

Flash Photography



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Flash

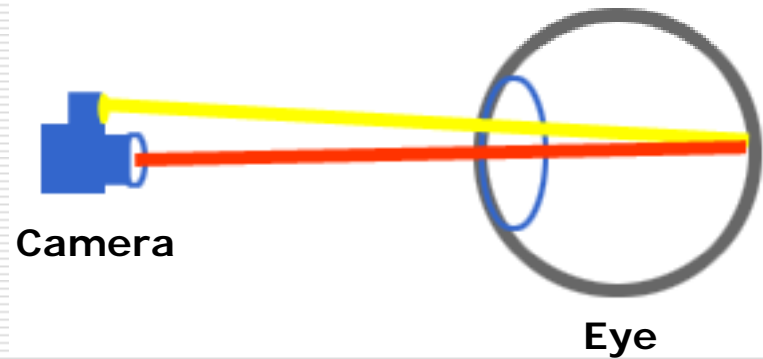
- Pop Up Flash
- On Camera Flash
 - Bounce Flash
 - Catch Light Card
 - Soften Light
 - Drag Shutter to acquire ambient light
- Off Camera Flash
 - Sync cord
 - Wireless
 - Diffuser
 - gels

Pop Up On Camera Flash



❑ Terrible Light

- Flash is a tiny light source. Smaller light sources produce harsh light
- Slightly above camera lens sends light into subjects eye to be reflected back into the camera producing “Red Eye.”
- Light hits directly on face creating “flat” look – no texture, shadows, or contrast
- Worst kind of added light you could have
- If at all possible, don’t use it



Red Eye



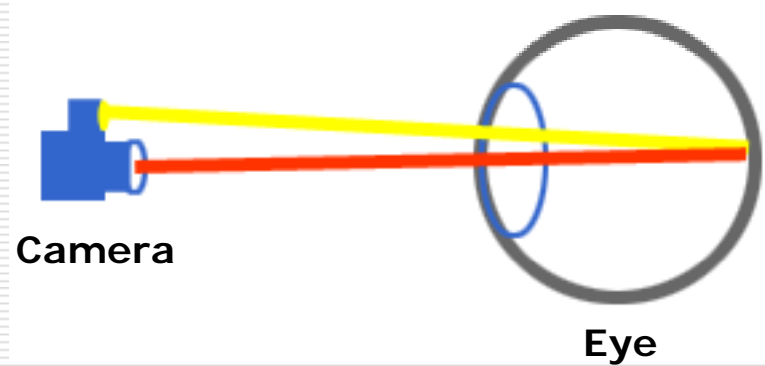
Pop Up On Camera Flash

- If you must use it:
 - Use a slow shutter speed to capture as much ambient light as possible
 - Move away from you subject to reduce the quantity of light from the flash falling on the subject
 - Use Flash Exposure compensation if you have it, to reduce power of flash
 - Use something over it to diffuse light & make it softer
 - Use a yellow gel to warm the light



Red Eye Reduction

- ❑ Camera fires pre-flash light to cause iris to close
- ❑ Even with Red Eye Reduction turned on you may get some red eye which can be easily removed in post processing
- ❑ With Red Eye Reduction turned on, the pre flash may cause the subject to blink and your portrait may have the eyes closed
- ❑ Have Subject look away from camera slightly
- ❑ Open windows & doors to let in outside light. Turn on more lights in room to increase the ambient light



Red Eye



What Pop Up Flash is good for

□ Fill flash

- In outdoor shots with light from behind subject, shadow falls on subject's face
- Pop Up flash can provide fill light to reduce shadows
- Use Flash Exposure Compensation to prevent flash from washing out subject. Achieve balance between natural light and un-natural light from flash.

□ Stopping motion

- Use when some ambient light but subject is in motion.
- Insufficient light for high shutter speed to freeze motion
- Turn Red Eye Reduction off
- Set camera to capture ambient light with slow shutter speed
- Instantaneous burst of light from Flash will freeze motion

Dedicated Flash

- ❑ Dedicated flash offers possibility of good light anytime you want
- ❑ Can be used effectively mounted on hot shoe or can be used off camera
- ❑ Learn to use this accessory effectively
- ❑ Flash can be tilted up to bounce flash off of ceiling
- ❑ Flash can be swiveled horizontally to bounce light to left and right
- ❑ If synced to Camera, Flash can be controlled from camera.



Flash Control – Through the Lens Metering (TTL)

- ❑ Most Cameras allow for Through the Lens Metering (TTL) to control the quantity of Flash light output (Canon E-TTL; Nikon i-TTL)
- ❑ Camera turns flash output on and off based on camera exposure
- ❑ Camera has Flash Exposure Compensation to allow you to manually adjust Flash output
- ❑ ISO and Aperture have no affect on balance between ambient light and light from your flash
- ❑ In manual mode however, Shutter Speed does impact that balance
- ❑ Each Camera has a shutter speed at which the Flash is synchronized called **Maximum Sync Speed**.
 - Speeds above the Maximum Sync Speed will contain a black bar which is the shutter closing
 - Speeds below the Maximum Sync Speed will introduce Ambient light into your photos providing background illumination

Flash Control

- Additional Controls on the flash unit:
 - Power Output – Most Flash Units allow you to control the Power out with a slider
 - Flash Exposure Compensation
 - Zoom – Many Flash Units allow synchronization with the camera as to Zoom distance and vary the flash power output to match the zoom distance

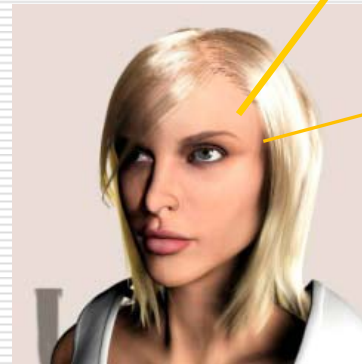
Soften the Light from your Flash

- ❑ Most Dedicated Flashes have some form of diffuser built in
- ❑ Additional diffusers can be added as accessories



Ceiling Bounce

- ❑ Flash can be tilted up to bounce flash off of ceiling
- ❑ Bounce Diffuses and spreads light creating softer light
- ❑ Issues
 - Tinted ceiling will tint light, i.e. color cast
 - Ceiling may be too high or you're outdoors
 - Light from above may put eyes in shadow. Catch Light card built in to some Flashes will reflect small percent of light into eyes.

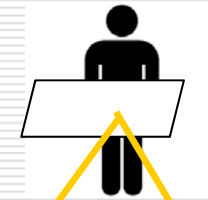


% of flash to create catch light



Swivel toward Reflector

- ❑ Add fill light by swiveling flash to side and reflecting light off of a reflector
- ❑ Reflector could be commercial or could be just a piece of cardboard held by a friend



Off Camera Flash

- ❑ Many Professional Photographers prefer to get their cameras off of the Hot Shoe
- ❑ A remote cord and a Flash Bracket
- ❑ Flash Bracket allows for both landscape and portrait images



Wireless Remote Flash

- ❑ Flash photography can approach studio lighting, yet have the convenience of portability
- ❑ Wireless remote units can provide camera TTL exposure control to the flash
- ❑ Many Camera Flash units contain wireless to control a second Flash Unit

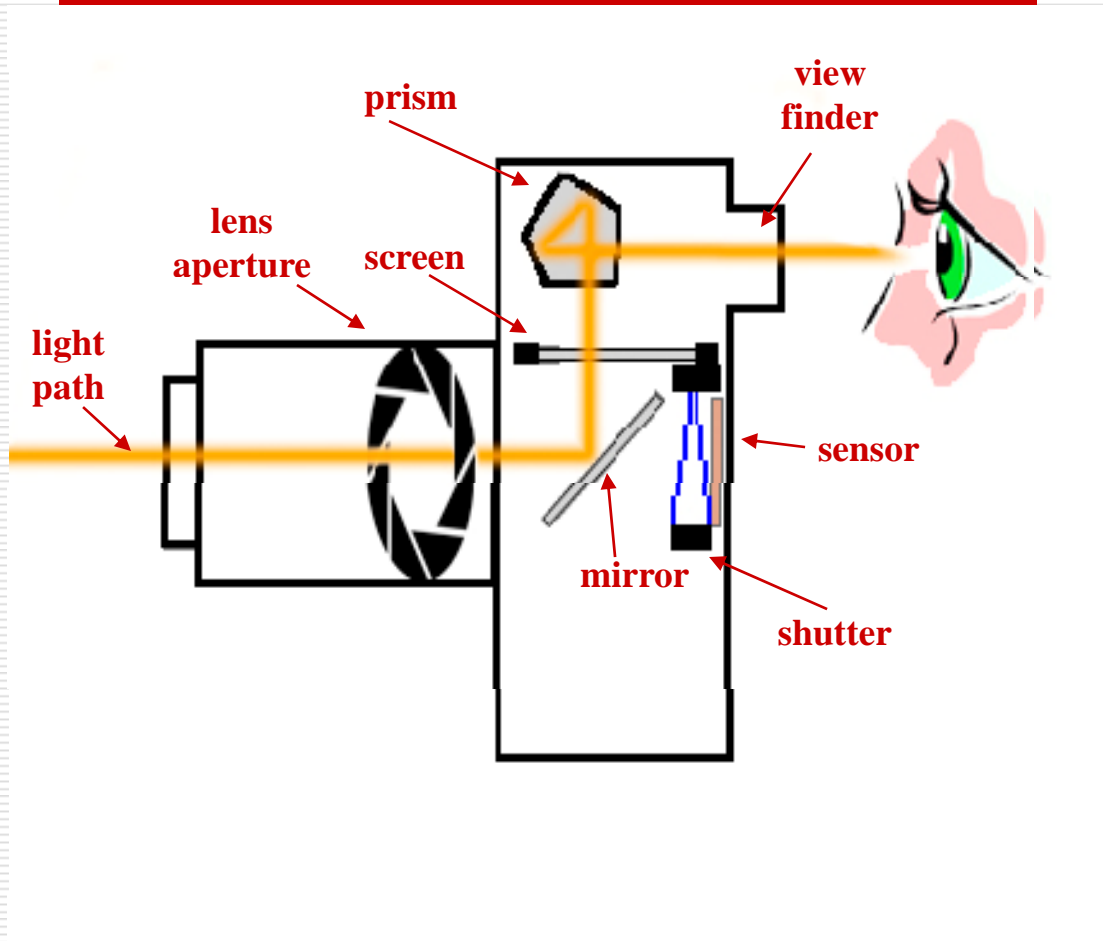


Here is a website that specializes in Off Camera flash [Strobist](http://www.strobist.blogspot.com/)
<http://www.strobist.blogspot.com/>

Second Curtain Sync (or Rear Curtain Sync)

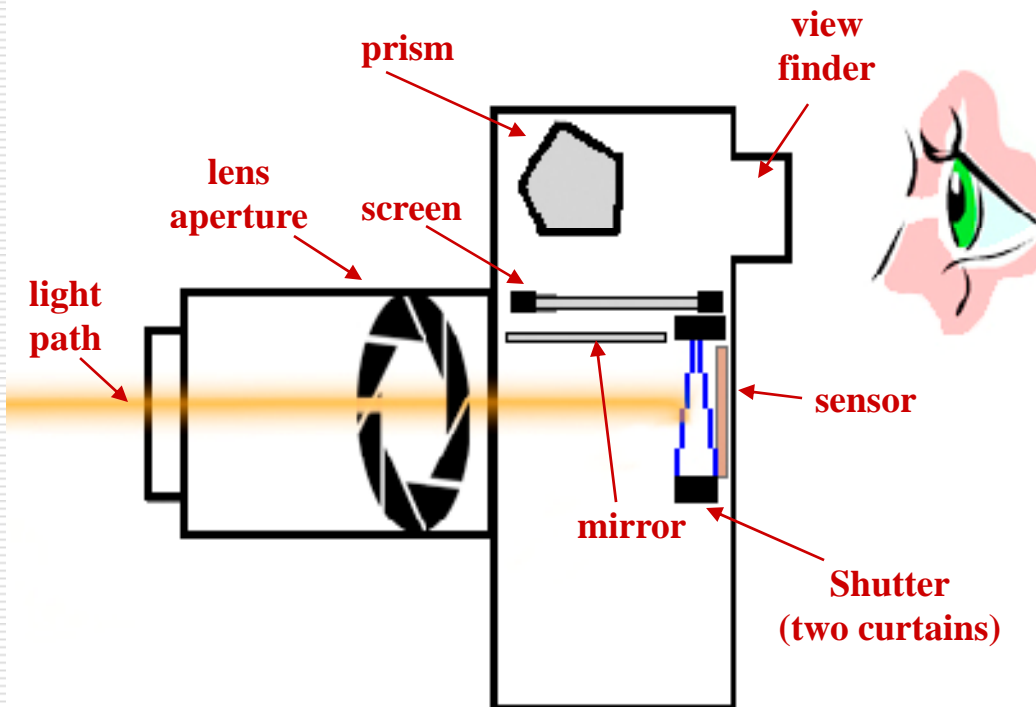
- ❑ Usually your flash fires when you press the shutter button
 - ❑ At sync speed this usually puts the background in shadows
 - ❑ A setting on your camera allows the flash to fire at end of exposure which allows the camera to expose the background properly
 - ❑ Then toward the end of the exposure the flash fires to freeze your subject
 - ❑ This gives the image the natural light of the background plus the additional light from the flash on your subject.
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- ❑ Lets review the SLR exposure sequence

SLR Camera Firing Sequence



- Set Aperture (f/stop) and Shutter Speed
- Press Shutter Button Half Way
- Lens Aperture stops down
- Press Shutter Button full down
- Mirror pops up

SLR Camera Firing Sequence



- Set Aperture (f/stop) and Shutter Speed
- Press Shutter Button Half Way
- Lens Aperture stops down
- Press Shutter Button full down
- Mirror pops up
- Rear Curtain opens
- Front curtain opens
 - Exposure begins
- Rear curtain closes
 - Exposure ends
- Front curtain closes
- Mirror drops down

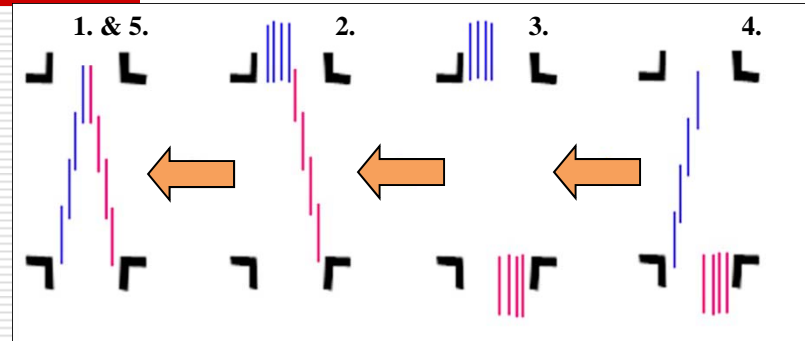
SLR Camera Shutter



Front (1st) Curtain

**Rear (2nd)
Curtain**

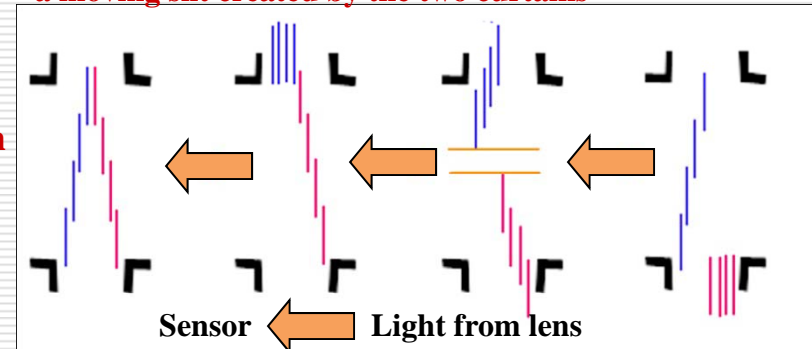
- 1. Both Curtains closed
- 2. Rear Curtain opens
- 3. Front curtain opens
 - Exposure begins
- 4. Rear curtain closes
 - Exposure ends
- 5. Front curtain closes
- 6. Mirror drops down



Shutter gives full exposure from Sync Speed and slower

Before Shutter Release	Just Before Shutter Exposure	Exposure	After Exposure
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At shutter speeds higher than sync, exposure is through a moving slit created by the two curtains



Rear Curtain Sync

- ❑ Allows normal exposure of background with natural lighting
- ❑ Freezes subject movement with light from flash
- ❑ Creating more natural lighting of both foreground and background
- ❑ Can create interesting results if objects in background are moving, i.e. cars, motorcycles, or even people. Blurred movement but sharp final image



Front Curtain Sync

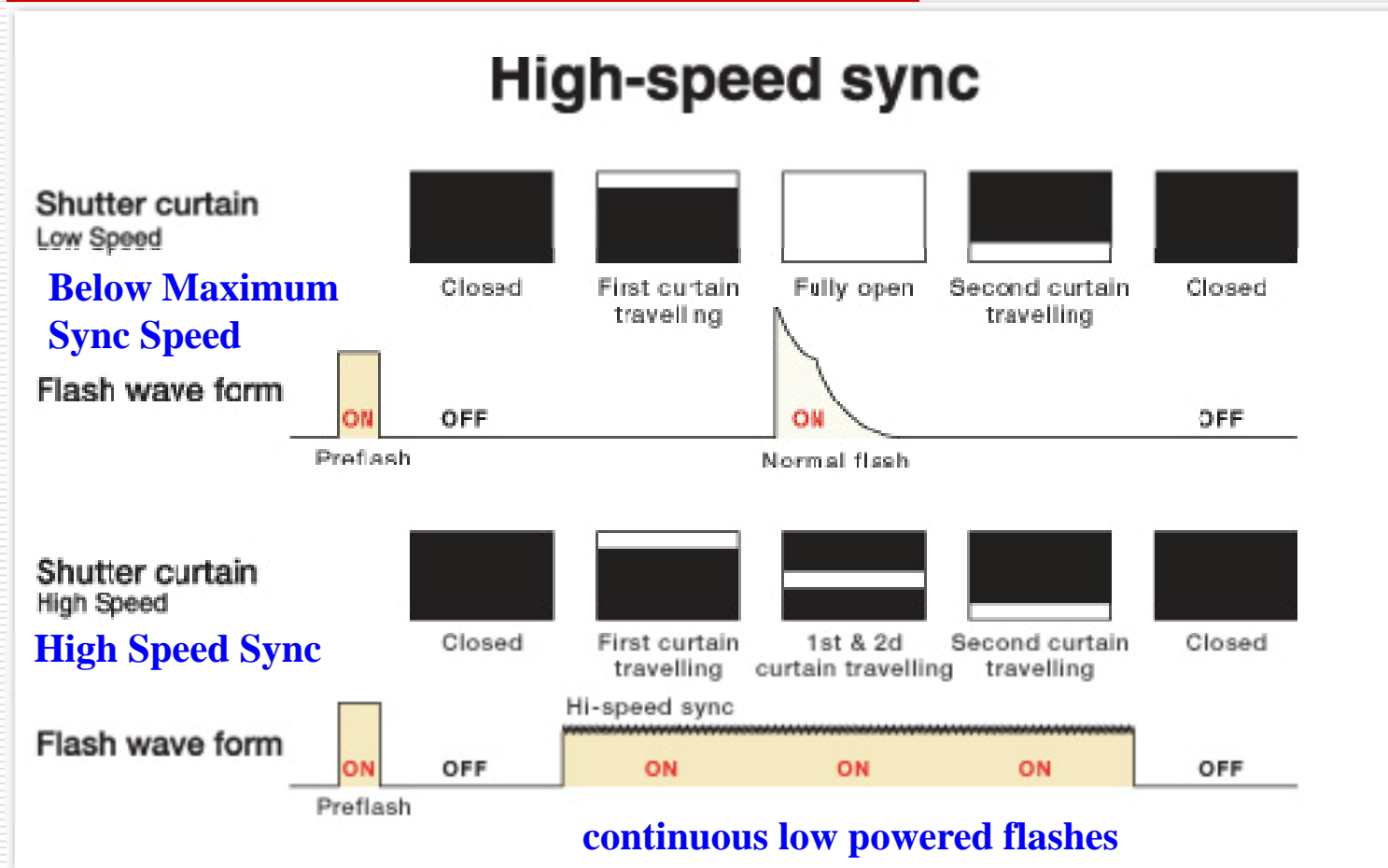


Rear Curtain Sync

High Speed Sync

- ❑ Fill flash is effective outdoors when background is bright
- ❑ Flash sync speed however cannot be faster than max sync speed
- ❑ Thus aperture must be stopped down to control background exposure
- ❑ Makes background less blurred
- ❑ Modern flashes have High Speed Sync to allow more open apertures to be set freely
- ❑ In High Speed Sync Mode multiple flashes are fired while shutter is open to give continuous flash

High Speed Sync



Reference

- Recommended Reading if you want more information about Flash:

“Mastering Digital Flash Photography – The Complete Reference Guide” by Chris George. ISBN-13: 60059-209-0