



Introduction to Infrared Photography

We Will Cover

What is Infrared Photography

Low-Cost Startup (Unmodified Camera)

iPhone Infrared

Existing Camera Modification

Infrared Examples

Post Processing IR Images

What is

Infrared
Photography



Why Infrared Photography

- A more artistic photography
- Infrared works best with strong sunlight
 - Forget the Golden Hour, overcast skies, or night shots
- Landscape elements reflect or darken in infrared:
 - Reflect: Clouds, grass, trees in leaf
 - Darken: Blue sky, water (ponds, lakes, rivers, etc.)





Low-Cost Startup

Use a DSLR camera, mirrorless camera, or iPhone

Test Your Camera for Infrared

Place the camera in live view and point a TV infrared remote at the lens



Low-Cost Startup

Use a DSLR camera, mirrorless camera, or iPhone

Test your camera for Infrared

Purchase an infrared filter
(Hoya R72, 67mm for \$90 at B&H Photo –
Same filter from China at approximately \$30)



Infrared With Unmodified Camera

Must use a tripod

Set ISO to 200 – do not use auto ISO

Set camera to manual

- Turn off autofocus
- Set aperture to 3 stops open from minimum (example minimum aperture on lens is f22, set aperture to f8)
- Set shutter speed to 20 seconds

With IR filter off the lens, manually focus the lens using live view – with DSLR cameras do not use the optical viewfinder

Attach the IR filter and take the exposure

Adjust the exposure by varying the shutter speed

Low-Cost Startup – Use Existing Camera

Pros

- Low-cost way to explore IR photography
- Just need to purchase an Infrared filter
- No need to modify your camera

Cons

- Long exposures, subject must be stationary
- Must use a tripod
- May be difficult to focus
- Limited to Black and White infrared photography



iPhone Infrared Photography

iPhone Magnetic Filter Mount
(\$21.99 on Amazon)



Hoya R72, 67mm infrared filter
(\$90.00 at B&H Photo,
\$30.00 for Chinese version)

IR Photo Taken on iPhone 14

IR Filter: Hoya R72, 67mm
Photo as taken on iPhone 14, using Night Mode



IR Photo Taken on iPhone 14

IR Filter: Hoya R72, 67mm
Converted to Black & White



Modify Existing Camera for Infrared

Use a DSLR, mirrorless or point & shoot camera

Camera must have live view

Should be capable of RAW photography

You choose the sensor infrared filter strength from full color to 900nm – recommend a 590nm sensor filter

Conversion cost approximately \$275 plus shipping of camera to Life Pixel or Kolar Vision

Already converted cameras potentially available from eBay and other used camera sources

Existing Camera Modification

Pros

- Can take IR shots at same shutter speeds as visible light. Autofocus and light metering works.
- Use of tripod optional
- Can take color IR shots with sensor filters below 750nm

Cons

- Cost
- Voids camera warranty
- Limits camera to IR use
- Lens may exhibit a hot spot
- Post processing IR for color can be complicated

Lens Hot Spots



Many lenses exhibit hot spots when used for IR photography. Zoom lenses are particularly susceptible. Prime lenses (particularly older lenses) have less of a problem with hot spots. Check the websites of Rob Shea Photography, Life Pixel and Kolar Vision to see if your lenses may exhibit hot spots.

Using apertures wider than f8 (f5.6, f4, etc.) may eliminate or reduce a hot spot.













More Information

IR Photography Info:

<https://www.robsheaphotography.com>

Rob Shea is the recognized guru of infrared photography. His website has a ton of videos covering IR photography, lens selection and useful tips.

Camera Conversions:

Life Pixel <https://www.lifepixel.com>

Kolari Vision <https://www.kolarivision.com>