

The slide features a decorative arrangement of seven circles. Three circles are positioned in a top row, and four circles are in a bottom row. The top row consists of a white circle with a light purple outline on the left, and two solid light purple circles on the right. The bottom row consists of two solid light purple circles on the left and one white circle with a light purple outline on the right. The text 'On Camera Flash' is centered horizontally across the top row of circles, and 'Daniel Foley' is centered horizontally across the bottom row of circles.

On Camera Flash

Daniel Foley



Topics

- How does E-TTL Flash Work?
- General Flash Points
- E-TTL Flash and different Program Modes
- Flash Techniques
- Diffuser Options
- Get the most out of E-TTL
- How I approach Flash
- Let's Practice

How does E-TTL Flash Work?

1. When the shutter release is pressed halfway the current ambient light levels are metered by the camera as usual.
2. When the shutter release is pressed all the way the flash unit immediately fires a low-power pre-flash from the main flash tube.
3. The reflected light from this pre-flash is analyzed by the same evaluative metering system that the camera uses for metering ambient light levels.
 - I. The appropriate power output (i.e. flash duration) of the flash is determined and stored in memory.
 - II. The entire sensor area is evaluated and compared to the ambient metering, and the area around the active focus point is emphasized.

E-TTL Flash (continu'd)



4. If the photo is being taken under bright lighting conditions, auto fill reduction is applied and the flash output is decreased by anywhere from 0.5 to 2 stops.
5. The mirror flips up and the shutter opens, exposing the film - or sensor chip if it's a digital camera.
6. The flash tube is then fired at the previously determined power level to illuminate the scene.
7. The shutter stays open for the full duration of the shutter speed time.
8. The mirror flips down and the shutter closes.
 - I. If the flash unit has a **flash exposure confirmation** light and if the flash metering was deemed adequate then the light glows.

General Flash Points

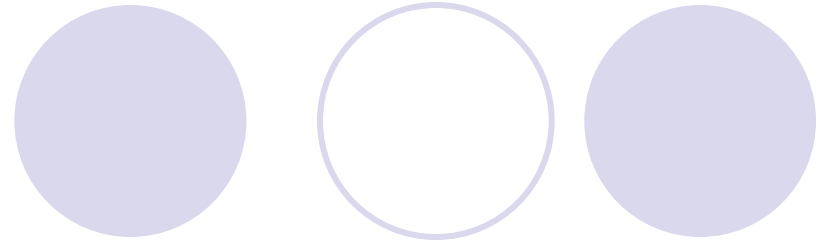


- The goal is to shoot an image within 1/10 or maybe 2/10 of an F stop away from their ideal exposure
- Raw files can be overexposed by anywhere from 1 to 3 stops and underexposed by 2 to 5 stops
- While the duration of the flash is extremely brief (usually measured in thousandths of a second):
 - the burst of light must occur when the shutter is fully open, otherwise the shutter curtain may obscure part of the image.
 - This timing between electronic flash and shutter is called **Flash Synchronization** or **X Sync**.
- There is no 1 perfect setting for a camera

E-TTL Flash and different Program Modes

- **P (program)** mode keeps the shutter speed between 1/60 sec and the maximum flash sync speed your camera can handle. It does this so that you shouldn't need a tripod, even if light levels are low. It then tries to illuminate the foreground using flash.
 - Program Mode is the least accurate way to control exposures.
- **Av (aperture priority)** and **Tv (shutter speed priority)** modes set the shutter speed or aperture to expose for the existing light conditions correctly. They then fill in the foreground using flash. If light levels are low you will need a tripod to avoid blur.
- **M (manual exposure)** mode lets you set both aperture and shutter speed to be whatever you want. The camera then automatically controls the illumination of the foreground subject using flash.

Flash Techniques



- Direct Flash
 - Harsh light quality not very appealing
 - Shine on skin looks very poor
 - Nasty shadows
 - Eye-glass glare
- Diffused and Direct
 - Positives
 - Larger and softer so lower contrast
 - Negatives
 - Eye-glass glare
 - Shadows can still be evident

Flash Techniques (Continu'd)

- Bounce Flash

- Positives

- Smoother light and very appealing
- Holds highlight detail on skin
- Significantly reduced shadow
- Eliminates eye-glass glare

- Negatives

- Can be difficult to control:
 - Ceiling height and ceiling colour
 - The taller the ceiling, the more flash power
- Uses a lot of battery power
- Doesn't work outside

Diffuser Options

- Lumiquest MIDIBOUNCER
 - Increases Size of Flash by 600%
 - Consumes approx 1 ½ stops of light
 - Nice quality from 4 feet to 12 feet
- Lumiquest BIG BOUNCE
 - Increases Size of Flash by 1400%
 - Consumes approx 3 stops of flash power (battery)
 - Bulky
 - Can still cause shadows behind the subject
- Gary Fong Lightsphere
 - Regarded by most to be the best diffuser system “by far”



Get the most out of E-TTL

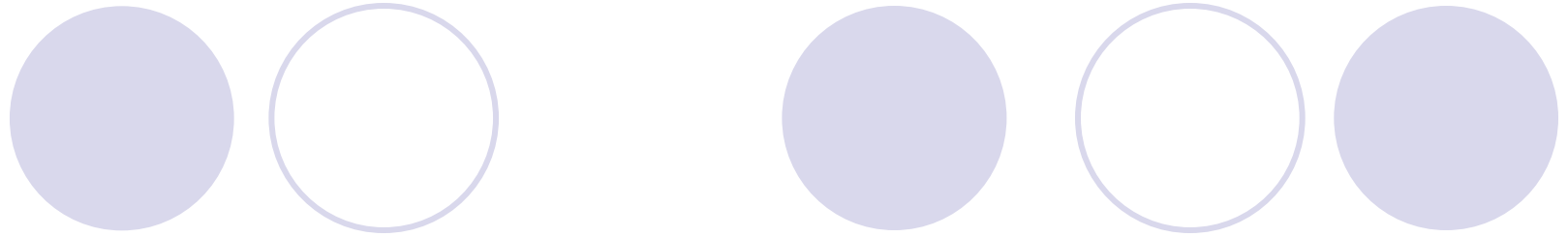
- Know the TTL system and know where to compensate.
 - If a room is dark and has 12ft tall ceilings:
 - Add 1/3 or 2/3 stop more light on the Flash unit
 - Perform a test shot to make sure
- General Recommendations:
 - Shoot with the latest technology
 - No direct flash and diffuse everything
 - F5.6 and greater is trouble
 - Don't be afraid of F2.8
 - Focusing is crucial
 - TTL exposure info based on point of focus
 - Camera single focus and matrix metering
 - If difficult back lighting, centre weighted
 - For outdoors use ISO of less than 400
 - For indoors use 400 and higher
 - Learn how to focus and exposure lock



How I approach Flash



- E-TTL
- Gary Fong Lightsphere
 - Direct when outdoors or in open space
 - Bounced when indoors
 - with cap if low ceiling
 - No cap and extra power if high ceiling
- Always conscious of what the camera is seeing (in terms of E-TTL):
 - Black suit, white face
 - White dress, white face
 - Significant backlighting
- FEL (Flash Exposure Lock) in difficult lighting conditions



**Let's
Practice!**