



# FLASH PHOTOGRAPHY

# TYPES OF FLASH



## BUILT-IN FLASH/ POP-UP FLASH

- All compacts, and most DSLRs, have a built-in flash
- The flash is a small and low-powered
- Only direct flash
- Not powerful enough to cover large groups of people or great distances



## HOTSHOE FLASHGUN

- Hotshoe-mounted flashgun
- Multiple flash modes eg. TTL, manual etc
- Option to swivel and tilt the flash head
- Optional wireless operation



## HAMMERHEAD FLASH

- Bracket mounted + Hotshoe enabled
- Multiple flash modes eg. TTL, manual etc
- Option to swivel and tilt the flash head
- Main advantage is extra flash power



## RING AND MACRO FLASH

- Ring flashes fix around the lens, with a connector to the hotshoe, and provide a flat, even light on the subject.



## STUDIO FLASH

- Typically used in a professional studio although can be used outdoors as well
- Ultimate control of lighting in photos
- Studio flash are much more higher powered than small flashguns
- Studio flash attachments include: softboxes, brollies and reflectors to not only control the power of the light but also the quality, spread and hardness of light.

# WHEN TO USE FLASH



## ✓ INDOORS

This is the most obvious time to use a flash, but I thoroughly recommend that you experiment with bounce flash to get a much more natural look.

Firing the flash at the same angle as the lens results in a very dull and flattened image.



## ✓ DAYTIME OUTDOORS

We've all been there when you're shooting into the sun and your subject is just a silhouette, to fix this use your flash!

The flash acts as a second light source and fills in where the camera has been underexposed.

Flash is also good for shooting portraits outdoors to lessen the effect of harsh shadows.



## ✓ LIGHT PAINTING

Light painting is opening your camera's shutter up for a long enough time so that you can draw in the darkness with a light source such as a torch or a flash and effectively paint light onto a photo.

Long exposures allow you to move around the scene without leaving a trail and an external flash fired manually will freeze certain bits of light around the frame. This method allows you work with a blank canvas and make up your own light choices and effects.



## ✓ FREEZE MOTION

The cool thing about flash is that it allows you to freeze the motion of a photo with a short burst of light.

This works especially well if you're shooting in low light like in the photo above. I couldn't set the shutter speed too high or it would have been too dark, so instead I used a flash and it caught the droplet of water at its peak with ease.

# WHEN NOT TO USE FLASH



## ✗ BIG EVENTS

if you are standing 30+ metres from a stage your flash will not reach that far! This is utterly pointless and the flash will probably have only reached a few metres before maxing out.

You're much better off using a high ISO for shooting in low light or using a tripod.



## ✗ CANDID PHOTOGRAPHY

Nothing says 'look at me' like a big flash attached to big camera going off in the corner of your eye.

If you wish to go unnoticed, widen your aperture and raise your ISO. This will allow you to take well exposed photos in low light conditions, such as indoors.

Use a wide aperture (eg f2.8), it'll give your photos a nice shallow depth of field which means the focus will be on the subject rather than the surroundings.



## ✗ NIGHTSCAPES

Unless you're planning on doing some cool effects like Light Painting, I recommend turning your flash off. Instead of getting a bright overexposed foreground, you'll end up with a well exposed photo like the one above.

You'll need to use a tripod to expose for the low light.



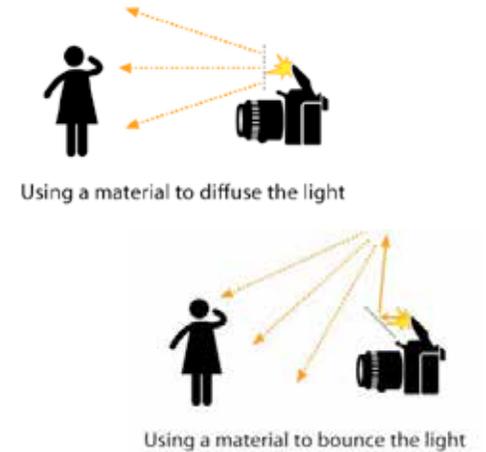
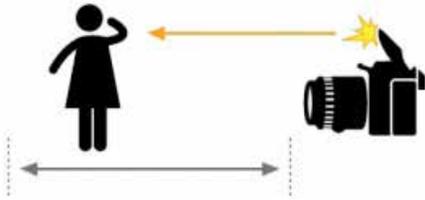
## ✗ BAND/STAGE/SPEAKERS/EVENTS

I'd say that most bands don't allow you to use a flash on your camera as it annoys the band, distracts the fans and ruins the lighting designers hard work.

Instead, you should widen your aperture and lower your shutter speed so that the camera picks up more light.

Flash casts ugly shadows when shooting bands as you're on the ground and the artist is on the stage, making it a very unnatural angle for the light.

# POP-UP FLASH - TIPS & TRICKS



## KNOW YOUR LIMITS

Unlike an external flash unit, your pop-up flash gets its power from the camera battery itself.

Because it is sharing this power source with the other functions of the camera, its power is severely limited. In order to not consume the camera's battery life, the built-in flash is not nearly as bright or far-reaching as one from an external flash would be.

Because of this limitation, you need to be aware of the working range of your pop-up flash.

## FLASH COMPENSATION

Flash compensation makes your photograph brighter or darker by adjusting the intensity of the flash. Using flash compensation will help you achieve the proper exposure and assist you in getting around the limitations of your built-in flash.

Your camera does not always choose the optimal flash power when firing the pop-up flash.

If your photos are coming out with an overexposed subject, adjusting the flash compensation can change those blown-out highlights into a photo with correct exposure.

## YOUR FLASH ISN'T NOCTURNAL

Your flash isn't for using only when it is dark! One of the most useful functions of your camera's pop-up flash is the ability to use it as a fill flash, especially in broad daylight.

Using a fill flash can really make a difference in your images by lightening dark shadows, brightening colors, and creating depth.

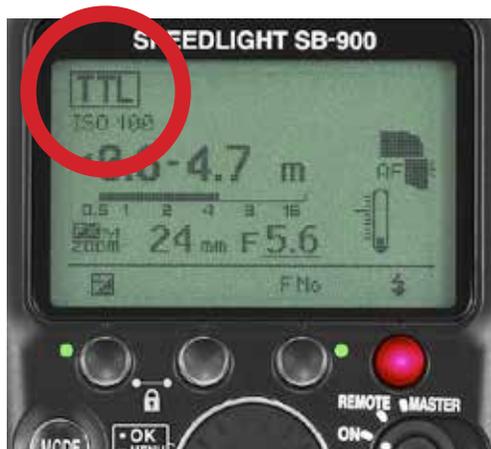
## DIY DIFFUSING AND BOUNCING

One of the main disadvantages of your camera's pop-up flash is the harshness and intensity of the light.

You can soften the flash light by diffusing it. Eg using using tissue paper or thin cotton. Simply tape the mock-diffuser to your flash, and fire away!

While the pop-up flash on your camera is fixed, you can also bounce the light using a small white card. Hold the card at a 45 degree angle in front of your flash, and take your shot. The light should hit the card, bounce to the ceiling, and spread out into a nice soft light.

# HOTSHOE FLASH - MODES



## TTL/ETTL

TTL (through the lens) takes the guesswork out of flash photography.

When you press the shutter release, a TTL flash will fire a pre-flash before the actual shot, the camera will then measure the pre-flash with the ambient light level to calculate the power needed in the actual flash for the shot.

Many photographers enjoy being able to snap photos on a whim without having to worry about making adjustments.

## MANUAL

For correct manual flash exposure, 4 things need to be controlled and balanced:

1. Aperture
2. ISO
3. Distance (from the flash to subject)
4. Power

Any of these four things can be used to control the amount of light falling on your subject.

Photographers can control the output of their flashguns by adjusting any of these settings.

## STROBE/ MULTI FLASH

Stroboscopic flash (Multi Mode or Repeating Flash) is a feature that allows for a series of flashes to be fired continuously in a single exposure.

This freezes a moving object on the frame multiple times.

## REAR-CURTAIN SYNC

Rear curtain sync is a process where a speedlite flashes when the second curtain is about to close. This method works best for long exposure or moving subject shots.

By default under normal conditions the camera triggers flash when first shutter curtain reveals the entire sensor area.

People like to see blurred motion with a frozen subject at the end of its path, rather than its start.

# FILL FLASH EXPLAINED



## DEFINITION

The term 'fill-in' or 'fill' is used in photography to indicate the use of additional lighting to brighten shadow areas or darker areas in a scene.

In very bright light or direct sunlight the range of contrast from black to white is too large for the digital image sensor to resolve. Dark areas become black and lose detail. 'Fill-in' light is used to brighten the darker areas so the camera can capture the detail that would have been lost in pure black.

## WHAT'S THE PROBLEM?

The biggest problem you'll come across is when the ambient light source is behind your subject and all you're getting in return is a silhouette. On auto mode, your camera will likely see all the light coming into the camera and think that it doesn't need a flash, when in reality, it does.



## HOW TO FIX IT

Fill flash! Use your flash to control how you want the light to hit the subject; you can have the flash on or off the camera, as well as changing the power output of the flash itself.



## WHEN TO USE FILL FLASH

- When the light source is not directly on your subject
- When your subject is too dim
- When the sun is behind your subject
- When your subject is in shadow
- When the light is too faint to get a good exposure

## DONT USE TOO MUCH FLASH!



Experiment will how much flash is needed to expose your subject correctly. The best results for a good exposure is a balance between ambient light and fill flash light.

## OTHER FILL FLASH OPTIONS

Remove shadows



Side fill/Off camera fill



Nature and/or macro



# BOUNCE FLASH EXPLAINED



## DEFINITION

Bounce Flash refers to flash that is bounced off of a ceiling, wall, or other object before it reaches the subject. This is accomplished by pointing the flash at the other object instead of the subject.

Because bounce flash is diffused by the distance it travels before reaching the subject there are generally less shadows and harsh glares when using bounce flash.

The flash can also be modified in color by bouncing the flash off of a colored surface.

Because the light travels further than a straight flash shot and is diffused, more flash power is required to get the same exposure as a straight flash shot.



## WHY USE BOUNCE FLASH

- Softer light - when you bounce your flash, the light is coming to your subject in a diffused way.
- Red eye will not be an issue since the light is coming far off the subject-to-lens axis.
- You will avoid harsh shadows.
- Today's modern DSLRs and flash units can calculate the light power you will need for the bounce, so you don't have to make recurring measures to correct for the bounce.

## WHEN NOT TO USE BOUNCE FLASH

- Nothing to bounce from.
- Not enough flash power - when you bounce your flash the light that your flash provides, need to travel further, you will need a powerful flash.
- Smoke! If you are in a smoky area or smoke machine, and you try to bounce you might end up with a big picture of white.

## WHAT CAN YOU BOUNCE LIGHT OFF?

### A CEILING

This is the most common bounce of them all. Just tilt your flash to the ceiling and take the picture. The ceiling will act as a huge reflector, bouncing the light softly on your subject.

### THE WALL

In this method, you swivel your flash 90 degrees sideways and bounce off the nearest wall.

### A PERSON!

This is good when you are out doors and you find someone who is wearing white T-shirt. swivel the flash head to point to the person and shoot.



# FLASH - THINGS TO KNOW



## FLASH SYNC SPEED

Most cameras quote a maximum shutter speed at which flash can be used (the X- sync speed) which is typically between 1/60 and 1/250sec. This is because there are times during an exposure when the sensor is partially covered by an opening or closing shutter blind. The X-sync is the fastest shutter speed in which the shutter is fully open for the full duration of the flash burst. At speeds above this, the image will be only partially lit by the flash.

## AF ILLUMINATOR

In extremely dark conditions, a red patterned burst of light enables the camera's autofocus sensors to 'see' the subject and focus the lens.

## FLASH COLOUR TEMPERATURE

Most flash units are balanced to produce the same colour temperature as daylight at noon, ie 5600K.

However, there are times when this doesn't match the temperature of the ambient light - such as shooting indoors, where the light level is tungsten-based.

If your camera is set to Daylight or Flash white balance the colour temperature of the flashlit areas will be correct, while the background will be warm. Setting the white balance to Tungsten will produce a correct background but the flashlit area will have a blue cast.

## SLOW SYNC FLASH

Setting the camera to the flash sync speed is fine for general snaps but in low light this shutter speed is usually too fast to record the ambient illumination, with the result that the background behind the subject goes black and any atmosphere is lost.

A good solution is to set a slower speed, while maintaining the same aperture. This keeps the flash exposure the same but allows more of the available light to be recorded. Of course if you go too low you'll get camera shake, or subject movement blur, so you'll need to either use a tripod, or celebrate this movement and make a feature of it.



## GUIDE NUMBERS

One of the key aspects of using flash, and indeed in marketing a flashgun, is the Guide Number (GN). Often used as shorthand to indicate the power of the flash (based on ISO 100 and a lens focal length of 50mm), the GN can also be used to indicate the correct exposure at a given distance when using the flash in manual mode at full power.

The GN is a good guide to indicate the power of the flash, the higher the GN the more output.

The guide number can be used to find the correct aperture using the following formula:

$$\text{GN} \div \text{Distance} = \text{Aperture}$$

So, if the flash has a GN of 20m and the subject is 5m from the flash, then the aperture is f/4 ( $20 \div 5 = 4$ ).

## **VIDEOS**

**Fill Flash portraits**

<https://www.youtube.com/watch?v=Tin5q2-yPew>

**Bounce Flash**

<https://www.youtube.com/watch?v=xTIBpNrxNLk>

**Flash photography tips**

<https://www.youtube.com/watch?v=uRoZwkTj74k>

# FLASH WORKSHOP



## DIFUSED LIGHT

Take a photo of an object or person using the following to cover your flash:

1. Normal straight flash
2. Tissue paper
3. Opaque plastic
4. Coloured cellophane

Compare the results.

## BOUNCED LIGHT - POP-UP FLASH

Take the following photos:

1. Normal straight flash
2. Use a white piece of cardboard to reflect the flash light to the ceiling.

Compare the results.

## BOUNCED LIGHT - HOTSHOE FLASH

Take the following photos:

1. Normal straight flash
2. Tilt your flash head to the ceiling to bounce the light
3. Tilt your camera to a wall to bounce the light to the side
4. Tilt your camera backwards to bounce the light

Compare the results.