



Strobism Bitesize: Flashgun basics

In this first Strobism Bitesize tutorial we are going to look at the basic features of a modern flashgun and why you may want them. Later tutorials will look at these features in a lot more detail.

Old flashguns

First a warning about using old flashguns on a digital camera. The old flashguns that you may have used on film cameras use a much higher trigger voltage than modern versions - which could play havoc with the electronic circuits of a digital camera. It is possible to measure this voltage and compare against the voltage used by your camera but personally if you have an old flashgun I would either use it as a remote slave or ditch it altogether.

Get the right mount

In the old days all flash guns had the same mount because they all relied on just one circuit to fire the tube – one contact was made via the hot shoe and the other from a central electrode pin. With today's sophisticated electronics the flashgun needs to make contact with the camera with several pins – and the layout of these pins is dependent on camera manufacturer. Always make sure that you purchase the correct flashgun for the type of camera that you own otherwise it won't work. And if you have a Sony, the design of the hot shoe itself is totally different too.

Guide number

The guide number is a measure of the flashgun's maximum light output - a higher number indicating a more powerful flashgun. The actual number is theoretical and denotes the maximum distance that the flashgun could illuminate, usually using ISO100 and an aperture of f/1. Do check, though, when comparing flashguns from different manufacturers that they are using the same specification when quoting a guide number. Also the guide number distance may be quoted in metric (m) or imperial (ft). A more powerful flashgun with a higher guide number will probably be bigger and heavier - so it's a compromise that needs careful thought.

Camera's maximum sync' speed

In the old days, your camera's shutter speed was limited to one setting when using a flash. With today's much faster and more powerful flashguns you can use a variety of shutter speeds. However, there is still a maximum for every camera – the fastest shutter speed that allows the entire sensor to be visible to the flashgun's pulse of light. Go above this and you will have a black line down one side of the image.

TTL flash

Through-the-lens flash indicates that the exposure measurement for the flash output is measured by the camera itself. This eliminates any need for the photographer to carry out any manual calculations to pre-determine the output of the flashgun.



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Tilt & swivel

The ability to tilt the head of a flashgun gives you the option to soften the light hitting the subject by bouncing it off the ceiling – it also reduces the dreadful ‘red-eye’ effect. The only problem comes if you want to take a photograph in portrait mode – which is why some flashguns come with the option to swivel as well as tilt. Of course this also gives you the option to side-bounce the light off a wall for other interesting lighting effects.

Reflector card

The only problem with bounce flash when taking portraits is that you lose that little fill-in light that helps eliminate dark shadows in facial features. A pull-out reflector card simply diverts a bit of the bounced light directly forward. This has the useful side-effect of generating that little catch-light effect in the eyes that makes a portrait much more appealing.

Diffuser

In order to use flash with some of the extreme wide-angle lenses some come with a simple diffuser that fits in front of the main lens that helps scatter the light.

Manual

Purists will insist on setting everything manually. But when you want to get creative, you will too – especially when combining two or more flashguns together.

Auto zoom

A small internal motor adjusts the position of the flash reflector to focus the light to match the focal length of the lens.

Extended zoom

This moves the flash reflector to one position less than that required for the focal length of the lens. This gives a broader coverage of light and hence a softer illumination.

HSS

High Speed Sync’ (HSS) overcomes the limitations of the camera’s maximum sync’ speed by pulsing the light numerous times throughout the exposure. Very useful if you require fill-in flash on a very bright day.

Second curtain sync’ (a.k.a. rear curtain sync’ or trailing curtain sync’)

A flashgun usually fires as soon as the first curtain of the shutter opens. The problem is that with long shutter speeds, after the flash has fired, the sensor is still exposed to ambient light. If there are any light trails in the image they therefore appear in front of the image – a very peculiar view. Second (or rear / trailing) curtain sync’ fires the flashgun just as the second curtain starts to close, eliminating this problem.



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Flash Bracketing

The flashgun will fire the next three shots at 'normal' power, then reduced power, then higher power so that three bracketed exposures are produced.

AF assist beam

On the basis that you may use your camera and flashgun in very low light situations, an auto-focus assist beam is a very low powered light built into the front of the flashgun that helps the camera's auto-focus work.

Red-Eye reduction

This works by firing several low-power flashes before the main exposure, reducing the red-eye effect.

Modelling light

This fires the flashgun almost continuously so that you can see the position and intensity of any shadows before the actual exposure is made.

Wireless

Flashguns with wireless capabilities allow them to be used off-camera with no physical connection to it – the camera's built in flash is often used as the 'master' flash with the off-camera flash (or flashes) acting as the 'slave'.

Multiple flashguns working together obviously expand the creative effects that can be achieved – even mimicking a full studio set-up.

Summary

Wow – that's just the basics covered. As you can see, flashguns have come a long way since the basic ones I used on my old film camera. No wonder there is a lack of simple tutorials – it's going to take some time to complete them.

Anyway, I will persevere and continue to add detailed tutorials about the above points as time allows.

Welcome to strobism.

If you found this tutorial useful please let me know by leaving a comment on my Facebook page (or just 'Like' it) at <https://www.facebook.com/johnhallettphotographs/> . Thanks