USING INTEGRATED FLASH

Most cameras these days have a built in flash that is integrated into the exposure metering system. Sophisticated SLRs don't have a built in flash but the separate dedicated flash accessory behaves as an integrated flash when it is plugged into the hot shoe.

These units work remarkably well when the camera is set to full auto or Program (P) mode. However, as with all the features of the modern camera it pays to be able to understand how the system functions and to override it when necessary.

Fill in flash in good ambient light

This is where the integrated flash systems work best. The flash throws light into harsh shadows or lights the front of backlit subjects.

The camera meters the subject and sets an exposure. You can use any of the exposure modes including the Manual mode. When the flash fires, it puts out enough light to brighten the shadows so that the lighting matches the brighter areas.

But the camera may behave differently in each of the exposure modes depending on the amount of ambient light available.

If there is enough natural light that the camera chooses an exposure with a fast enough shutter speed (to hand hold) and small enough aperture (to provide depth of focus), all is well. Any of the exposure modes will produce quite pleasing results. The only problem is that you may find that the shadow areas have been overfilled and are a little too bright. (See Flash exposure compensation).

Fill in flash in poor light

Av Mode If you shoot habitually in Av mode (to control depth of focus) and the light is deteriorating, you end up using a slow shutter speed. You will need to use a tripod. The flash will fill in the shadows but it will NOT put out enough light to freeze movement – it simply puts a little light into the shadows. The main exposure is controlled by the ambient lighting, so everything will be reasonably well exposed including both the subject and the background .

Flash as the main light source in poor light

Tv Mode If you are unable to use a tripod (e.g. casual shots at a party) and the light is poor, you can set a shutter speed (say 1/125 sec). In poor light the aperture will open to its fullest extent (sacrificing depth of focus) but the flash will put out enough light to expose the subject properly. The flash becomes the main light source – the subject will be exposed correctly but the background will be dark.

P and Auto Modes In these two modes the camera chooses a shutter speed/aperture combination that is a compromise. In poor light it will choose a modest shutter speed that you may be able to hand hold (say 1/60 sec) and it will open the aperture to its widest setting. It will pop up the flash which indicates that there is not enough light for a normal exposure. After that the flash functions similarly to Tv mode, with the flash taking over the role as the principal source of light. With intermediate levels of ambient light the mixture of natural and flash light can be quite pleasing but you will not have much depth of field.

Manual Mode To freeze movement, hand hold the camera and control depth of field in deteriorating light, you will have to use the camera's Manual exposure setting (say 1/125 sec at f11). In poor light this is probably way under exposed. However the flash will take over as

the principal light source and expose the subject correctly. Again the background will be dark.

Exposure Compensation with Flash

It is important to realise that the main exposure compensation controls on the camera will NOT boost (or reduce) the amount of flash lighting relative to the camera's main exposure setting (which is determined by the ambient light).

If you decide to increase exposure by 1 stop using the camera's main exposure compensation controls, the main exposure and the flash exposure will both be increased by 1 stop.

With a built in flash, to increase(or reduce) the amount of flash lighting, you must use the Flash Exposure Compensation controls (usually found in the menus). For dedicated external flash units, flash exposure compensation is set on the flash unit itself.

Why might you want to change the flash exposure without changing the main exposure?

Fill in flash

You may find that your shadows are too bright (over filled) – this seems to be the tendency with most cameras. Reducing the flash exposure can produce better balance. 1 to 1½ stops exposure reduction often works well.

Light or Dark Subjects

The amount of light output by the flash is controlled by the amount reflected back from the subject. Bright white subjects will tend to be underexposed and dark subjects overexposed for exactly the same reasons as a main exposure setting is affected by the brightness of a subject.

For white or light subjects, about 1 to 1½ stops increase in exposure is usually necessary to render the highlights correctly. With dark subjects, about 1 stop reduction is usually enough.

NB Some of the modern, sophisticated cameras make use of the focus distance information recorded at the instant of exposure to set the flash output. With these cameras compensation for the brightness of subject matter may not be required. **Test your camera/flash response to determine whether compensation is needed.**

The Quality of Flash Lighting

Direct flash lighting, where flash is the main light source, often produces the "startled rabbit in the headlights" effect. To soften the lighting and produce a more natural result, the light must be diffused in some way.

Taping one or two layers of tissue over the flash head is very effective. You lose a little power from the flash but it is not necessary to compensate for this – the camera's exposure system takes care of the exposure automatically.

With an external flash unit, bouncing the flash off a white matte surface is also effective. Again the camera figures out the exposure correctly.

Flash Range

Internal flash units have a maximum range of about 4m (ISO 100). The range extends to 8m with ISO 400. External (hot shoe plug in) units have greater range typically up to 20m (ISO

100). Obviously range depends on aperture. These ranges are both quoted for apertures of f2.8.

Flash range also depends on the area covered by the flash. The 20m range quoted above applies with a lens of 100mm focal length. With a wide angle lens of focal length 24mm, the range reduces to 10m. At f11 with this lens, the range is limited to about 3m.

White Balance

Flash is quite blue. If flash is the main light source, choose the appropriate White Balance setting on your camera. For fill in flash leave the camera on Auto White Balance or a setting that matches the quality of the ambient light.

Some Recommended Settings

For **casual photography of people** using supplementary flash, the following general set up is recommended. This might apply to shooting guests at a wedding or a party and shooting children indoors in daylight. In both cases reasonable levels of ambient light are required so that backgrounds don't become unpleasantly dark.

1. Tape a sheet of 2 ply Kleenex tissue over the flash head.
2. Select Program mode and check the auto exposure required. 1/60 sec or faster and f 4 or smaller, is a good minimum to allow reasonably sharp exposures. Increase the ISO setting if there is not enough light to support an exposure like this.
3. Use a lens of at least 70mm focal length
4. If you have an external plug in flash unit set the mode to ETTL (through the lens exposure).
5. Take a test shot of a typical subject and use this to set flash exposure compensation if needed.
6. Turn on Red Eye compensation if your camera allows this.
7. Shoot your pictures

Comments

The Av setting doesn't suit this type of photography particularly if the light is weak.

The Tv setting works well if you want to limit depth of focus to blur background detail.

If you decide to use the Manual mode, choose an exposure setting that will render the subject as brightly as possible in the ambient conditions. If this is an under exposure the flash will do the rest but your choice of exposure will determine how dark the background will be. This can be a useful way to suppress background distractions while preventing the background from going completely black.

For **Fill in flash work in good light**, outdoors in sunlight or with back light, try the following.

1. Use P, Av or Tv modes but check apertures and shutter speeds for suitability.
2. Use flash exposure compensation to reduce flash exposure by about 1 stop.
3. Shoot your pictures

Comments

If you have very light subject matter, you may wish to increase overall exposure by perhaps 1½ stops. You may need to adjust flash exposure compensation to correct the balance between bright and shaded areas. Take a test shot to get this right. This is a typical requirement for shooting light skinned children in sunlit conditions.