

Tips for using On camera flash

POWER

The limitation on how far your flash will illuminate may or may not be an issue.

If you want strong light move closer.

If you want more diffused light move back.

BACKGROUND

If your subjects are close to a background there will be a deep shadow from the flash. Pull your subjects away from distracting backgrounds.

DIFFUSE THE LIGHT

You can use something to tone down the intensity of the light. White paper, your hand, wax paper.

USE AS A FILL

Even if your subject is in full light check where shadows are falling, adding the on camera flash can help eliminate unwanted shadows.

Types of flashes



Dedicated camera flash



Macro ring flash



EXPLAINED A FLASHGUN'S KEY FEATURES

A dedicated flashgun gives you more power and control than the small unit built into a camera

FLASH HEAD

Most flashguns feature 'tilt and swivel' heads that allow you to angle the flash towards a white ceiling or wall in order to bounce the light for softer illumination

BUILT IN BOUNCE CARD/WIDE-ANGLE ADAPTOR

A small screen to spread the flash beam wider or to add a catchlight in people's eyes when the flash is bounced

MODE SELECTION SWITCH

You can use this switch beside the LCD to choose between your flashgun's TTL, Manual, Stroboscopic and other flash modes

LCD PANEL

Use this simple LCD screen to keep track of flash distance and power, the zoom setting you're using, and Exposure Compensation



AF ASSIST

In dark conditions, the subject can be highlighted by a beam of red light before the exposure, in order to allow the autofocus system to lock on

READY INDICATOR LIGHT

You need to keep an eye on this handy indicator, which tells you whether the flash has fully recharged between shots

ZOOM

The flash head can often be zoomed to match the focal length of your lens, ensuring even coverage at wide angles and greater range with telephotos

HOTSHOE CONTACTS AND LOCK LEVER

Dedicated flashguns communicate lots of information about settings, power and other functions through the hotshoe

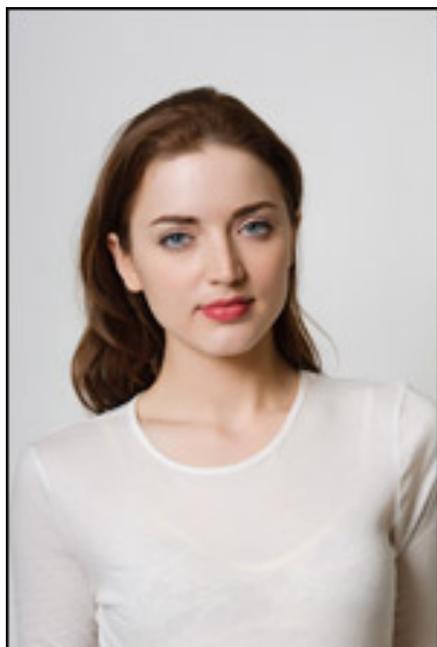
- Every flash photograph is two exposures in one – an ambient light exposure and a flash exposure.
- This is a critical fact to remember. The shutter opens, the flash fires, the shutter closes. During this time, both ambient light and flash will contribute to the recorded image.
- Flash photography requires managing both exposures.

(E)TTL flash

- Through The Lens.
- The camera registers the amount of light returning through the lens and then works out the right amount of light to pump out for the main flash exposure.
- The camera will control the flash exposure in TTL mode no matter what aperture or ISO or shutter speed.

- With automatic flash metering, the flash illumination is measured after the shutter button is pressed, and the flash output is adjusted accordingly.
- There are technical differences between the various types of flash metering, but all of them operate independently from the camera's metering of ambient light, and all of them work by adjusting the output of the flash, not by changing the camera's exposure settings.

- Flash exposure is not affected by shutter speed.
- The entire burst of light from the flash begins and ends while the shutter is open, so keeping the shutter open longer won't help with flash illumination.
- The flash exposure and the effective range of your flash unit will be affected by aperture and ISO settings, but not the shutter.
- Of course, the ambient light component in a flash photograph is affected by shutter speed. So changing the shutter speed is one way to manage the amount of ambient light that contributes to a flash photograph.



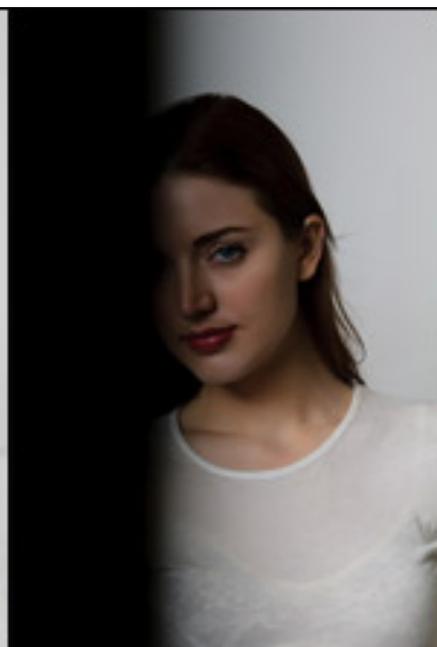
1/200



1/250

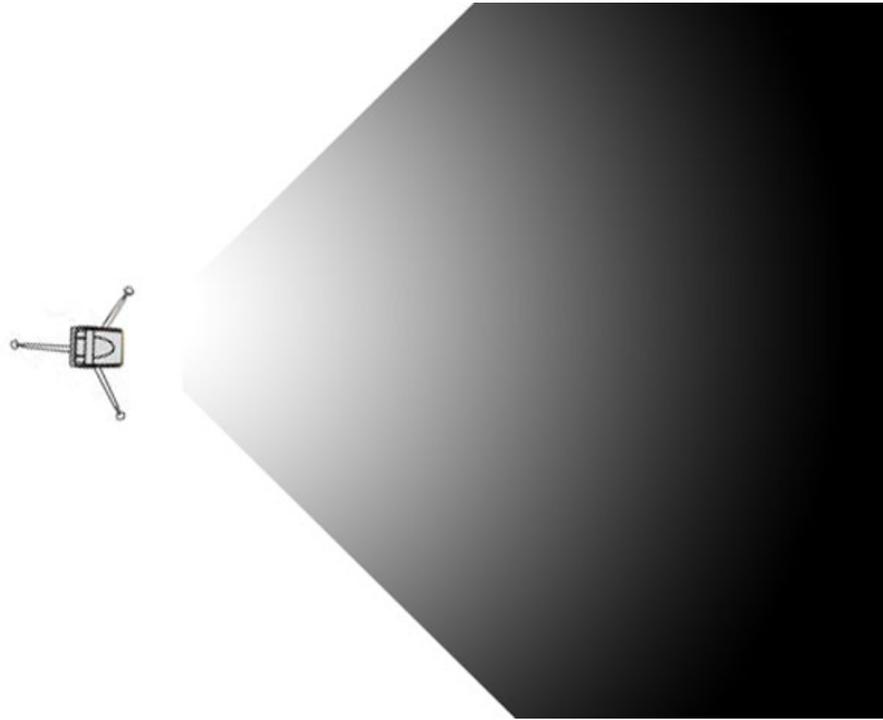


1/320



1/400

- Flash illumination is dramatically affected by distance.

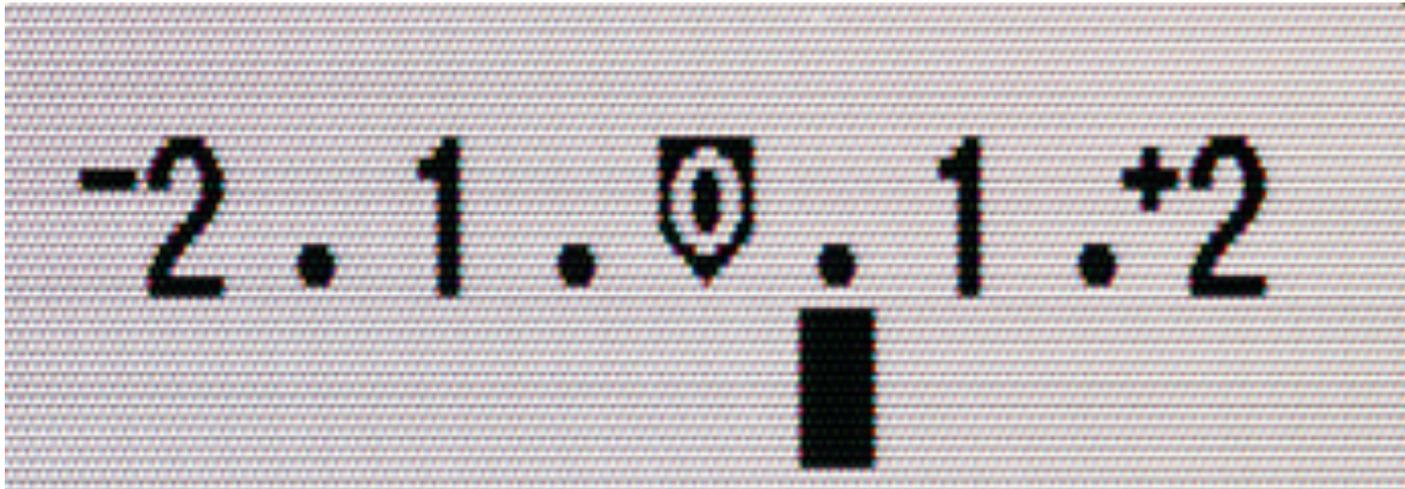


Using Flash and shooting mode- use in P,A modes

- Program (auto) will allow the camera and flash can work together (but limited control). Override by using Flash Exposure compensation (out put of flash), or use Exposure compensation to lower or raise the ambient light exposure.
- Aperture (Av/A) will allow you to choose aperture setting and ETTL with connect with correct shutter control.
- Low ISO setting
- Nikon- Auto FP synch (Menu pencil- bracketing/flash)
- Canon- High Speed synch (Flash ETTL high speed synch)

Exposure Compensation

- Allows you to adjust the exposure of the ambient light.



Flash Exposure Compensation

- Allows you to adjust the output from the flash.



Flash Photography

Speedlite 430EX II





Step 1: Turn On the Power After Mounting the Flash On the Camera

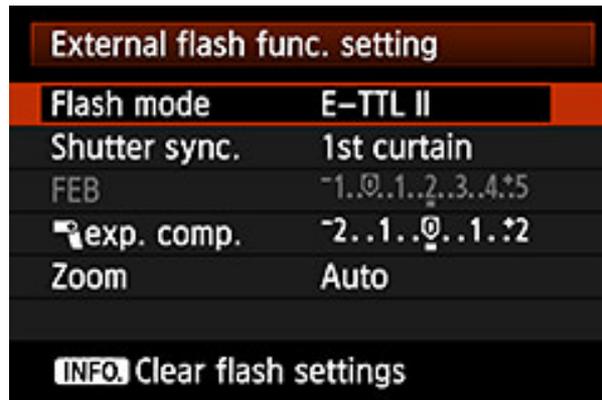
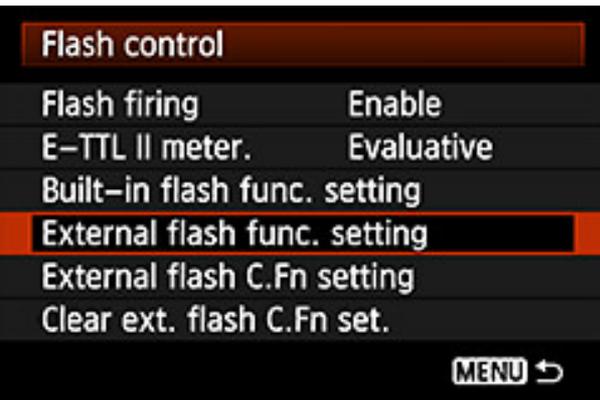
Insert the external flash into the hot shoe on top of the camera. Once fully inserted, slide the mounting foot lock lever to lock it into place. Switch on the power supply of the camera, followed by that of the flash.

The power of the flash should be turned off before attaching it to or detaching it from the hot shoe.



Tip: Do not use a mix of batteries

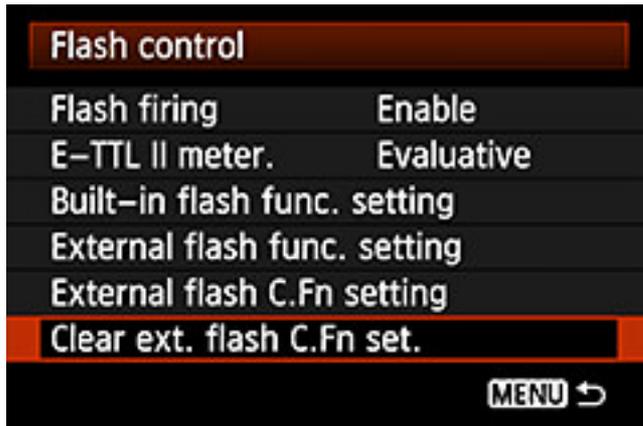
When replacing the batteries, ensure that all of them are new and of the same brand. Do not use a mixture of new and old batteries, different brands, or alkaline and lithium batteries. Not only will that shorten the life of the batteries, it may also result in problems such as battery leak.



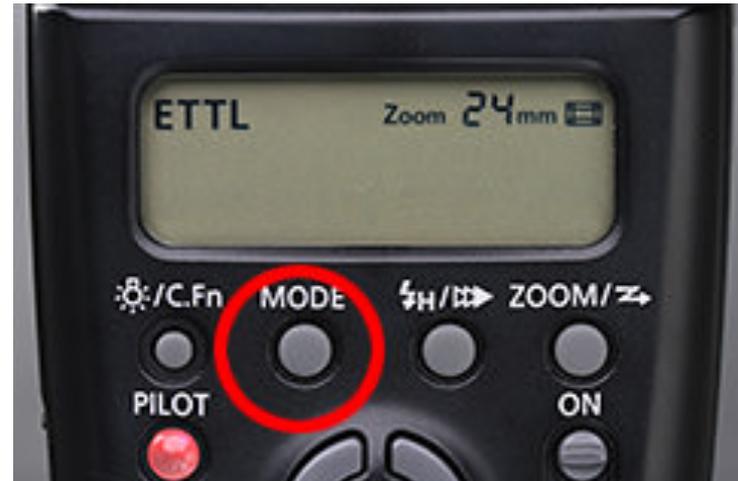
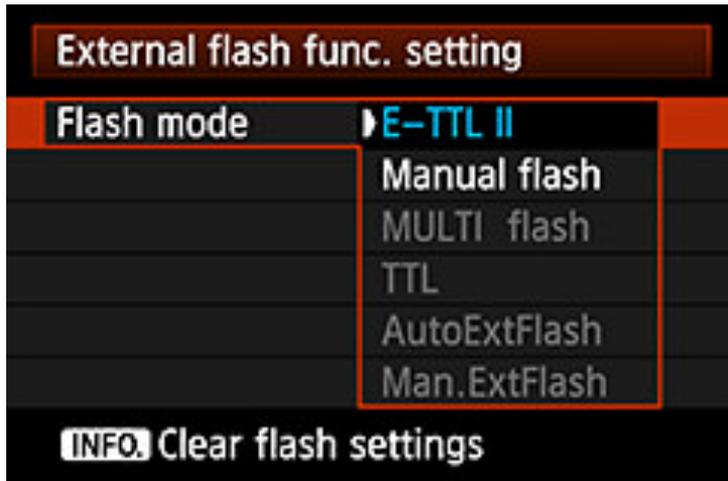
Step 2: Reset the Flash Settings

For cameras with “Flash control” menu, the flash functions and Custom Functions of the external Speedlite can be reset easily.

To avoid errors such as the settings left from the previous use, it is safer to reset at the start.



Reset the flash Custom Functions settings



To set the flash using the camera, select “Flash mode” from “External flash function settings”. For auto adjustment of the flash output, select “E-TTL.”

Push the MODE button, and select “ETTL” or “M.”

Step 3: Select a Flash Mode

Choose either E-TTL or Manual flash mode for the flash unit. Flash settings can be adjusted on the camera or the flash unit.

Select E-TTL flash when you want to take a quick picture with the entire photo in standard exposure.

And manual flash for professional-level flash photography such as by making use of multiple flash units to create shadow effects.



Turn the Mode Dial and select the desired shooting mode.

Select Shutter-priority AE when you wish to capture moving subjects without blurring, or make use of blurring to express movement.

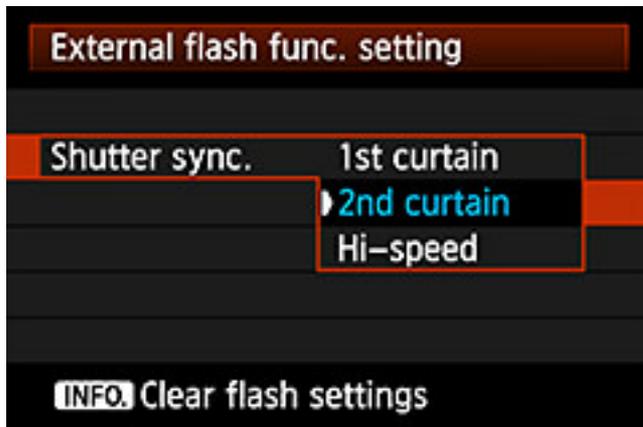
Select Aperture-priority AE if you wish to control the depth of field. Make a choice based on your intent.



If the flash mode selected is E-TTL, flash photography can be carried out in any shooting mode in the Basic Zone and Creative Zone of the camera. However, flash compensation is not possible in the Full Auto and scene modes. Thus, Program AE, Aperture-priority AE and Shutter-priority AE are easier to use if you want to convey your intent in a photo. On the other hand, the manual exposure shooting mode is recommended when manual flash is chosen. Determine settings such as aperture, shutter speed and ISO speed in accordance with the intent of the shot, and you can adjust the flash output manually based on these conditions.

Step 4: Select a Shooting Mode

Select the shooting mode suited for the intent and contents of the photo you wish to take. Flash photography can be used in any shooting mode.



To perform setting using the camera, select [Shutter sync.] from [External flash func. setting] and choose the item.

Setting screen of the camera

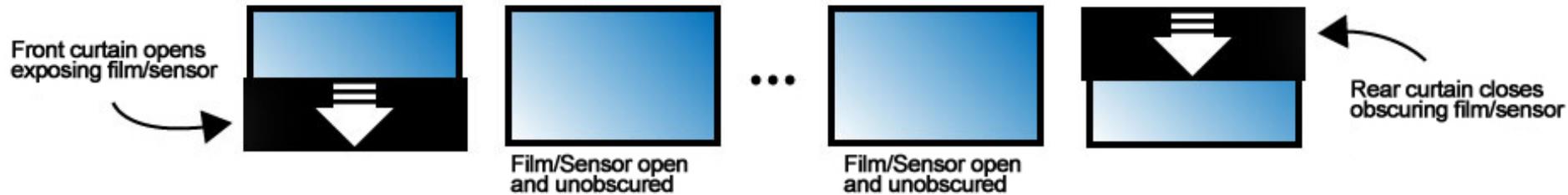
Step 5: Select a Shutter Synchronization Mode

Select a flash synchronization mode after selecting the shooting mode. Use High-speed sync when the desired shutter speed is higher than the maximum speed the flash is able to synchronize.

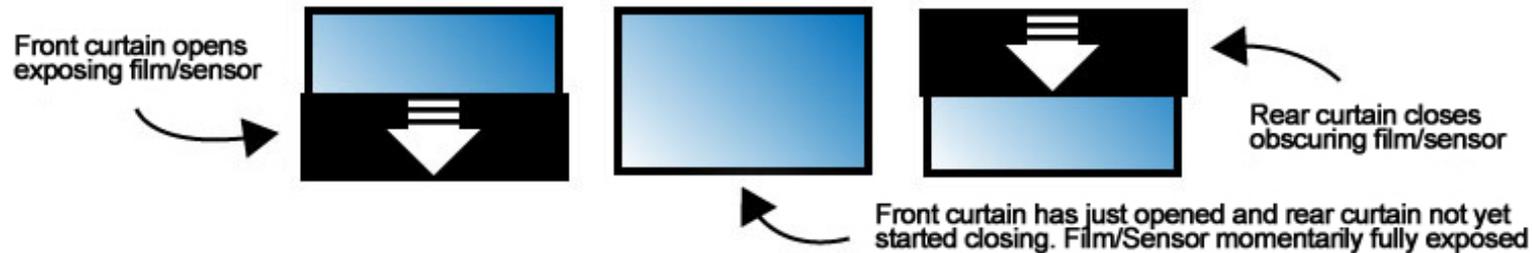
Consider using first curtain sync or second curtain sync for long-exposure shots. To perform setting using the camera menu, choose the desired mode from [Shutter synchronization] in the [External flash function settings]. To set using the flash unit, press the “High-speed sync (FP flash)/Shutter-curtain synchronization” button. Pressing this button each time allows switching between high-speed sync and shutter-curtain sync.

Focal Plane Shutters

1. Slower shutter speeds



2. Maximum flash sync speed



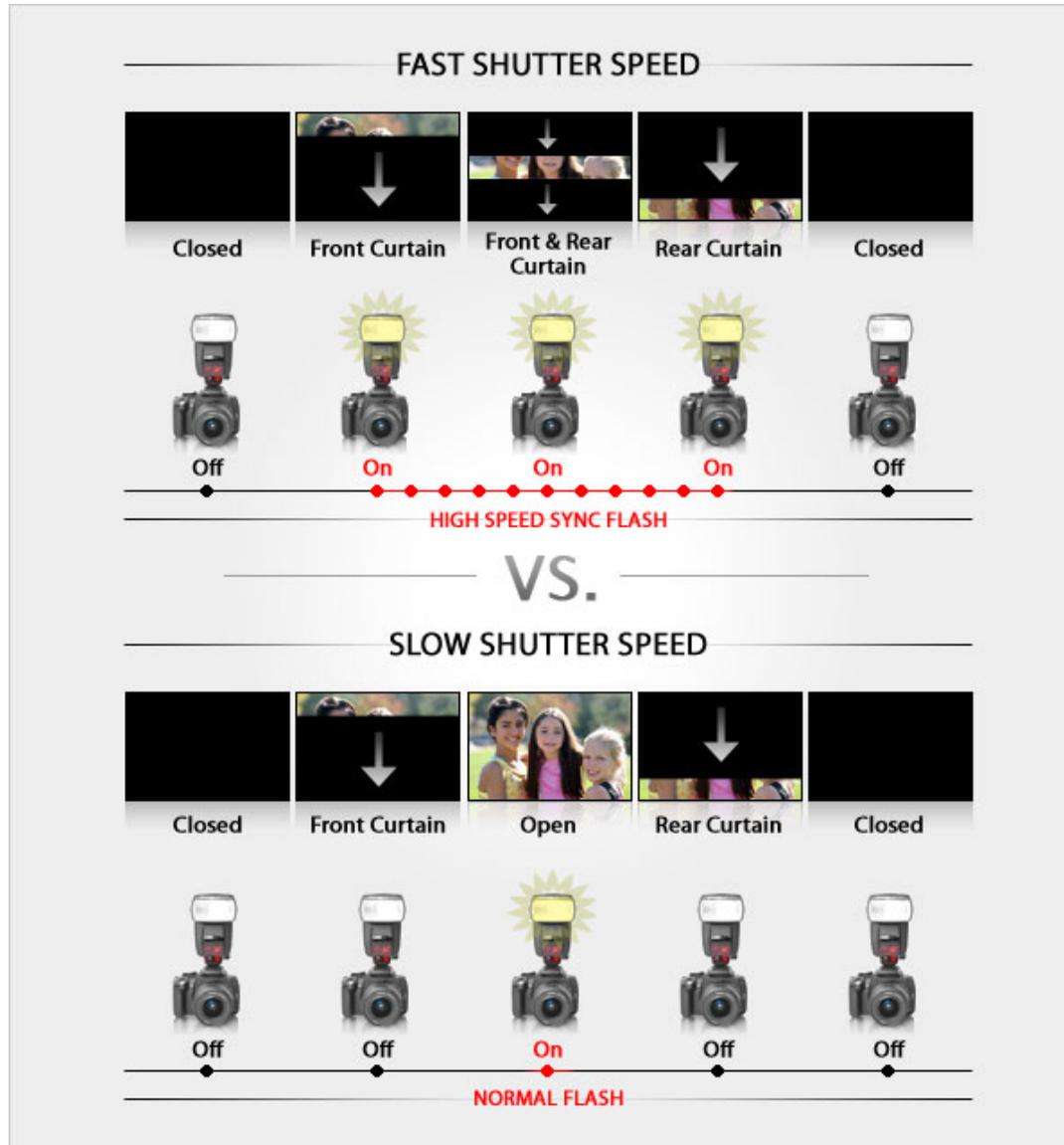
3. Faster shutter speeds



What is High Speed Sync Flash?

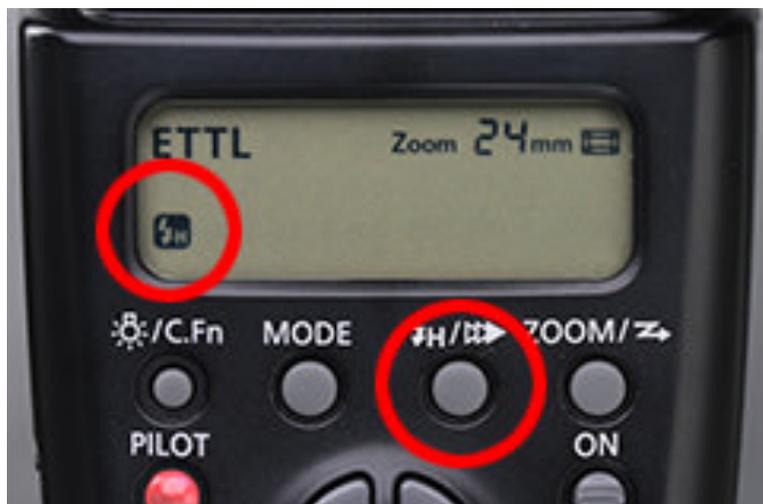
- High-speed sync flash is your DSLR's ability to use a flash at shutter speeds faster than the camera's native sync. Most cameras have a native sync of 1/250th of a second, and anything faster than that is beyond the camera's ability to sync the shutter with the flash. But if you happen to be in a situation that requires faster shutter speeds to effectively capture the action, or for other aesthetic reasons (like a wide aperture), then you'll over-exposure your image. However, high-speed sync flash/camera combinations allow you to use the flash at higher shutter speeds.

How High Speed Sync Works

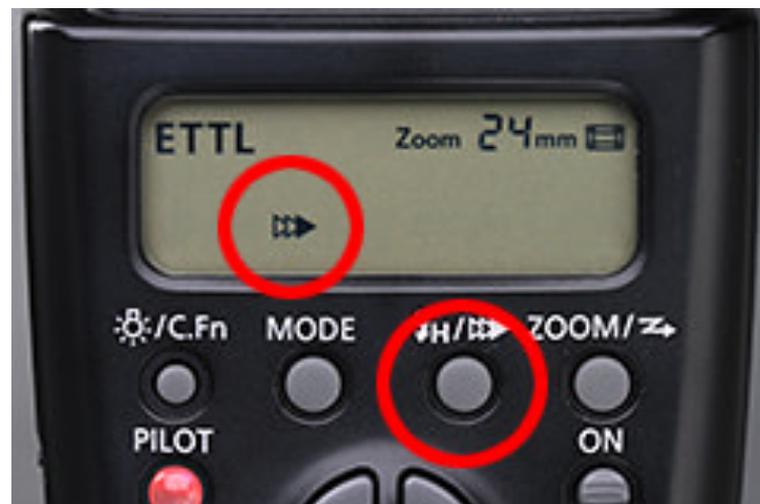


- The high-speed sync gives you more artistic control over your photos, particularly in aperture-priority mode. When you master this use of the flash, you'll be able to take photos that will grab people's attention and have them wondering how it was done.
- High-speed sync overcomes the limitations of the camera's native flash sync. That's a bonus to those photographers who always wished for just one or two more speeds on the shutter.

Setting screen of the flash unit

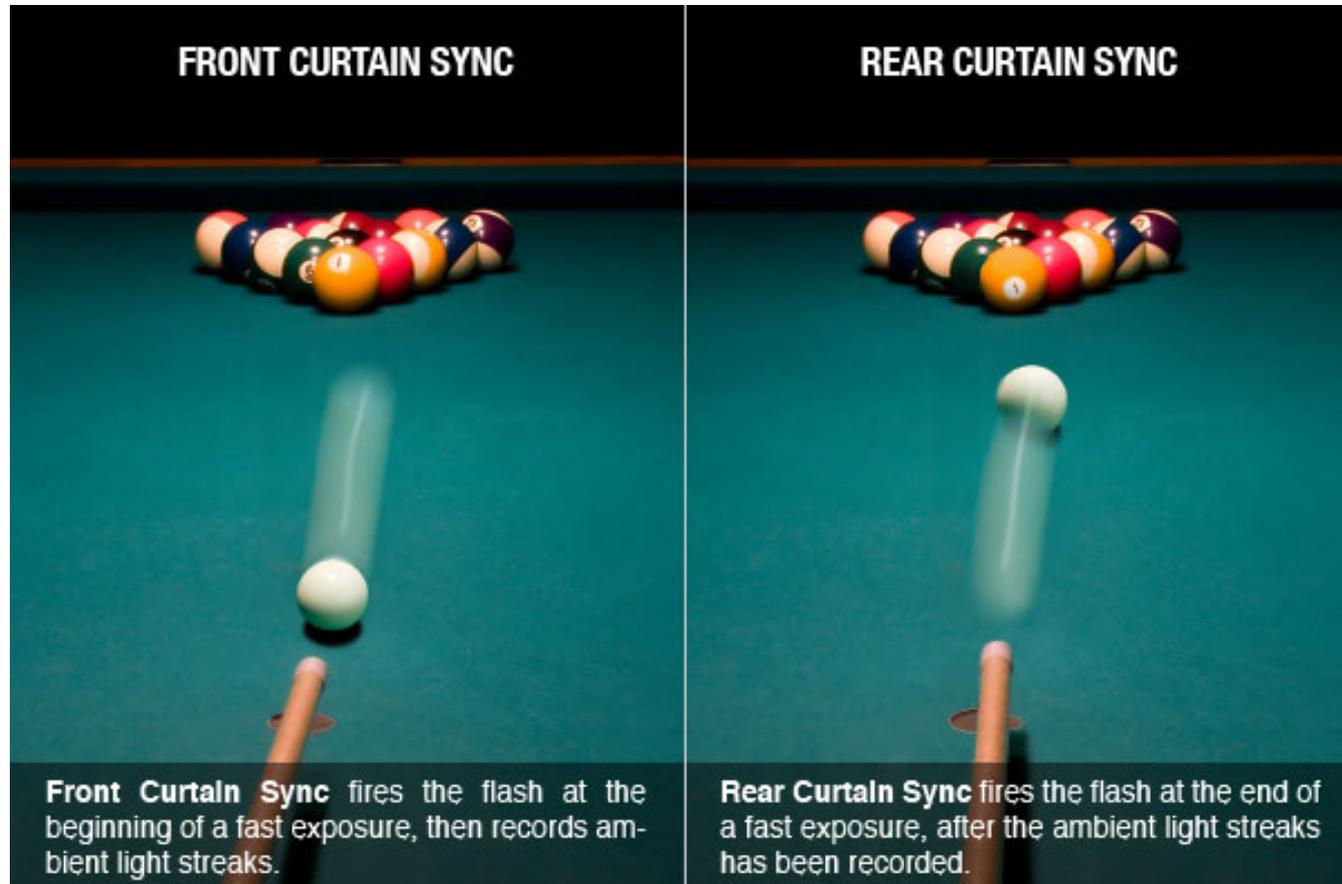


Set to High-speed Sync



Set to 2nd Curtain Sync

What is Rear and Front Curtain Sync?



Rear Curtain Sync

- **Rear Curtain Sync** – this tells your camera to fire the flash at the end of the exposure. ie when you press the shutter your lens opens up and starts collecting light and just before it closes the flash will fire to light up and freeze your main subject (see the card shot to the left for an example where you'll see the card trail ending in a nice crisp shot of the card).



Front Curtain Sync

- **Front Curtain Sync** – this tells your camera to fire the flash at the start of the exposure. ie when you press the shutter, the flash will fire immediately and the shutter will remain open afterwards capturing ambient light.
- You might not think there's much difference between these modes but when you're photographing a moving subject it can have a real impact. You'll find many action/sports photographers will use Rear Curtain Sync when shooting with a panning technique.

Slow Sync flash



Tip: Photo image changes dramatically with different ISO speeds in flash photography



Shot using ISO 100



Shot using ISO 1600

In flash photography, the overall brightness of a picture can be adjusted by changing the ISO speed. With a high ISO speed, the image sensor's sensitivity to light is increased and weak diffuse light from the flash that could not be detected at a low ISO speed can be captured and reflected in the photo, thus resulting in a brighter overall photo image. However, as it is difficult to gauge the changes in exposure when the ISO speed is changed, it is advisable to take test shots along with the ISO speed changes. A higher ISO speed is also effective against camera shake or movement of the subject in both normal and flash photography.

Step 6: Adjust the ISO Speed

ISO speed adjustments directly affect the exposure and finishing of a photo. ISO speed can be adjusted when the photo turns out darker than expected, or when the chosen shutter speed is slower than intended. To adjust the ISO settings, press the "ISO" button on the camera, and select an ISO speed such as by using the Main Dial.

Exposure compensation button and Main Dial



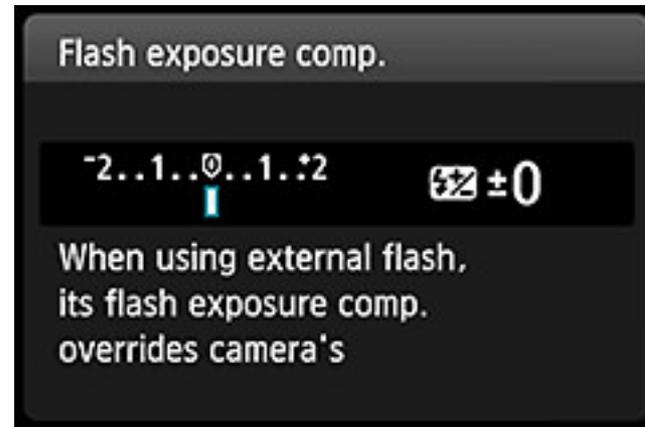
Set the amount of compensation by turning the Main Dial while pressing and holding down the Exposure compensation button. Turning the dial to the right increases brightness, while turning to the left makes it darker.

Step 7: Determine the Background Brightness Using Exposure Compensation

Often, in flash photography, light from the flash does not reach the background. In such a situation, Exposure compensation can be applied to adjust the brightness of the background. Exposure compensation can be relied on for brightness adjustments beyond the range that can be brightly illuminated by light from the flash. In mid- and high-spec models, the amount of compensation can be set by turning the Quick Control Dial while half-pressing the shutter button. For camera models without the Quick Control Dial, exposure compensation can be adjusted by operating the Main Dial while depressing and holding down the Exposure compensation button.



Flash exposure compensation of the camera



Step 8: Determine the Brightness of the Subject Using the Flash Output

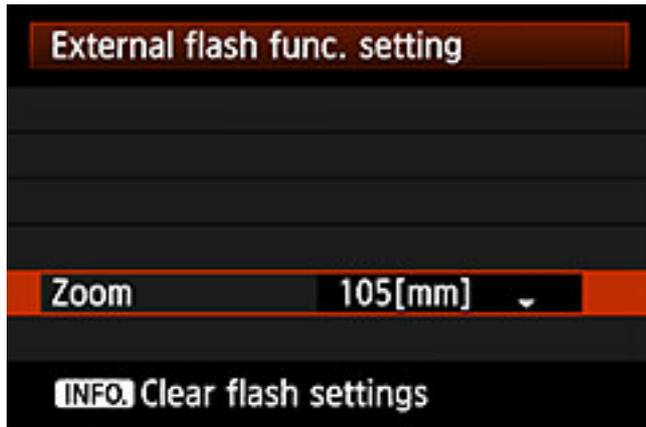
To adjust the brightness of a subject within the range of the flash, adjust the flash output. Use flash exposure compensation if you are using the E-TTL flash mode. Only the flash output is changed during flash exposure compensation. Thus, it is possible to moderate only the brightness of the subject within the flash range without any impact on the background brightness. For mid- and high-spec models, adjustments are made by pressing the Flash exposure compensation button and turning the Main Dial.



The angle of the flash head can be adjusted. Find the angle that most suit your photographic intension.

Step 9: Adjusting the Angle of the Flash Head

By using an external flash with an adjustable flash head, the flash angle can be adjusted to enhance the result of a photo. It will also be possible to use reflected light by bouncing the light off a wall or ceiling for a softer finish. The greatest merit of flash photography using digital cameras would be the possibility of taking as many test shots as desired. When a shot does not turn out right, the shortest way to improvement would be repeated practice by altering settings such as the shooting mode, synchronization mode, and ISO speed.



Set with the camera



Set with the flash unit

Tip: Adjust not only the angle of the flash head, but the flash angle as well

A genuine external flash allows adjustment of not only the angle of the flash head, but also the flash angle (width of light coverage). Controlling the flash angle helps to widen your scope of photographic expression. To perform setting on the camera, select [Zoom] in the [External flash function settings] menu, and choose a focal length (angle of view). To set using the flash unit, press the “Zoom” button and select the focal length using the “+/-” button, followed by confirming the selection using the “SEL/SET” button. Optimal flash coverage will be automatically selected to match the lens in use when Auto is selected on the camera (the M of M Zoom will not appear on the flash). For Speedlite 320 EX and Speedlite 270 EX II, adjustments are made in two phases by manually pulling out the flash head.

Which Flash is right for you?

- What is your **budget**? Budget is certainly the biggest factor when choosing a flash. With flash units, you almost always get what you pay for. If you cannot spend more than \$100 on a flash, expect to buy a third party unit from companies like Vivitar, Bower, Nissin and Sunpak that all have external flashes for under \$100. If you do not have budget limitations, then the best flashes are going to be the most expensive ones from Nikon and Canon.
- **TTL** or Manual? I highly recommend getting a flash unit that can use TTL (Through The Lens) system. Think of TTL as an “Auto” mode for flash that lets you shoot pictures without worrying about underexposing or overexposing your images – a great way to get started.
- Do you want to use your flash **off-camera**? I personally would not buy a flash that does not let me shoot off-camera. Unless you are absolutely positive that you would always shoot flash on top of your camera, you should try to get one that at least allows you to use it as a slave.

Flash key words to know

- **Guide Number** - The guide number for a flash is indicative of the size of the flash. If the flash is meant to be mostly used for close portraits, then the photographer doesn't need a large guide number. If the subject of photos will be more of interior architecture or any other situation where large spaces need to be illuminated, the guide number should be larger to ensure that the flash will be powerful enough for the photographer's purposes.
- **Flash Sync** - The flash sync speed is a camera function, but very important to the external flash. It can also let the photographer know how much flash to buy. If the camera is more of a budget camera, and has a low flash sync speed, the flash will limit the shutter speed of the camera. The better the camera, the higher the sync speed, and the better flash the camera can handle.
- **Recycle Rate** - The recycle rate is very important to those shooting action scenes. This rate is simply noting how quickly the flash can recharge itself to fire again. If the photographer is going to be setting his or her subjects, pausing after the photograph, and then resetting the subject, the recycle rate is not very important. However, if the photographer will be doing a lot of photography of moving subjects, then the recycle rate is very important. The photographer will not want to be limited by his or her flash when it comes to taking plenty of rapid photographs.

Beginner Flash Suggestions Canon

There are several entry-level flash accessories which are compatible with Canon DSLRs and cost under \$150. (from Tech Review Blog 2013)

[Neewer TT560](#) - The Neewer TT560 is one of the best bang for your buck flashes for a Canon DSLR that is currently on the market. Currently priced under \$40, the TT560 provides a solid build quality and excellent performance for the price. However, it is not an E-TTL so you'll need to manually adjust the flash settings (not difficult to get the hang of) in order to get the proper lighting.

[Canon 270EX II](#) - The 270EX II is the only Canon-branded flash to make this list, primarily because Canon flashes are not cheap by nature. It is the smallest and most lightweight flash in this price range which will appeal to some users who want extreme portability. Personally, I'd choose an aftermarket brand to save some money, but you can't go wrong with the 270EX II.

[Yongnuo YN-560 II](#) - The Yongnuo YN-560 II is a quality flash that mirrors higher priced name-brand competitors without breaking the bank. With a reasonable recycle-time of 3 seconds and a minimum flash duration of 1/20,000 of a second, you'll be able to capture high-speed shots with ease. For under \$60, the build quality and design is solid and the flash can be manually adjusted or simply used as in the optical slave mode which triggers via another flash.

[Precision Design DSLR300](#) - A lesser-known flash, the Precision Design DSLR 300 is a solid contender that fits all Canon DSLRs that bear a hotshoe mount. It features a highly adjustable head which can be swiveled to capture that perfect angle to bounce the flash and spread even light throughout your photos. Priced under \$60, this flash is an excellent entry-level accessory that will help you take better photos.

[NEEWER NW680/TT680](#) - The TT680 is the updated E-TTL version of the TT-560 listed earlier in this article. Featuring multi-flash capabilities, a fast flash recycling, and a large rear LCD with backlight capabilities, the TT680 is a tough flash to beat especially for the low under \$60 price tag. Additionally, you have the option to turn off the "auto" mode and manually program the flash if you are an advanced user.

Beginner Flash Suggestions Nikon

If cost is the biggest dilemma for you, then here are some third party flashes that fully support iTTL under \$100:

- [Bower SFD728N](#) – the cheapest external flash under \$50, with a flexible head to bounce light. Don't expect much out of this unit, since you get what you pay for. It does not come with a diffuser dome and cannot be used as a slave.
- [Bower SFD35N](#) – a better version than the above SFD728N, comes with an Auto Focus assist function, which will help you focus better in low-light environments. Cannot be used as a slave.
- [Vivitar DF350Z](#) – similar to Bower SFD35N, the Vivitar DF350Z is a good overall flash with a flexible head. Also comes with AF assist for focusing in low-light and cannot be used as a slave.
- [Vivitar DF400MZ](#) – at \$99, it is a very capable flash that comes with a built-in flip-out diffuser. The nice thing about the DF400MZ, is that it can be used as a slave.
- [Bower SFD926N](#) – just a few dollars more than the Vivitar DF400MZ, the Bower SFD926N is a nice flash with plenty of features such as flash zoom based on camera focal length. It also comes with a built-in diffuser and also supports slave mode for off-camera setup.
- There are plenty of other flashes at similar price range from various companies.

If you can spend more than \$100 on a flash, but want to stay at around \$200 price range, then here is what I recommend:

- [Nikon SB-600](#) – if you do not care about using flash as a master, the Nikon SB-600 is your best buy. It comes packed with all kinds of great features such as Auto Focus assist, high-speed sync, full i-TTL support and it works great with all Nikon DSLRs. It can only be used as a slave.
- Why am I recommending just one flash? Because at this price range, I believe you would be better off with a Nikon speedlight. While other flashes might sound like a good deal, Nikon's flashes fully support all CLS features and are designed to work best on Nikon DSLRs. On top of that, if you purchase another flash unit from Nikon in the future, the SB-600 would be fully compatible with it. If you are not scared to buy used equipment, then you can get an older Nikon SB-600 for less than \$200. If you are not afraid to shoot in manual mode without TTL, the older Nikon speedlights such as SB-26 and SB-28 are also of great value and you can snatch those used for less than \$100.
- If budget is not a big issue for you and you just want to get a good flash, the list of flashes to recommend is based on features they offer:
- [Nikon SB-600](#) – once again, a great value for the money for those who need a single flash to go on camera or to be used in an off-camera setup. If you do not care about triggering other flashes (master mode), then the SB-600 is your best bet.
- [Nikon SB-700](#) – the newly released SB-700 is around \$100 more than the SB-600, but has a bunch of new features the SB-600 does not have. It can work as a master and a slave, has a newly designed user interface that is very intuitive when compared to the SB-600, comes with a very useful diffusion dome plus two filters/gels for indoors shots and much more. It will certainly be a very popular flash among photo enthusiasts.
- [Nikon SB-910](#) – the Mercedes-Benz of Nikon speedlights, the SB-910 is a high-end speedlight designed for enthusiasts and professionals that need the most features for demanding applications. Priced at \$550, the SB-910 can be used both as a master and a slave, has a similar intuitive user interface as the SB-700, comes with plenty of accessories such as diffuser dome, filter set and flash stand, has an automatic flash zoom head that can zoom in and out based on the focal length you are using and more. The biggest two advantages of the Nikon SB-910 over SB-700 is that it has a PC/sync cord for connecting external flash units such as PocketWizard and ability to use powerful battery packs.
- [Quantum Qflash TRIO QF8N](#) – an expensive top-of-the-line flash that has an ultra-fast recycle time and lots of power. Unlike Nikon speedlights, it has a large reflector on the front which diffuses the light coming out of the flash for better quality images and softer shadows. It can work as a master or a slave with additional modules.