

Flash Photography

*On and off camera flash
using small flashguns*

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*Let's begin with daylight
from a window*



window light



plus reflector



The shadows give shape but are a bit dark



A reflector brightens the shadows

Most cameras have a built-in flash



They're not very powerful but are convenient.
It's always with you, doesn't need separate batteries
and the camera sets the exposure for you

*We can combine
daylight with some flash
to soften the shadows*



window light



on-camera flash instead



window light + full flash



window light + flash -2EV

*Some examples of
fill-in flash*



no flash so eyes very dark



some fill-in flash



nice fill and catchlights



good flesh tones with flash



imagine this without
the flash



even on a cloudy day flash
can add soft shadows and
bright eyes

Now compare daylight with flash on its own



window light



on-camera flash instead

The flash lighting is harsh and flat

As a rule I prefer to use natural light rather than flash if I can get away with it



window light



on-camera flash

If you must use built-in flash
be aware of its problems



red-eye at its worst !
Light bounces back from the retina, usually when the flash is close to the lens



Some cameras have red-eye reduction with pre-flashes to make the irises close but this delays taking the picture and can spoil a portrait



be careful over
unwanted reflections



A large lens and lenshood can cause a shadow especially at wide angle settings



Even taking the hood off didn't help here

On its own, the lighting from a built-in flashgun is flat and harsh but we can soften the effect a little with a diffuser

Cheap devices to fit over the pop-up flash



hard plastic
fits in hotshoe

soft plastic
fits in hotshoe

one or two layers
of Kleenex tissue



on-camera flash



on-camera flash + diffuser

*A separate flashgun
mounted on the camera
is more powerful and
more flexible*

It clips into the hotshoe on the camera



The centre contact fires the flash.
The others exchange information on exposure.
Each manufacturer has their own pattern so the
flashgun has to match the camera.



mounted flashgun



built-in camera flash



notice that the shadow is lower



mounted flashgun



mounted flashgun + diffuser



Some can be adjusted to spread the light evenly across the picture for different focal lengths



This does it automatically as you zoom the camera



It has a flip-down lens to spread the light for very wide angle shots



I usually leave the diffusers on my flashguns.
It softens the light a little and loses only a
little brightness.

*For more diffusion you can
bounce the flash off the ceiling*



mounted flashgun



bounced off ceiling



Some light is lost so its a bit darker

*Turning the camera on its
side makes a difference*



built-in flashgun

built-in flash,
vertical. Note
the shadows



on-camera flash,
vertical. The
shadows are
longer still



on-camera flashgun

A background further away emphasises the effect



on-camera flashgun



on-camera bounced

on-camera,
vertical. Note
the shadow



*Moving the flashgun off
the camera gives much
better modelling*



mounted flashgun



flashgun off camera and held to one side.
But shadows are dark so it would help to fill in with the camera's flashgun.





mounted flashgun



flashgun off camera



off camera + built-in flash

Too much fill-in so turn it down



mounted flashgun



flashgun off camera



off camera + built-in flash



off camera + camera gun -1EV



The single flashgun is over to the right and near the wall to backlight the steam against the black card background

I balanced a white card reflector just to the left of the camera to fill in shadows and reflect off the knife



Using two flashguns,
one in my left hand
the other on the camera

Look above the groom's
shoulder to spot the
two shadows

*You can even add
a third flashgun*



Note the extra shadows

The main gun is to the left

+ an extra gun to the far left

+ the built-in camera gun set to -1EV

The guns we're using are connected wirelessly.
Other types can be connected using a PC lead.



It's old technology and not many cameras
have the connection but you can buy
a hotshoe to PC adaptor

WARNING !

Older flashguns used a high voltage to trigger the flash and may fry the contacts in your camera so buy a voltage limiter (about £50) or a wireless flash trigger set (also £50+).

If in doubt bite the bullet and buy a modern gun, either from the camera maker or an independent one.

*As well as bouncing the
light off the ceiling or wall
you can use an umbrella*



flashgun off camera



off camera umbrella



The shadows are much softer



flashgun off camera



off camera umbrella



umbrella + camera fill-in

There are many devices you can use to modify the light from your flash

FLASH DIFFUSERS

Bounce Flash Diffuser

These popular, simple opaque plastic diffusers simply fit onto the front of your flash gun, creating a diffused beam that offers soft even coverage. Large range available for Canon, Nikon, Sony, Olympus, Pentax, Minolta & Nikon. Below is just a sample of the range:

Canon 270EX / 300EX / 420EX
Canon 450EX / 430EX II / 550EX
Canon 580EX / 580EX II
Nikon SB900 / SB800 / SB900
Nikon SB124 / SB125 / SB126 / SB28
Sony: HVL-342AM / HVL-F36AM, Metz: 48AF1 / 58AF1
Minolta: D400 / D102 / D100, Pentax: AF-540FG2

£10.99

Inverted Dome Pro Flash Diffuser Set

Comprising a clear vinyl body that simply slips onto the head of the flash gun, and an inverted frosted dome that slips onto the front. In addition to diffusing the flash directly through the sides of the clear vinyl body, lighting up the surrounding environment, this produces a natural soft bright effect. Especially useful for shooting outdoors and portraits, and is a firm favourite with wedding photographers.

Supplied with four domes, giving you a full range of natural, cool, or warm-up tones. Available in four sizes:

Size 1: 62-65 x 39-42mm Nikon SB900, SB800, etc.
Size 2: 64-69 x 35-38mm Canon 420EX, 430EX, etc.
Size 3: 66-72 x 45-49mm Nikon SB28, 27, 26, etc.
Size 4: 73-77 x 45-49mm Canon 580EX, 560EX, etc.

£29.99

FlashRight

ColorRight's new "super diffuser" for hotshoe flashguns.

£89.99

ColorRight PRO

The ultimate white balance filter. Available in two versions - Neutral and Portrait.

£104.99

STUDIO ACCESSORIES

HOW DO I... ...choose a modifier for my flash?

A You can get to grips with choosing the right modifier for your flash by asking yourself a few questions. The first is: what do you want to achieve? Do you want to create a soft, even light? Or do you want to create a dramatic, high-contrast effect? The answer to these questions will help you choose the right modifier for your flash.

SOFT LIGHT - Soft light is ideal for portraits and product photography. It creates a natural, flattering effect. Soft light can be achieved by using a softbox, umbrella, or bounce flash.

DRAMA - Dramatic lighting is ideal for creating a sense of mood and atmosphere. It is achieved by using a hard light source, such as a spotlight or a bare flash head.

BEAUTY DISK - Beauty disks are ideal for creating a soft, even light. They are used to create a soft, flattering effect on the face.

SOFTBOX - Softboxes are used to create a soft, even light. They are used to create a soft, flattering effect on the face.

UMBRELLA - Umbrellas are used to create a soft, even light. They are used to create a soft, flattering effect on the face.

BOUNCE FLASH - Bounce flash is used to create a soft, even light. It is achieved by reflecting the light off a white surface, such as a wall or ceiling.

SPOTLIGHT - Spotlights are used to create a dramatic, high-contrast effect. They are used to create a sense of mood and atmosphere.

BARE FLASH HEAD - A bare flash head is used to create a dramatic, high-contrast effect. It is used to create a sense of mood and atmosphere.

Get in contact...

Photo
GEEKS

*I can't afford an extra
flashgun for my bridge
camera so I played with
a piece of white card
to bounce the light*



I tested with a piece of paper



then cut and folded a card



held with an elastic band





direct flash

bounced off the ceiling

It's a bit dark but nice lighting

The flash isn't powerful enough

for a larger room



daylight



direct flash



flash with diffuser



direct flash



with card (or part of it!)



with card



card covered in foil

*Flash is the same colour
as daylight. If you want
to mix it with tungsten
you must add a filter*



tungsten lamp, WB on cloudy



camera WB now on tungsten



camera flash now too blue



orange filter over flash

*A little theory and
some practical suggestions*

A typical burst of flash lasts about 1/600th of a second and often much shorter than that.

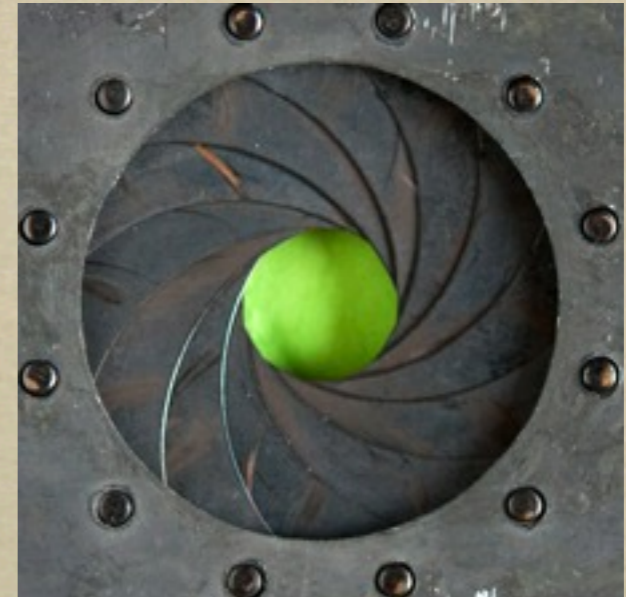
Your camera shutter is likely to be open much longer, so the flash is synchronised to fire as soon as the shutter is fully open.

The fastest shutter speed you can use with an SLR is normally 1/125th of a second or thereabouts.

Some guns allow faster speeds but they're expensive.

If you take a picture with a fast shutter speed you risk losing part of the picture, so don't go faster than the synch speed.

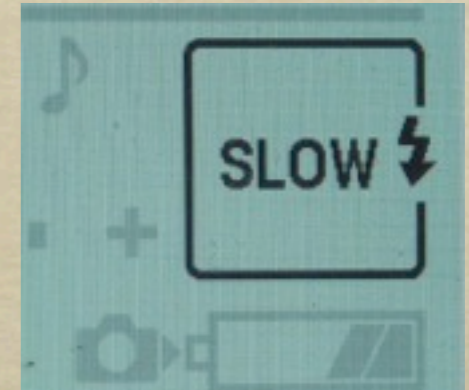
It's not so much of a problem with a compact or bridge camera as they have a bladed leaf shutter like this



The focal plane shutter in an SLR has two curtains. One moves across to uncover the sensor and the second follows it across. If either curtain is in the way when the flash fires you'll get a black stripe on the picture

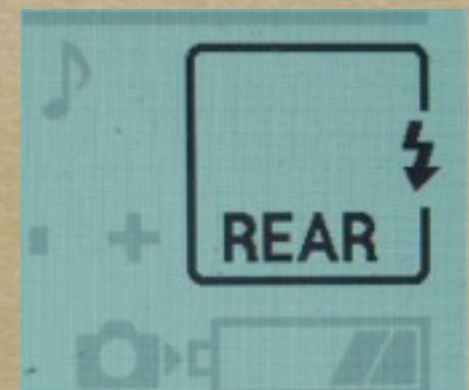
As a rule your camera will set a faster shutter speed when you turn on the flash so you don't get blurred movement from the ambient light.

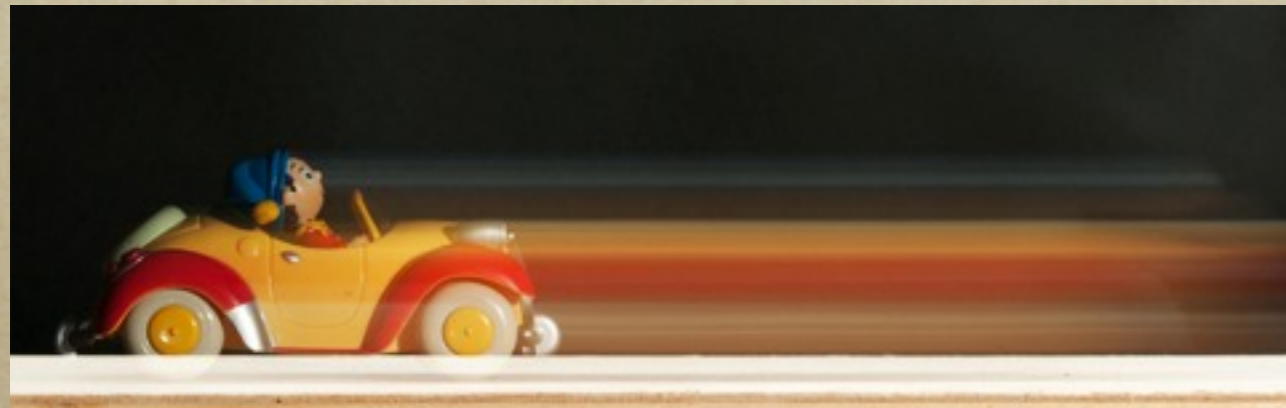
Slow Synch lets you use a long shutter speed to record some daylight as well as the flash. For example, a moving car where you want to record light trails.



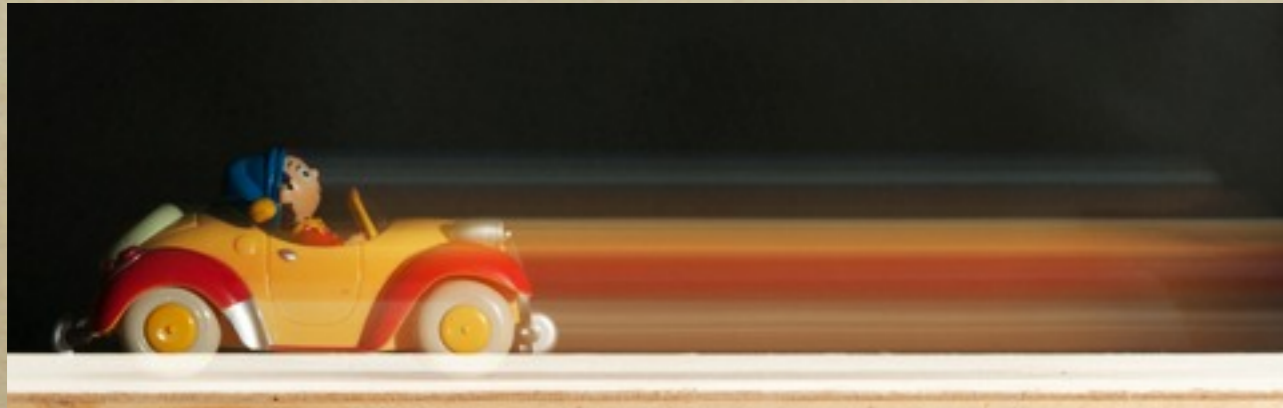
Normally the flash fires just as the shutter opens so the trails appear after the main image and are in front of the car.

Rear Curtain Synch instead fires just before the shutter closes so the trails are behind the car.





Here is normal Slow Synch.
The flash lit the car before
it moved to create the trail



Here is normal Slow Synch.
The flash lit the car before
it moved to create the trail



With Rear Curtain Synch
the trail was created
before the flash fired and
lit the car

Many simpler cameras have a scene mode which achieves a portrait lit by flash but with enough exposure to ambient light to record the background.



How Does the camera focus in the dark ?



Many cameras have a lamp built in to let the lens focus if the ambient light is too dim

*How Does the
Exposure Get set ?*

Early electronic guns gave you all the light in one go and you had to calculate the aperture setting manually.



Then, a sensor was added to read the amount of light reflected back from the subject. It cut off the flash after the right amount of light had been emitted.

Many modern cameras use the exposure meter in the camera to measure the amount of light coming in (TTL) and cut off the flash when the exposure is right.

So if you're close and the subject is bright you get a very brief flash and you can use this effect to stop motion.

Flash is useful for close-ups

A ring flash fits around the lens and gives perfectly shadowless lighting.



That's fine for medical pictures and sometimes for bugs and flowers but generally I prefer side light, which gives better modelling

Just be careful not to let your lens cast shadows !

Summary

Built-in flash is convenient but weak, gives very flat lighting and sometimes red-eye

It is, though, very good for filling in shadows

A separate flashgun on the camera hotshoe is more powerful and much more versatile

Use a diffuser to soften the light or for even softer light bounce it off a reflector, the ceiling or the wall

Off-camera flash gives far better modelling. You connect it with a PC lead or wirelessly

You can use a number of guns together

Your camera cleverly adjusts the exposure for you, more expensive cameras offering great control

Cont.

Summary

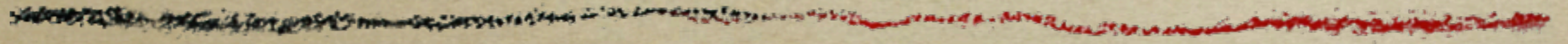
When you turn on the camera flash the shutter speed will automatically set to something between 1/60th and 250th of a second.

Whatever type of camera you use it will provide good fill-in light in bright daylight.

But in dim light the shutter speed is too fast to record the ambient light so set your flash synchronisation to slow synch. This will let the camera set a slower shutter speed and you'll achieve a nice balance.

You may need to adjust the flash exposure compensation to get the amount of fill light you want.

Don't be tempted to use an old flashgun unless you're quite sure it's safe!



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