

Using External Flash



by Clem Wehner

Types of Flash

Pop-up Flash



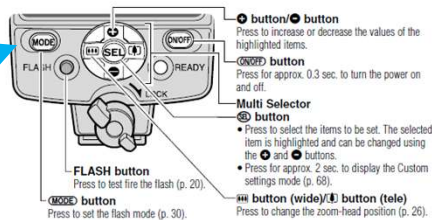
External Flash



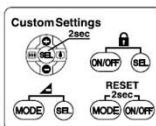


Most Important Button

“MODE”



 + 	Recalling the underexposure value in the TTL auto flash mode Press the  and  buttons simultaneously to recall the underexposure value (p. 33).
 + 	Resetting the settings Press the  and  buttons simultaneously for approx. 2 sec. to reset all settings, including the custom settings (except the distance unit selected in m/ft) to their default values.
 + 	Button lock Press the  and  buttons simultaneously to lock the functions of the controls buttons (except the , Mode illuminator, and FLASH buttons) to avoid accidental malfunction. Press the buttons again to release the lock.



Control button quick reference
Procedures for Custom settings, recalling the underexposure value in the TTL auto flash mode, resetting all settings to their default values, and the button lock are shown in the Control button quick reference chart on the back of the built-in bounce card.

FLASH MODES

1980s

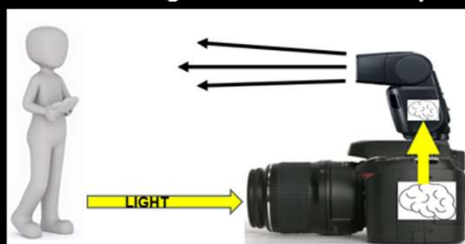


M (manual mode) Photographer measures the scene light, and sets the flash power level.

A (auto mode)- The flash measures the scene light, and sets itself.

1980s**1990s**

TTL (Thru The Lens metering)- The camera measures the light and sets the flash power.

**A** (auto mode)**A****M** (manual mode)**M****1980s****1990s****2000s**

ETTL
Evaluative
Thru
The
Lens metering

A (auto mode)**TTL**
A**TTL**
A**M** (manual mode)**M****M**

What TTL / ETTL flashes do

1. Pre-flash – fires a weak flash to test the scene
2. Camera determines the required amount of light
3. Flash fires to fully light the scene

Can I Use an “old” (1980’s) Flash on a Modern Digital Camera?



WARNING



Some old flashes have high voltages that can damage modern cameras!

What you need to know



	Compatible with CLS (CLS*) The SB-800 is connected to cameras compatible with CLS* (p. 8).
ZOOM	Power zoom function The zoom-head position is automatically adjusted to match the lens focal length (p. 26).
ZOOM AUTO	Power zoom (auto) function The zoom-head position is automatically adjusted to match the lens focal length when the SB-800 is used with COOLPIX cameras compatible with i-TTL (p. 26).
M ZOOM	Manual zoom-head position setting You can adjust the zoom-head position manually (p. 26).
M ZOOM	Canceling the power zoom function The power zoom is canceled, and the zoom-head position can only be adjusted manually (p. 26).
	Zoom-head position setting if the built-in wide-flash adapter is broken off accidentally The zoom-head position can be adjusted if the built-in wide-flash adapter is broken off accidentally (p. 117).
ISO	ISO sensitivity Represents the ISO sensitivity value (p. 24).
EV	Flash output level compensation Represents the flash output level compensation value (p. 56).
4 EU	Underexposure Indicates the underexposure value, showing that the light might be insufficient in the TTL auto flash mode (p. 33).

STBY	Standby duration Represents the time before the standby function is activated (p. 67).
AF-ILL	The wide-area AF-assist illuminator is activated The wide-area AF-assist illuminator comes on (p. 62).
NO AF-ILL	The wide-area AF-assist illuminator is canceled The wide-area AF-assist illuminator does not come on (p. 62).
AF-ILL ONLY	Flash firing canceled The SB-800 does not fire but the wide-area AF-assist illuminator still comes on (p. 62).
	Control buttons being locked Control buttons (except the ON/OFF, Modeling illuminator and FLASH buttons) are locked (p. 12).
	Red-eye reduction Red-eye reduction control is activated (p. 58).
	LCD panel illuminator Pressing any control button turns on the LCD panel illuminator (p. 119).
0.6 2 0	Beyond the flash-shooting distance range The subject is beyond the flash shooting distance range. ◀: the closest available distance, ▶: the farthest available distance (p. 30).

What's All This?



	Monitor Preflashes Just before the flash fires, the SB-800 fires a series of imperceptible preflashes that are selected by the camera's TTL Multi-Sensor and analyzed for brightness and contrast (p. 30).
i-TTL	TTL mode Based on the exposure control information, the camera automatically controls the flash output level to give the correct exposure (p. 37).
BL	Balanced Fill-Flash This always appears together with i-TTL. Based on the exposure control information, the flash output level is automatically controlled for a well-balanced exposure of the main subject and background (p. 37).
FP	Auto FP High-Speed Sync (CLS*) The SB-800 automatically fires at faster shutter speeds exceeding the camera's sync shutter speed (p. 60).

AA	Auto Aperture flash In addition to Non-TTL auto flash (see below), the SB-800's built-in sensor correctly controls the flash output in combination with data automatically transmitted from the camera and lens to the SB-800, including the ISO sensitivity, aperture, focal length, and exposure compensation value (p. 38).
A	Non-TTL auto flash The SB-800's built-in sensor measures the flash illumination reflected back from the subject, controlling the SB-800's light output automatically to give the correct exposure (p. 40).
GN	Distance-priority manual flash Based on the ISO sensitivity value and aperture, the SB-800 controls the light output according to the distance value entered (p. 44).
M	Manual flash The flash always fires at a specified output in combination with the aperture and light output level (p. 46).
RPT	Repeating flash The SB-800 fires repeatedly during a single exposure, creating ambience/multi-exposure effects (p. 48).

MODE & BRIGHTNESS

SETTING MODE

CANON 580-EX



FLASH TEST

ON / OFF

NIKON SB-800



FLASH TEST

ON / OFF

SETTING BRIGHTNESS (POWER LEVEL)

CANON 580-EX



NIKON SB-800



HOW TO USE FLASH MODES

TTL – (Thru The Lens) or **ETTL** (Evaluative Thru The Lens)

A - Auto (automatic mode)

M - (manual mode)

USING FLASH IN TTL or ETTL MODE

Provides fully automatic flash operation
Camera & flash computers communicate
Camera must be TTL compatible with flash



1. Put the camera in any AUTO exposure mode



2. Put the flash in TTL or ETTL mode



3. Take pictures

SIMPLEST
WAY TO
USE FLASH!

**Shooting with flash in TTL mode
is SIMPLE**

**You don't have to adjust anything—
Just shoot!**

What if...

You want to adjust exposure yourself
(to get it just right)

Note: Any flash, any camera.
No need for TTL compatibility

USING FLASH IN M MANUAL EXPOSURE MODE

Flash just provides a simple burst of light
No need for TTL compatible equipment
You adjust the exposure

1. Put the camera in MANUAL (M) exposure mode



2. Set camera's f/stop- f/4 f/5.6 f/8 f/11 f/16 f/22

3. Put flash in MANUAL (M) mode



4. Set the flash power level- 1/1 1/2 1/4 1/8 1/16 1/32

5. Take a photo

6. Adjust f/stop (on camera) **OR** Flash Power for good exposure

Adjusting the Exposure

Image too bright- Increase f/stop

Image too dim- Decrease f/stop

f/stops: 2.8 4.0 5.6 8.0 11 16 22 ----->
more light in less light in

Manual mode relies on
“trial and error”
to get good exposures!

“Adjust f/stop as needed for good exposure”

Adjusting the Exposure

CAMERA- Image too bright- Increase f/stop

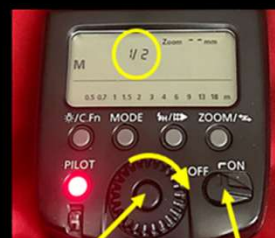
Image too dim- Decrease f/stop

f/stops: 2.8 4.0 5.6 8.0 11 16 22 ----->
more light in less light in

or

FLASH-

Decrease or Increase
power level



2 ways to determine correct f/stop

(when using Manual flash)

1. Set f/stop by **trial and error** until picture looks good.
2. Use a **light meter** to measure flash brightness, then set f/stop.



What if...

You don't have a TTL compatible camera and flash

but

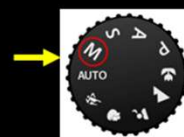
You want the flash to automatically adjust exposure

USING FLASH IN **A** (AUTOMATIC) MODE

Flash only estimates exposure- not precise
Flash does NOT communicate with camera
Any flash unit can be used with your camera



1. Put the camera in MANUAL exposure mode



2. Set desired camera's f/stop - f/4 **f/5.6** f/8 f/11 f/16 f/22

3. Put the flash in AUTO (A) mode



4. Take a photo

5. Adjust f/stop on camera as needed

Learn the range of your flash

Pop-up Flash
about 10 feet



External Flash
about 30-50 feet



Learn the range of your flash

too far



too far



**Tip: Take a photo at night
to learn the range of your flash**

Q. What about Shutter Speed?

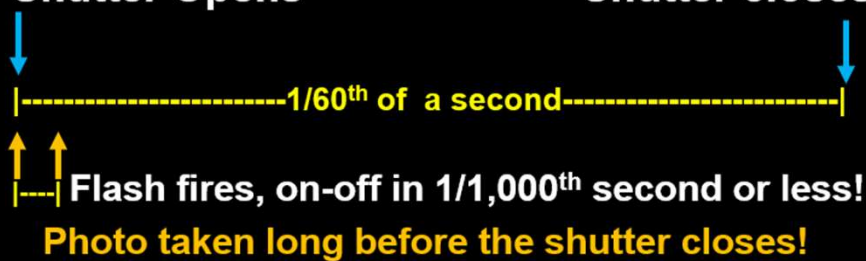
**A. Doesn't matter much with flash--
(it doesn't affect exposure)**

Why shutter speed doesn't affect exposure when using flash.

When you press the shutter button:

Shutter Opens

Shutter closes



Q. Why is part of this image black?



A. Shutter speed is set higher than the SYNC SPEED

Caution: Shutter speed must be set no higher than the camera's SYNC speed*

- Old cameras (1990s)- 1/60th second
- Newer cameras (2000s) - Usually 1/125th
- Modern cameras (2010)- 1/250th or higher
- Very modern cameras (2020)- 1/8000th or higher

***Note: see camera's instruction manual for sync speed**

When using a flash, don't set the camera's shutter speed higher than the Sync Speed of your camera



If available, use High Speed Sync (HSS) setting on your camera

*That's the basics
of using an external flash
attachment!*

Questions?

When to Use Flash

WHEN TO USE FLASH

- **AS A MAIN LIGHT:**

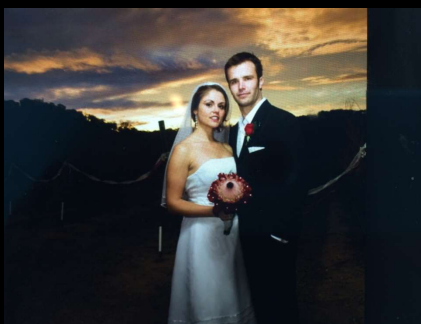
- Scene too dark

- **AS A FILL LIGHT:**

- Background too bright
- Subject in shadow
- Bright sun from above
- Bright light spots on subject
- To highlight detail

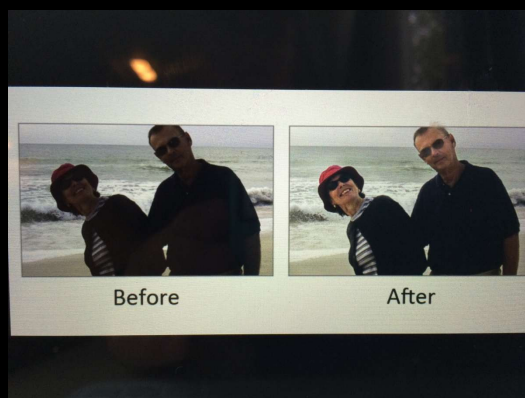
WHEN TO USE FLASH

- **As the MAIN LIGHT:**
- When scene is too dark



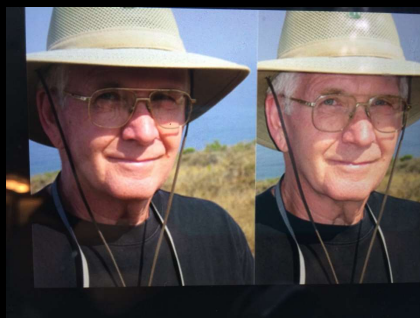
WHEN TO USE FLASH

- **As a FILL LIGHT:**
- When background is too bright



WHEN TO USE FLASH

- **As a FILL LIGHT:**
- Subject in shadow



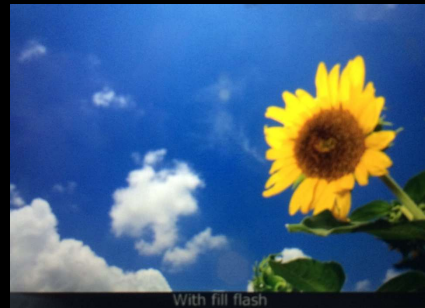
WHEN TO USE FLASH

- **As a FILL LIGHT:**
- Bright sun from above



WHEN TO USE FLASH

- **As a FILL LIGHT:**
- With bright sun from above



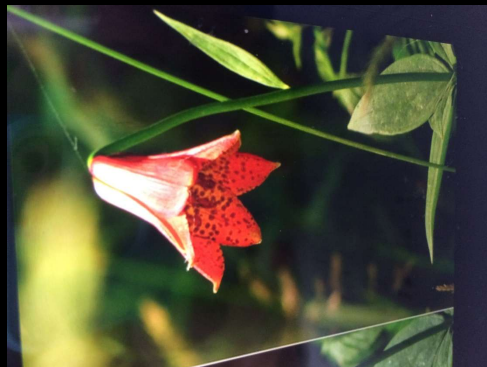
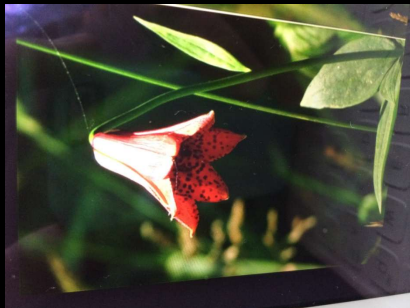
WHEN TO USE FLASH

- **As a FILL LIGHT:**
- When bright spots are on subject



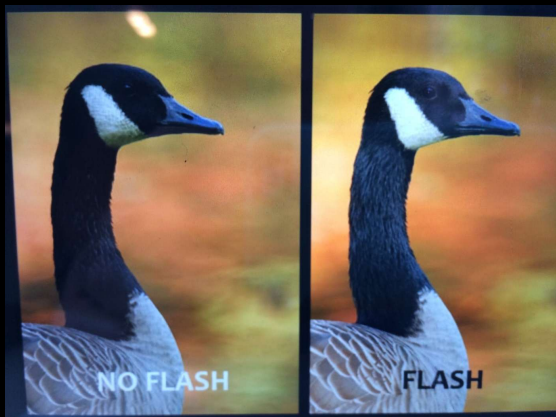
WHEN TO USE FLASH

- **As a FILL LIGHT:**
- To highlight detail



WHEN TO USE FLASH

- **As a FILL LIGHT:**
- To highlight detail on a dark subject



BUT, DON'T USE TOO MUCH FILL

(will cause subject to look overexposed)



Reducing fill flash brightness

- In **Manual flash mode**: lower flash power
-try 1/16th or less



- In **TTL/ E TTL mode**:
 - Lower flash exposure compensation value in the camera (1, 2, or 3 EVs)
 - Use bounce flash techniques:

Bounce Flash Techniques for Fill flash

- Tilt flash up or away from subject to reduce brightness



Bounce Flash Techniques for Fill flash

- Make a reflector to bounce light
(light from reflector is dimmer than direct flash)



Bounce Flash Techniques for Fill flash

- Use the catchlight panel as a reflector



Bounce Flash Techniques for Fill flash

- Use 2-finger fill flash technique



Questions?

FLASH DIFFUSION

Flash Diffusion



Glaring light
Hard shadow edge

Gentle light
Soft shadow edge

FLASH DIFFUSER – LIGHTSPHERE

(by Gary Fong)



SIZE REALLY MATTERS !

The bigger the source of light-
the softer the light

Other diffusers

. Reflector



. Softbox



. Umbrella



FLASH DIFFUSER - PACKING FOAM



Diffusers in a pinch

- Plastic cup
- Paper towel
- Toilet paper
- Thin white cloth
- Handkerchief

SUMMARY

- FLASH MODES- M, A, TTL, E TTL
- DETERMINING CORRECT EXPOSURE SETTINGS
- DIFFUSION
- SYNC SPEED
- WHEN TO USE FLASH
- FILL FLASH

QUESTIONS ?

The End