Using Electronic Flash With Digital Cameras

A Comprehensive User's Guide

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Flash is an essential accessory for any type of photography that requires a high level of lighting either to provide sufficient light to give us the correct exposure, enough light to allow us to use smaller apertures to get increased depth of field or to freeze action in our subject.

Having an independent light source allows us to operate in difficult situations and achieve results that would be impossible in natural light.

Flash arrests subject movement and permits us to use smaller apertures, and, combining this with low ISO settings for maximum image quality and saturation.

Flash also adds tonal contrast to the image and additional sparkle in poor lighting conditions.

When it comes to macro photography involving plants and insects it gives us the freedom to operate tripod free allowing us to track our subject or achieve the composition we want.

Learning how to use and control flash is absolutely essential if you are to progress using this light source in your photography.

Obtaining consistent and predictable exposures, using flash, is one of the most common problems faced by newcomers and can be thing that prevents most users from adopting flash as a primary light source.
To become totally proficient using flash as a light source you need to understand how light works and its effect on the subject.

Learning the situations where flash will be helpful to your image will definitely improve your photography.

Flash has a few minor problems to overcome – harsh shadows and black backgrounds are two areas, which cause quite a lot of concern to new users. Other criticisms levelled at flash in the past have been the manual calculations involved in obtaining the correct exposure and the unpredictability of the results. This hit-or-miss approach has been the major frustration for a lot of photographers.

Modern cameras have higher levels of sophistication and have come a long way to take out the calculations needed when using flash.

Most digital cameras now support TTL (through the lens) flash metering to some degree or other.

TTL flash works by monitoring the light reaching the sensor and the quenching the flash when the exposure is correct. This sounds like an ideal solution to the problem of flash exposure however TTL exposure for flash is just like exposure for conventional images – there are situations where it can be fooled.

If your subject is bright, or darker, than a typical mid – tone subject then you will still need to use some form of exposure compensation in order to achieve the correct exposure for that scene.

Again an understanding the metering modes of the camera will pay dividends in getting the correct exposure. Centre weighted or spot metering may help depending upon the subject and its size in relation to the background.

When using a manual flash unit outdoors the quoted guide number (that's the number by which aperture and distance when multiplied together give for a quoted ISO {usually 100}) no longer applies as there are usually no reflective surfaces to bounce back the light onto the subject. Consequently the exposure will be underexposed.
If you are also going to be using a diffuser to soften the light than this will also reduce the flash power reaching the subject.

If your main interest is using flash outdoors, for wedding photography for example, you may find it

prudent to purchase a more powerful flash unit to overcome these limitations.

Type of Light Source

1. Full Flash.

We normally refer to full flash when the flash unit is the principal or only light source for the image – it totally controls the exposure.

It is usually essential when working at high exposures or trying to capture small and active subjects, such as insects.

One negative consequence of using this method of flash lighting is that it usually produces black backgrounds and harsh shadows when used with small apertures. When used in bright sunlight the sun might be considered as a fill in light source to prevent these two conditions spoiling your image.

It's not usually advisable to use the pop up flash of the camera or use a hot shoe mounted flashgun as more often than not the extended lens, or lens hood, may cause shadowing on the lower portion of your image. It also produces very flat and uninteresting lighting.

If no other option exists but to use the pop up flash head or hot shoe mounted flash unit then it is better to add some form of diffuser to the flash to increase the size of the apparent light source. A larger light source provides a softer light. A simple hot shoe mounted diffuser is shown in figure 1.

Figure 1

It is far better to use either a TTL compatible extension cable and TTL compatible flash unit, as shown in figure 2, or if your camera supports it a wireless TTL flash unit controlled by the pop up flash head which acts as the master controller for the flash unit.

Figure 2

If you are using this arrangement it is often better to have the flash unit mounted on an "L" shaped bracket which positions the flash unit above and to the left of the camera. This provides consistent light placement and lighting direction.

2. Fill In Flash.

Fill in flash is when you photograph a subject using daylight or artificial light as the principal light source and then add some degree of flash exposure to it.

The flash is there to provide sufficient light to either lower the contrast if the principal light source is providing backlight or add some extra sparkle on a dull day.

One important point to remember here is that you are not using the flash to arrest subject motion but just to add supplementary light to brighten shadows and lower contrast in the image.

The ratio of light to dark areas "the lighting ratio" is usually kept to about 1 – 1 $^{2/3}$ f-stops or simply stated the shadows are about 2 – 3 times darker than the principally lit areas.

Remember this fill in flash cannot arrest subject motion so any subject motion needs to be controlled somehow (shooting on a still day rather than breezy

or using mechanical restraints on flower stems for example) in order to capture sharp images.

In the above image the ambient light source and the fill in flash (using a diffuser) are balanced.

Practical Application of Flash Photography.

In the case of the Panasonic Lumix Bridge cameras the pop up flash provides only a direct on axis light

source, and, unlike the later FZ1000 model cannot be used as a remote commander to control other external flash units either singularly, or in groups.

The internal flash is essentially TTL controlled, the camera controlling the duration of the flash pulse by monitoring the light being received back on the sensor.

If, as in the case of normal exposures, the metering is "fooled" by the subject or background intensity the flash can be adjusted with the flash power compensation setting.

This is found in the REC set-up menu on page 5 (if you are in a non- iA mode)

Adjusting the power output of the flash setting.

The flash power can be increased or reduced by the equivalent of 2 complete f-stops. This iA a handy feature if you find the flash is consistently causing blown out or dark images.

When using the internal flash white balance is automatically set to the Flash setting however if you find the images are too cold you can change the white balance operating point for the flash setting to make it warmer.
You will find the white balance fine control point adjustment in the second page of the white balance setting tool.

Moving the operating point along the "A " (yellow) - "B" (blue axis) towards "A" changes the warmth of the image, up and down affects green/magenta.

You can place the control points in any position between axis to change the overall colour of the change applied. For example placing the control in the lower left quadrant adds yellow and magenta which results in a red colour tint applied to the image.

Flash Modes in PASM operation

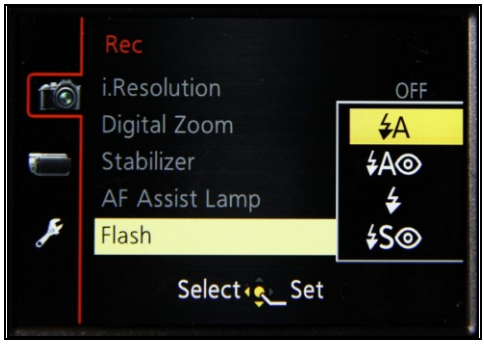
When using the pop up flash with this camera unlike some DSLR or compact system cameras that automatically raise the flash head when flash is thought required by the camera the FZ200 does not. In all modes it is essential to remove the lens hood to prevent shadowing on the image.

In some situations in the iA modes it will display a message saying "raise the flash head" however there doesn't appear to be much logic behind this and sometimes it doesn't show this even in total darkness!

If you decide you are going to use flash then you manually raise the flash head by releasing the lock switch on the side of the flash unit.
You have four modes of flash operation you can select

Fully Auto
Fully Auto with Red Eye Reduction
Forced Flash
Slo Synch Shutter Mode

Fully Auto Mode



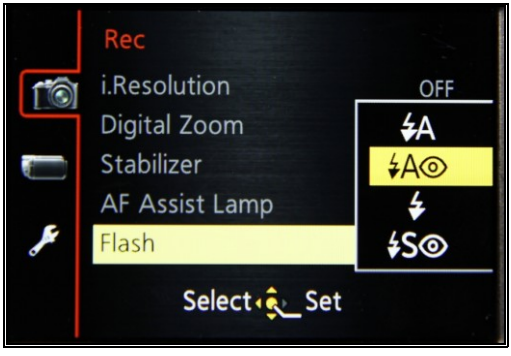
In this mode the camera determines if the flash is required (based upon ambient light) for the exposure, and, if it does so controls the amount of light required by monitoring the light captured by the sensor in a short pre-flash burst of light prior to the main exposure. It then adjusts the main flash pulse duration to control the exposure.

Close up flash will have a very short duration compared to subjects further away requiring a longer pulse of light to build the exposure.

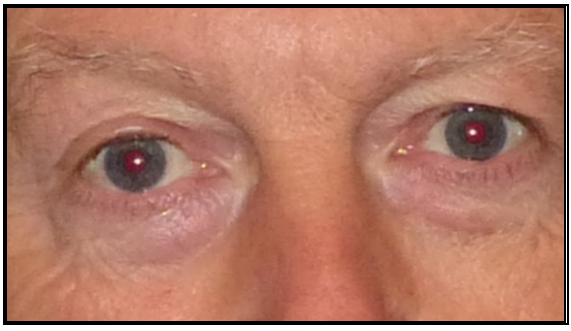
If the resulting images are dark or light then as mentioned previously the power can be adjusted via the flash exposure compensation menu.

Flash power adjustment menu

Fully Auto Mode with Red Eye Reduction



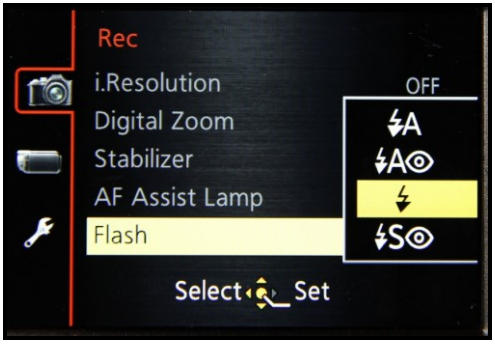
When selecting this mode the camera will fire a long pre-flash burst of light before the actual main exposure in attempt to force the subjects who are looking towards the camera to slightly close the pupils in their eyes. This reduces the likelihood of the flash of the main exposure being reflected into the camera from the back of the retina where it would take on the red appearance from the blood vessels at the back of the eye.



Flash exposure without red eye reduction

Exposure determination remains the same as with the fully auto mode method.

Forced Flash



With forced flash set on the camera will fire the flash with every exposure irrespective of the ambient lighting conditions. This is useful if you are using the flash for fill in flash exposures where in the auto modes the flash would probably not fire in bright ambient light conditions. Again flash power can be set with the Flash Power adjustment menu.

Slow Sync Mode with Red Eye Reduction

(*not available if using Shutter Priority Mode*)

In this mode the shutter speed is set to a longer exposure time thus allowing more of the ambient light to affect the final exposure. It is useful for recording brighter background in your images rather than have the usual dark/black background we normally associate with flash pictures, especially outdoors. Again red eye reduction is employed during this exposure sequence.

Flash Distance and Shutter Speed Synchronisation

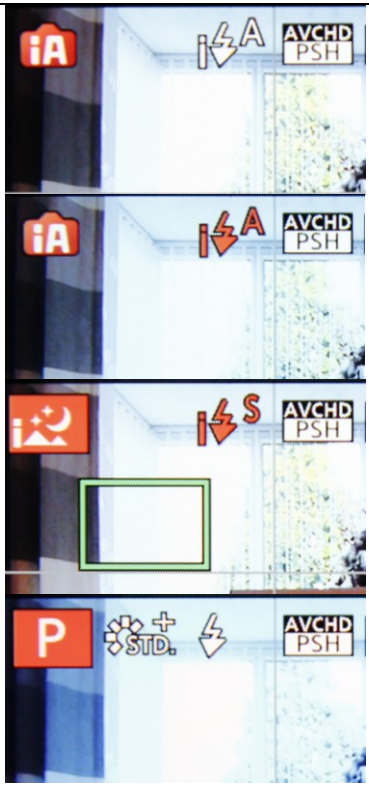
The range of the flash is really determined by the ISO of the camera. If you are using iISO or Auto ISO the range will be from the closest focus of the lens at its current zoom position (30cms or 1 foot at wide setting to 13.5m 44 feet at tele position).

Unlike DSLR cameras with FP (focal plane) shutter mechanisms the FZ200 which does not have such a shutter mechanism will synchronise flash across its

entire shutter speed range of 1 second to 1/4000 second (in slow sync mode) or 1/60 to 1/4000 in all other modes. This makes it useful if you want to use high-speed synchronisation when using external flash units with high ambient lighting conditions.

Understanding the Flash Icons on the display

To indicate the flash mode, and its charging status, the icon will on the display to give this indication

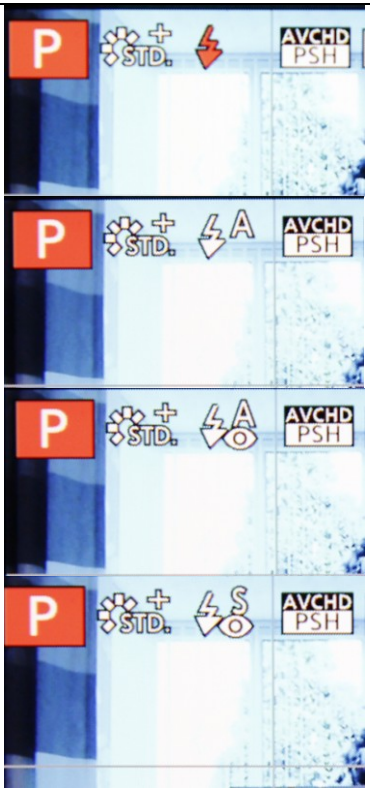


Intelligent flash in the Fully Auto iA mode

Intelligent flash in the Fully Auto iA mode – Charging state

Intelligent flash in the Fully Auto iA mode with slow sync shutter

Normal Flash enabled



Flash charging

Fully auto flash

Fully auto flash with red eye reduction

Slo Sync mode with red eye reduction

Using External Flash Units

The use of external flash units with the camera really opens up the possibilities for much more creative flash photography and I will be covering this in greater detail in another section.

Basically though the camera can control an external flash unit which is inserted into the hot shoe of the camera, or connected via a fully ttl compatible extension cable from the flash unit to the hot shoe of

the camera. It does this by a communication link through the hot shoe to the flash unit to control things like the position of the zoom head (if the unit has an auto zoom) and the value of the camera aperture setting if the flash gun is not used in the ttl mode.

TTL compatible flashgun inserted in the hot shoe

TTL flash gun in TTL mode on the hot shoe

Alternatively the flash can be triggered using a wireless flash transmitter and receiver system. However this does not provide ttl control so the flash unit has to be operated in a manual mode (or local auto mode of the unit)

The wireless trigger and receiver on the flash unit

Manual Only Flash Units

Some, older, flash units can be used as external flash units either hot shoe, cable or wireless triggered.

Manual Flash Unit

To use these units requires the understanding of how the "Guide Number" of the flash unit relates to exposure if you are to get exposures correct in the first instance rather than repeatedly testing.

If the manual unit is to be attached to the camera, either directly or via an extension cable it is imperative to check the polarity and voltage of the trigger connection of the flash unit.

Measuring the trigger voltage

This can be done using an electronic multimeter to measure the voltage between the centre pin and the hot shoe connection. With the positive (red) lead of the multimeter on the centre pin of the flash unit and the negative (black) lead on the connection which contacts the hotshoe outside connection if the voltage reads 12 volts DC or less then it is safe to use this unit with digital cameras. If this trigger voltage is much higher (some older units can reach over 300 volts) then it is unwise to connect this unit to the

camera. The one shown has a trigger voltage of 180v and is unsafe to use.
Some of the wireless transmitter/receiver units can tolerate this trigger voltage however it is best to consult the units manual to determine the maximum trigger voltage the unit can withstand.

To determine the aperture to use when using one of these manual only flash units we need to know the "Guide Number" of the unit and the ISO to which this guide number refers.
For example for the flash unit shown previously the guide number is 80 feet (24 metres) at ISO 100

ISO/ Feet	**5**	**7**	**10**	**20**
25	8	5.6	4	2.0
50	11	8	5.6	2.8
100	16	11	8	4
200	22	16	11	5.6

In the above table the required aperture is determined by ISO the camera is set to and then reading the value from the distance to the subject.

For example if the camera is set to ISO 200 and the distance from the flash to the subject is 7 feet then the correct exposure would be given using an aperture of f16.

Using Semi-Automatic Flash Units

When flash units started to become more popular more electronics found their way into them. One of

the most useful additions was the use of a photocell to measure the reflected light coming back from the subject and use this to extinguish the flash at that point. Early units did this by quenching the charge by "dumping" it into a resistor however this was inefficient, as the unused voltage had to be wasted. Later versions used in line transistors which effectively disconnected the voltage from the flash tube once enough light had been emitted.
This had the tremendous advantage that power was not wasted and the flash unit only had to recharge from the residual voltage back up to the normal working voltage.

Thus we had faster recycle times with longer battery life. Some units have sliding mechanisms with various neutral density filters or varying sizes of holes to change the "aperture" value. These flash units became far more controllable and gained popularity.

Semi Automatic Flash with 2 aperture settings

Fully Automatic TTL units

The latest generation of flash units supports a lot more features and improves on the semi-automatic models.

Fully Automatic TTL Flash Unit

Most support TTL either via the hotshoe interface or some have a wireless communication using the pop up flash of the camera to act as the "commander" to control the slave flash unit. Most will now feature bounce and swivel head movement to allow better control of bounced light.
The FZ200 can only support the TTL mode when these units are directly connected or connected via an extension cable to the hot shoe. These TTL units cannot be controlled wirelessly as the FZ200 doesn't feature a flash commander mode. Most will be able to be triggered using the pop up flash and can be set to a semi automatic mode for exposure.

Adding a touch of flash to ambient light

With a bit of thought, and understanding of some basic techniques, using flash need not look unnatural, nor spoil the quality of the ambient light.

For those who don't like using flash and prefer ambient light only, quite often flash can help to augment the available light.

It can do this without appearing to look like flash at all. It just looks like great natural looking light. It can add just a sparkle to the eyes in the form of a catchlight which immediately grabs our attention.

Adding a touch of fill flash to add eye catchlight

When using flash outdoors, we quite often just do exactly that – we use flash to augment the available

light, rather than flash being our primary source of light.

The basic technique here is that we let the camera meter for the ambient light and then either:

1) Make sure our ambient exposure is correct, and then we could use the flashlight to lift the shadow areas and lower the contrast –this is essentially fill-flash. The flash isn't used as the main source of light; it just helps control the contrast of the image.

2) We under-expose the available light to some degree by using –EV dialled in and then use the flash make up the difference to give us the correct exposure.

This helps to make our subject stand out against a darker background.

Underexposing the background with –EV compensation

Flash exposure compensation

Before continuing on and discussing flash exposure compensation, which is primarily used to control the flash output power, it is worth spending a moment considering the two options for controlling exposure compensation within the camera:

1). Exposure compensation is used with the automatic shooting modes of P, A and S.

and

2.) Flash exposure compensation

Setting flash exposure compensation affects the flash output only. Ambient exposure is unaffected.

This can be set on the external flash unit flashgun itself or used to control the popup flash on the camera.

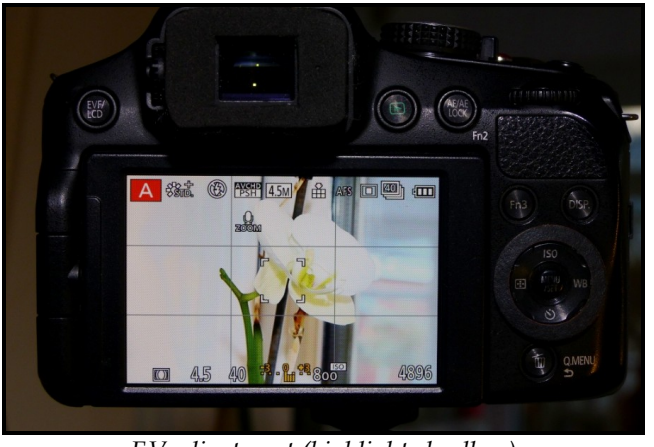
Flash exposure compensation is used to compensate for the flash output when the flash is used in Auto or TTL mode.

It obviously can't be set when the flash is used in manual output.

With manual flash, you'd just be dialling the actual power output level up or down.

1.) Exposure compensation

I know many new photographers have trouble understanding the concept of using exposure compensation when the scene or subject is light in tone, and conversely decreasing exposure compensation when the scene or subject is darker in tone. It does seem counterintuitive.



EV adjustment (highlighted yellow)

The reason for doing so, is that your camera's meter is designed to expose for everything as a middle grey tone and will compensate for these light and dark subjects.

If you are using one of the semi-automatic modes (P, A or S) the camera will expose for any light toned subject so as to make it look like average or mid grey.

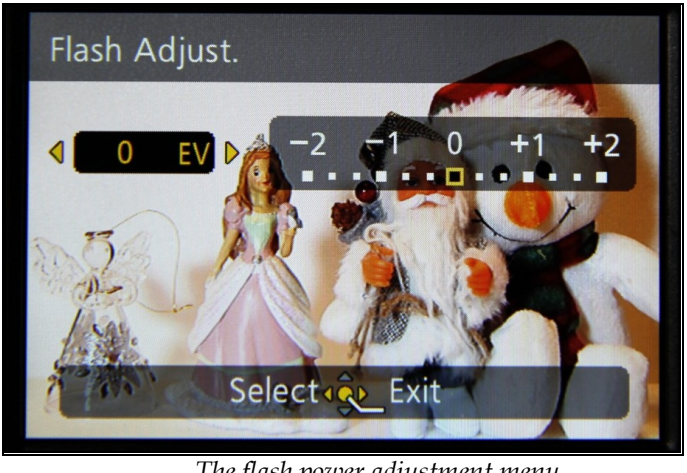
As an example someone in a white shirt against standing against a white wall, will appear under-exposed. In this situation you need to increase the exposure compensation to prevent the under exposure.

The same logic holds true for darker subjects or scenes.
Someone in a dark suit against a dark wall, will have overexposed, or light, skin tones as the camera tries to make the dark subject again a mid grey.

2.) Flash exposure compensation

There are two scenarios to consider when we think about how flash exposure compensation works:

One is when the flash is merely used as fill in flash and the other when the flash is the principal or main light source.



The flash power adjustment menu

There are probably many situations which fall somewhere in-between these, however having a good understanding of these two situations, will give a better sense of what flash exposure compensation does.

When using fill in flash (TTL or Auto flash), you will most likely dial down your flash exposure compensation to output just a tiny bit of fill light. So in this case, your flash exposure compensation will be dialled down to around -1 to -3 EV.

However when your flash is the main source of light, you will probably be setting your flash exposure compensation to around 0EV to +1 EV depending on the lightness/darkness of your subject and scene.

Factors that affect flash exposure compensation

There are a number of controlling factors which would affect how your camera meters TTL flash, and would therefore affect how much flash exposure compensation that you will need to dial in. These are:

- The reflectance of your subject
- The ratio of subject to background size
- how far the subject is from the background
- whether the subject is off-centre or centred in the frame
- the amount of ambient light

- Whether the subject is backlit – (strong backlighting always require a lot more flash exposure compensation).

This might seem quite daunting at first however experience gained by trial and error will soon help you to better understand where and when to use flash exposure compensation.

Manual Flash

To obtain the correct flash exposure, we need to understand how the four primary factors will affect it:

- Lens aperture
- The camera sensitivity ISO
- The distance from the flash to subject
- The flash output power

Of these two are directly related to the camera and two related to the actual flash unit itself.

As we have seen before, especially shooting outdoors, it is best to have a reasonable level of ambient light in the scene so that the background does not become dark if we expose only for the flash element of the exposure. This will be controlled using the camera controls of aperture and ISO setting and to a degree the shutter speed we select for the flash synchronisation.

When we use manual flash the only way we can control the influence of this light on the subject is to

either change the output power (if the unit has a variable output setting facility) and/or change the distance from the flash to the subject.

Remembering the rule of the Inverse Square Law which affects how light intensity varies as the square of the distance then as we move the light source from its current position to one which is half way to the subject then the resulting light intensity on the subject will be 4 times as bright allowing us to stop down our exposure by 2 full f-stops. The converse is also true if you double the distance the light intensity falls off by 2 complete f-stops.

With manual flash there is a lot of trial and error involved to get the exposure correct or the balance between ambient light and flashlight correct.

You can use a dedicated ambient/flash light meter such as the Sekonic L308 to assist you in getting it right.

The Sekonic L308S light meter for Flash and ambient metering.

By using such a light meter it is possible to accurately assess the lighting ratio of the flash to ambient and hence allow you to adjust the flash power and/or distance to get this as you require it for your image.

TTL (Auto) Flash

Another way to control the amount of flash exposure is to use an automatically controlled burst of light.

This flash output could either be controlled by the flashgun itself (usually referred to as Auto mode), or by the camera in conjunction with the camera's metering system (usually referred to TTL flash).

When the flash is controlled by the camera it monitors the light being received at the sensor and then it "quenches" the light when there has been sufficient to produce enough exposure. Alternatively some systems use a "pre-flash" burst of light so that the camera can calculate the length of flash pulse to correctly expose the subject.

This process, called TTL stands for Through-The-Lens, provides the most accurate way of controlling exposure when coupled with the use of the Flash Power EV adjustment to account for the differences in subject tonality.

Auto flash is generally controlled by the flash unit itself. Again there is a photoelectric sensor which

monitors the intensity of the light being reflected back from the subject so for simplicity I will make no distinction between Auto flash and TTL flash.

When using TTL flash (which is the case with the pop up flash of the FZ200), the flash output power (effectively the flash duration) is varied and controlled by the camera's metering system.
This means that within a certain range, our selected aperture or ISO sensitivity value, or the distance from the flash to the subject does not influence our TTL flash exposure.

The previous statement is paramount to understanding the use of TTL flash, especially outdoors.

I repeat the statement again, as it is so important to understand this point.

When using TTL flash, either on or off camera, our selected aperture or ISO sensitivity setting does not affect our exposure – and in some respects becomes transparent to our exposure metering.

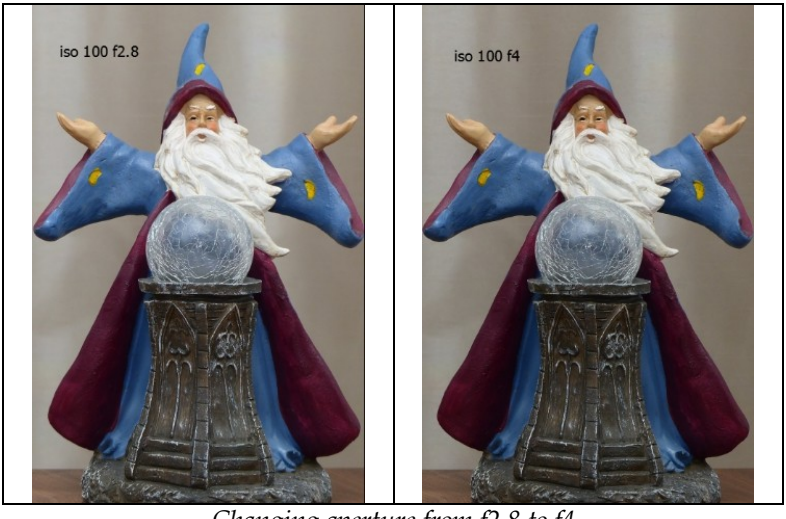
The camera and flash unit work together in calculating the correct flash exposure by increasing or decreasing the output (duration) from the flash.

What does affect our exposure, is the reflectivity/tonality of our subject, and how large the subject is to the rest of the background when viewed in the camera frame.

So in summary: Aperture setting and ISO do not control flash exposure when we use TTL.
The camera in its communication with the flash unit via the hot shoe, extension cord or commander/slave function will cause it to increase or decrease the output power (duration of pulse) as the camera deems necessary for correct exposure.

This is probably something that is difficult to comprehend at first, however you can easily verify this for yourself.

A home, you can photograph any subject using a TTL capable flashgun and check the results



Changing aperture from f2.8 to f4

In the above images I changed the aperture to 1 f-stop smaller and the camera instructed the flash to increase the flash duration to compensate.

Changing ISO by 3 f-stops

In the above image I changed the ISO to 800 (an increase of 3 f-stops) and the camera shortened the flash duration to compensate and produce the same exposure.

Comparing these sets of results to the two things that affect manual flash, you'll notice that none of these aperture or ISO setting seems to have an effect on our TTL flash exposure.
This will be consistent providing the electronics of the flash unit can accommodate the requested output from the camera. If the flash is already firing at maximum power then it cannot respond to a command for more power, Similarly if the flash is working at its shortest pulse duration (minimum power effectively) it cannot reduce the power level anymore if requested to.

Flash Sync Speed

With DSLR and focal plane shutters in cameras flash synchronisation speed is a real issue when trying to use the flash unit outdoors as the maximum shutter speed is often limited to 1/25 or 1/250 second with these cameras. The FZ200 doesn't have this type of shutter and you can synchronise flash at any of the shutter speeds available to you.

This makes setting up for balanced daylight and fill flash far easier as we don' t have to consider what shutter speed the camera will be selecting when taking the exposure. We don't for example have to resort to adding ND filters to get wide aperture and short shutter speeds, we can use f2.8 at whatever speed the camera selects and the flash will always synchronise and give a uniform exposure over the entire frame.

Putting It Altogether, Outdoor Flash

Looking first at manual flash – we have 4 controls: – Aperture, ISO Setting, Flash to Subject Distance, Flash Power.
The closer you move your manual flash to your subject, the brighter the light reaching the subject would be, and hence it would affect your exposure. Similarly, it should already make sense that if we increase or decrease the power setting on our manual flash, this too would affect your exposure.

Now, considering the controls available to adjust exposure between ambient exposure, and manual flash exposure, we can see that there are two common controls – aperture and ISO. This means that the shutter speed becomes the independent control for available light exposure. So when we balance manual flash to ambient light, it makes most sense to start by adjusting the shutter speed, since adjusting the aperture or ISO in an attempt to change the ambient exposure, will also affect the manual flash exposure.

This is a crucial concept then for manual flash exposures – within a certain range, shutter speed has no effect on flash exposure. This is shown in the three images below. The manual flash power, flash distance, ISO and aperture were all held constant with just the independent shutter speed being adjusted for each image. You will see the exposure for the subject (which is primarily lit by the flash) stays constant whilst the background lit by ambient light gets brighter as the shutter speed is reduced thus allowing more of this to affect the final exposure.

1/160 @ f13

1/50 @ f13

1/13 @ f13

This key will allow us to better mix flash with available light – by controlling the shutter speed. The simple reason why shutter speed doesn't affect our manual flash exposure, is that flash exposure is a pulse (or pulses) of light, and ambient light is continuous. You just need the entire image on the sensor be lit by the burst of light from your flash and, as we have seen, the FZ200 doesn't suffer from high speed shutter synchronisation problems.

Now let's turn our attention to TTL Flash.
TTL flash is totally different than manual flash whwn it comes to balancing ambient and flashlight. With manual flash you had the 4 controls for flash exposure – Aperture, ISO, Flash to Subject Distance and the Flash Power. With TTL flash however, none of those have an appreciable influence on the flash exposure. Your camera - flash setup will follow our chosen aperture and iso combination and will adjust any change in the distance to the subject, and give you what it deems to be correct exposure, by adjusting the output (power) from your flashgun.

This means that we can now use Aperture and ISO and Shutter Speed – all three controls – to control available light, without having an affect on our flash exposure. (up to the limit of the output power from your flash gun)

With manual flash, if you decided to change any of your settings (aperture, ISO, distance or power), you would have had to change something else to still keep correct exposure.

For example, if you were shooting at f6.3 and wanted f2.8 for shallower depth of field, you would have to change one or more of the other settings to maintain correct exposure for manual flash. But if you changed your aperture, this would then affect ambient exposure too, and you would have to adjust the shutter speed and/or ISO accordingly.

So with manual flash, making any changesto any of the 4 controls settings, will have a consequential effect and you would have to adjust something else again.

However with TTL flash if you decided to change your aperture to control your available light then your TTL flash exposure will remain the same since your camera and flash would still give you the correct exposure. The same goes for ISO and distance. These settings in effect become transparent to TTL flash exposure.

With manual flash, shutter speed was the only independent control for your available light, and you would change the shutter speed to allow more available light in.

With TTL flash, you could change your ISO and aperture or shutter speed as your control to adjust the available light exposure.

You would have to adjust your flash exposure compensation then to adjust your TTL flash exposure.

So now with TTL flash, if you wanted the same effect – allowing more available light in – you need not resort to a slower shutter speed, or you could change your aperture setting or ISO to allow ambient light to affect that part of the exposure more.