Key or Key Enrollment Key) manages the Signature database (db) and Revoked Signature database (dbx).

Key-exchange Key (KEK) refers to Microsoft® Secure Boot Key-Enrollment Key (KEK).

>   ***Load KEK from File***
>   Allows you to load the downloaded KEK from a USB storage device.
>
>   ***Copy KEK to File***
>   Allows you to store the KEK to a USB storage device.
>
>   ***Append KEK from file***
>   Allows you to load the additional KEK from a storage device for an additional db and dbx loaded management.
>
>   ***Delete the KEK***
>   Allows you to delete the KEK from your system.
>
>   Configuration options: [Yes] [No]

The KEK file must be formatted as a UEFI variable structure with time-based authenticated variable.

db Management

The db (Authorized Signature database) lists the signers or images of UEFI applications, operating system loaders, and UEFI drivers that you can load on the single computer.

>   ***Load db from File***
>   Allows you to load the downloaded db from a USB storage device.
>
>   ***Copy db from file***
>   Allows you to store the db to a USB storage device.

Append db from file
Allows you to load the additional db from a storage device so that more images can be loaded securely.

Delete the db
Allows you to delete the db file from your system.

Configuration options: [Yes] [No]

The db file must be formatted as a UEFI variable structure with time-based authenticated variable.

dbx Management

The dbx (Revoked Signature database) lists the forbidden images of db items that are no longer trusted and cannot be loaded.

Load dbx from File
Allows you to load the downloaded dbx from a USB storage device.

Copy dbx from file
Allows you to store the dbx to a USB storage device.

Append dbx from file
Allows you to load the additional dbx from a storage device so that more db's images cannot be loaded.

Delete the dbx
Allows you to delete the dbx file from your system.

Configuration options: [Yes] [No]

The dbx file must be formatted as a UEFI variable structure with time-based authenticated variable.

Direct BIOS access

DirectKey button (DirectKey)

This feature allows your system to go to the BIOS Setup program with the press of a button. With DirectKey, you can enter the BIOS anytime without having to press the <Del> key during POST. It also allows you to turn on or turn off your system and conveniently enter the BIOS during bootup.

DirectKey

CROSSHAIR V FORMULA-Z DirectKey button
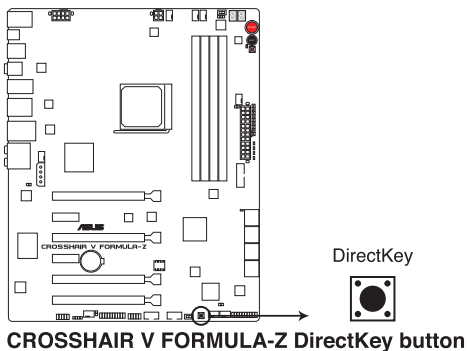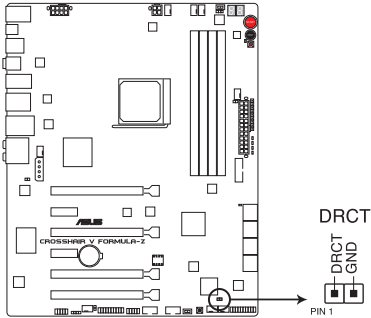
Ensure to save your data before using the DirectKey button.

- Only selected models support DirectKey button
- The motherboard's layout and the DirectKey button's location are for reference only and may vary in different models.
- When the system is on and you press the DirectKey button, your system will shut down. Press the DirectKey button again or the Power-on button to reboot and enter the BIOS directly.
- Turn off your system using the power-on button to allow your system to go through POST (without entering the BIOS) when you reboot your system.
- Refer to section **Boot Menu** of your user manual for details about setting the DirectKey default function.

Direct connector (2-pin DRCT)

This connector is for the chassis-mounted button that supports the DirectKey function. Connect the button cable that supports DirectKey from the chassis to this connector on the motherboard.

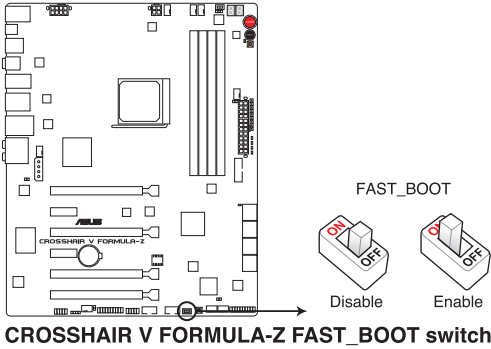**CROSSHAIR V FORMULA-Z DRCT connector**

• Only selected models support Direct connector.

• The motherboard's layout and the DRCT connector's location are for reference only and may vary in different models.

• Ensure that your chassis comes with the button cable that supports the DirectKey feature. Refer to the technical documentation that came with the chassis for details.

If your chassis does not have a button cable for DirectKey feature, you can connect the Reset button cable to the DRCT connector to support the DirectKey function on your chassis.

Fast Boot switch (FAST_BOOT)

This feature allows you to accelerate your system's boot speed with the use of a switch, allowing the system to skip POST and enter the OS at its fastest time.

CROSSHAIR V FORMULA-Z FAST_BOOT switch

- Only selected models support Fast Boot switch.

- The motherboard's layout and the **Fast Boot switch's location are for reference only** and may vary in different models.

- When you enable the Fast Boot in OS mode, your system will only initiate the Fast Boot function after you restart your system.

- When you set the Fast Boot state (enable/disable state) in BIOS Setup or ASUS Boot Setting utility, the Fast Boot state that you set via the Fast Boot switch will be replaced.