CELL PHONE PHOTOGRAPHY

What this presentation will provide

- Understanding of how current phone cameras are different due to advanced technology
- What features are available for control of your phone photography
- What other features are included that may not be associated with DLSR cameras

What this presentation will not provide

Step by Step tutorials on how to use features

Detailed instructions on photo management

Ways that Smartphones have improved over the years

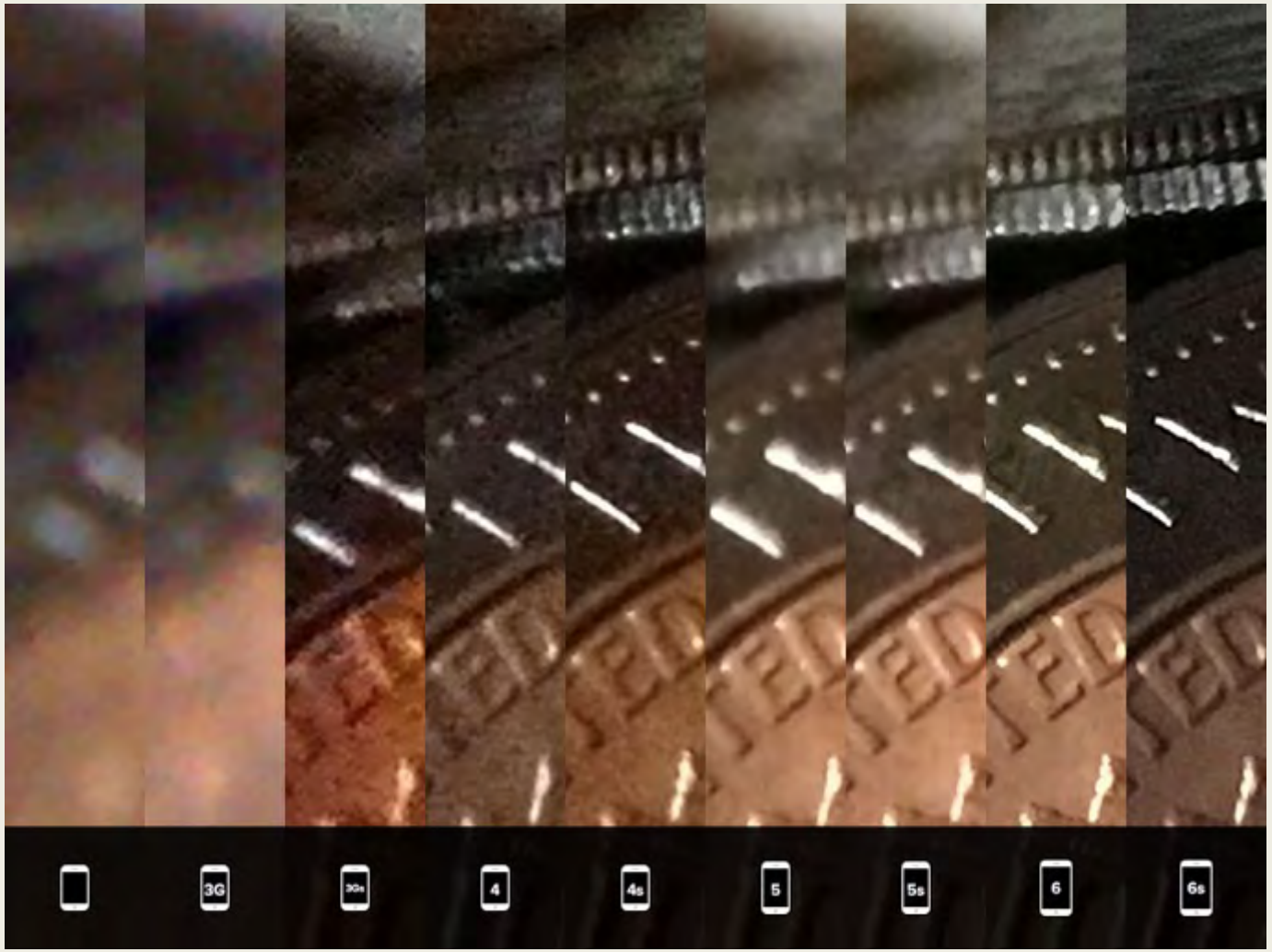
More Megapixels	Bigger Sensors	Wider Apertures	Better Flash
Faster Focus	Optical Image Stablization	Dual Cameras	Improved Processing

Technology Improvements

Megapixels	2-megapixels to 12-megapixels
Sensor Size	1/3.2” to 1/2.3”
Apertures	f2.8 to f1.6
Flash	Xenon to quad-LED
Focus	Contrast to phase detection to infrared laser
Cameras	Single to Dual (wide angle and telephoto)

iPhone Comparison

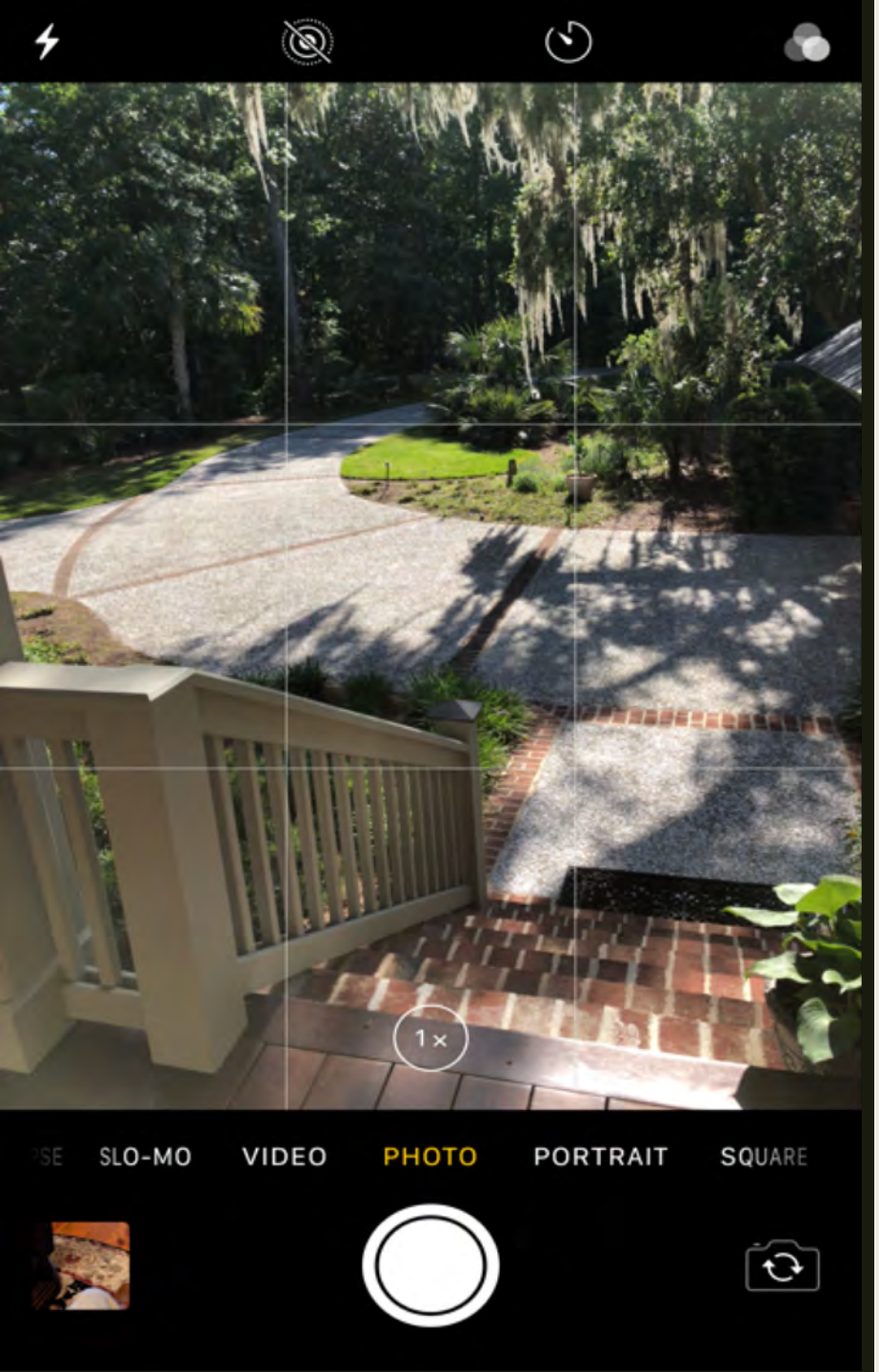
	Resolution	Megapixel	Aperture	Sensor	Pixel Size
iPhone 2007 iPhone 3G 2008	1600 X 1200	2	f2.8	1/3.2”	2.2 µm
iPhone 3Gs 2009	2048 X 1536	3	f2.8	1/3.2”	1.75 µm
iPhone 4 2010	2592 X 1936	5	f2.8	1/3.2”	1.75 µm
iPhone 4s 2011 iPhone 5 2012	3264 X 2448	8	f24	1/3.2”	1.4 µm
iPhone 5s 2013 iPhone 6 2014	3264 X 2448	8	f2.2	1/3”	1.5 µm
iPhone 6s 2015	4032 X 3024	12	f2.2	1/3”	1.22 µm
iPhone 7 2016	4032 X 3024	12	F1.8	1/3”	1.5 µm
iPhone 7 plus 2016	4032 X 3024	12	f/1.8 f/2.8	1/3” 1/3.6″	1.5 µm
iPhone 8 2017	4032 X 3024	12	f/1.8 f/2.8	1/3” 1/3.6”	1.5 µm
iPhone 8 plus 2017	4032 X 3024	12	f/1.8 f/2.8	1/3” 1/3.6	1.5 µm
iPhone X 2017	4032 X 3024	12	f/1.8 f/2.8	1/3” 1/3.6”	1.5 µm



Comparison Example

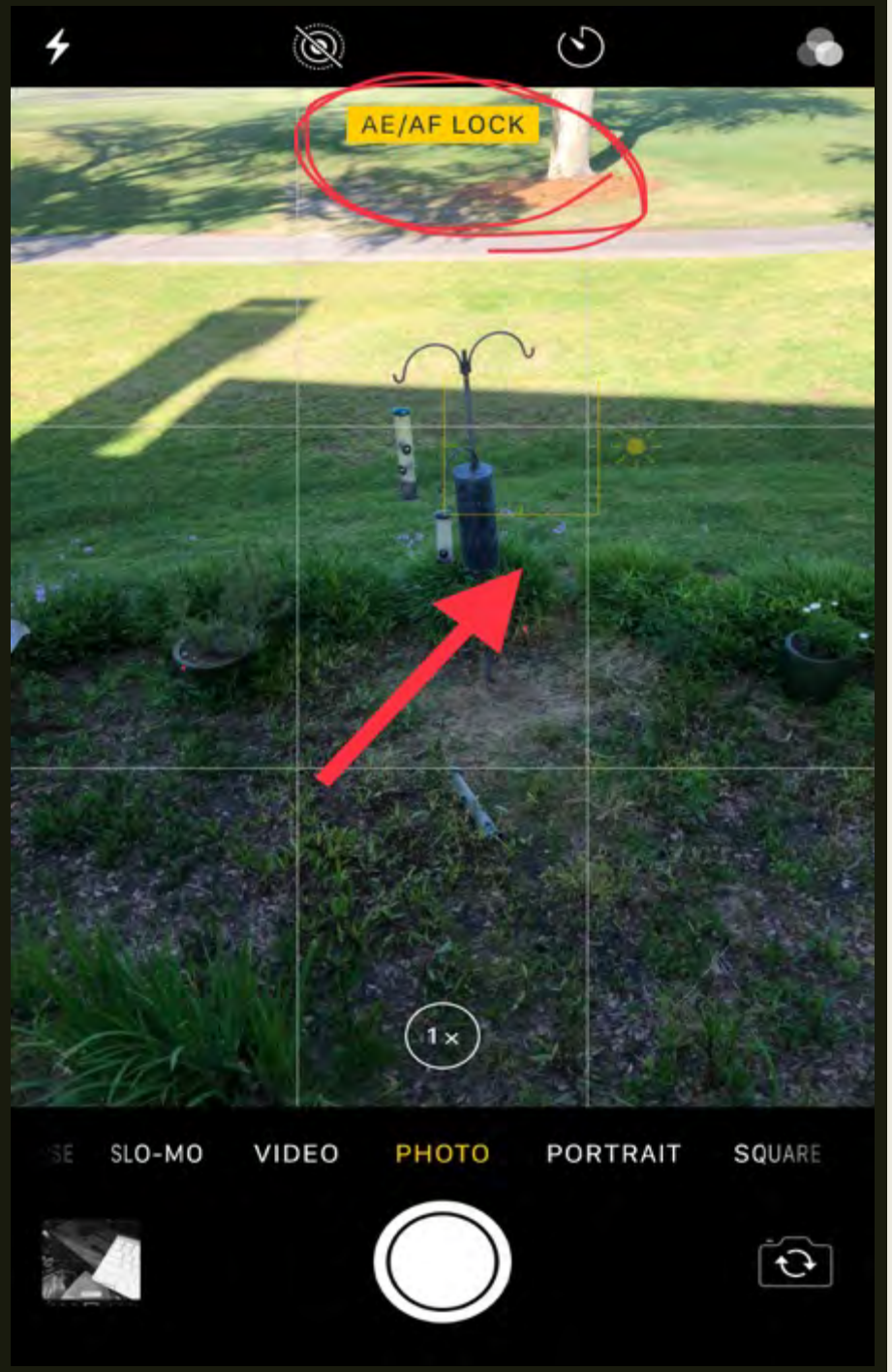
- Original iPhone to iPhone 6S
- Low-light Detail

IPHONE FEATURES



Camera Screen – Built in App

- Flash
- Live on/off
- Timer
- Filters
- Zoom
- Slo-mo, Video, Photo, Portrait, Square, Pano
- Previous Photo
- Shutter Release
- Front/Back Camera



Focus – Auto Exposure

- Place your finger on the part of the frame you want to be the focus point
- Focus point also determines auto exposure
- If you keep you finger on the spot for a second, it initiates AE/AF lock
- Slider on Right of Yellow Square allows you to adjust EV (Exposure Compensation)

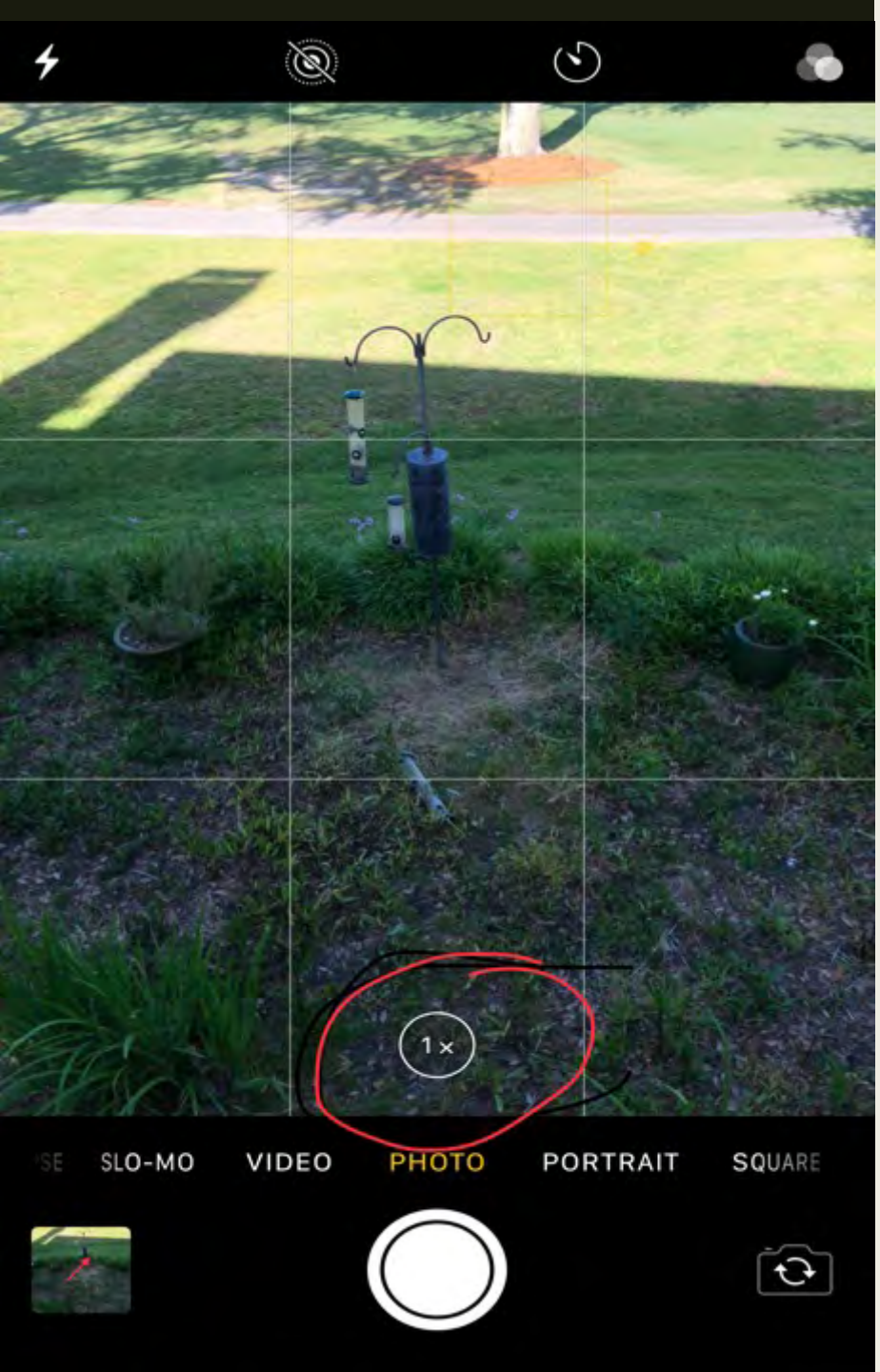
NOTE: YOU CAN NOT ADJUST THE APERTURE ON THE iPHONE, IT IS FIXED AT THE MAXIMUM

Filters

Filters can used during the creation of the photo or can be added later with editing functions.

There are 9 built in filters –

Vivid, Vivid Warm, Vivid Cool, Dramatic, Dramatic Warm, Dramatic Cool, Mono, Silvertone, Noir

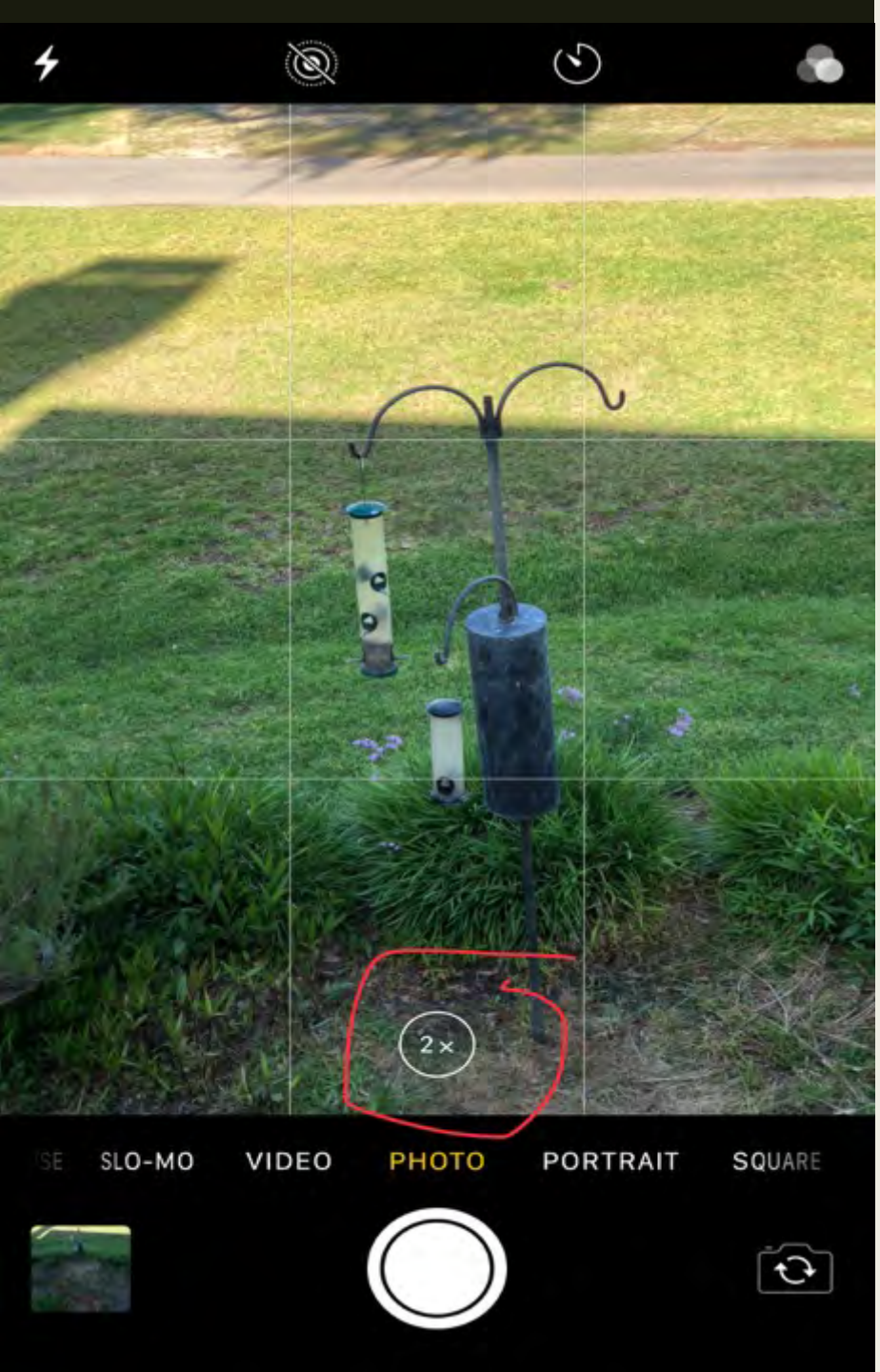


Zoom

There are two “Zoom” functions on latest version of the iPhone.

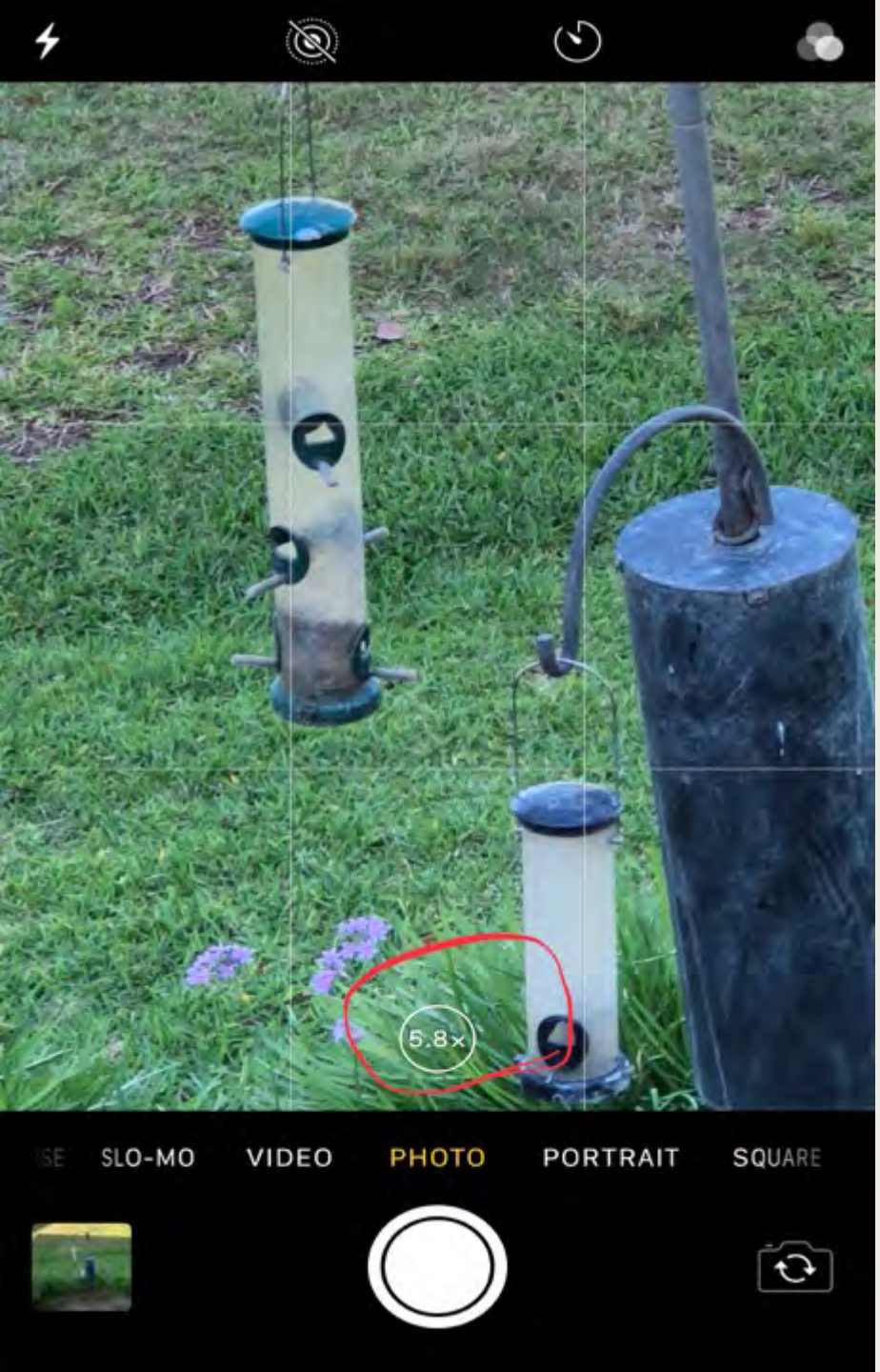
On all versions, there is a digital “zoom” of 10X. This can result in lower quality and should be used with caution for higher values.

On iPhone 7 plus and higher, there is a separate telephoto lens that is activated by pressing the indicated circle.



Zoom – Telephoto Lens

On iPhone 7 Plus and above, activate the Telephoto lens (which provides a 2X zoom factor) by pressing the indicated circle to show “2X” which is the Telephoto setting.

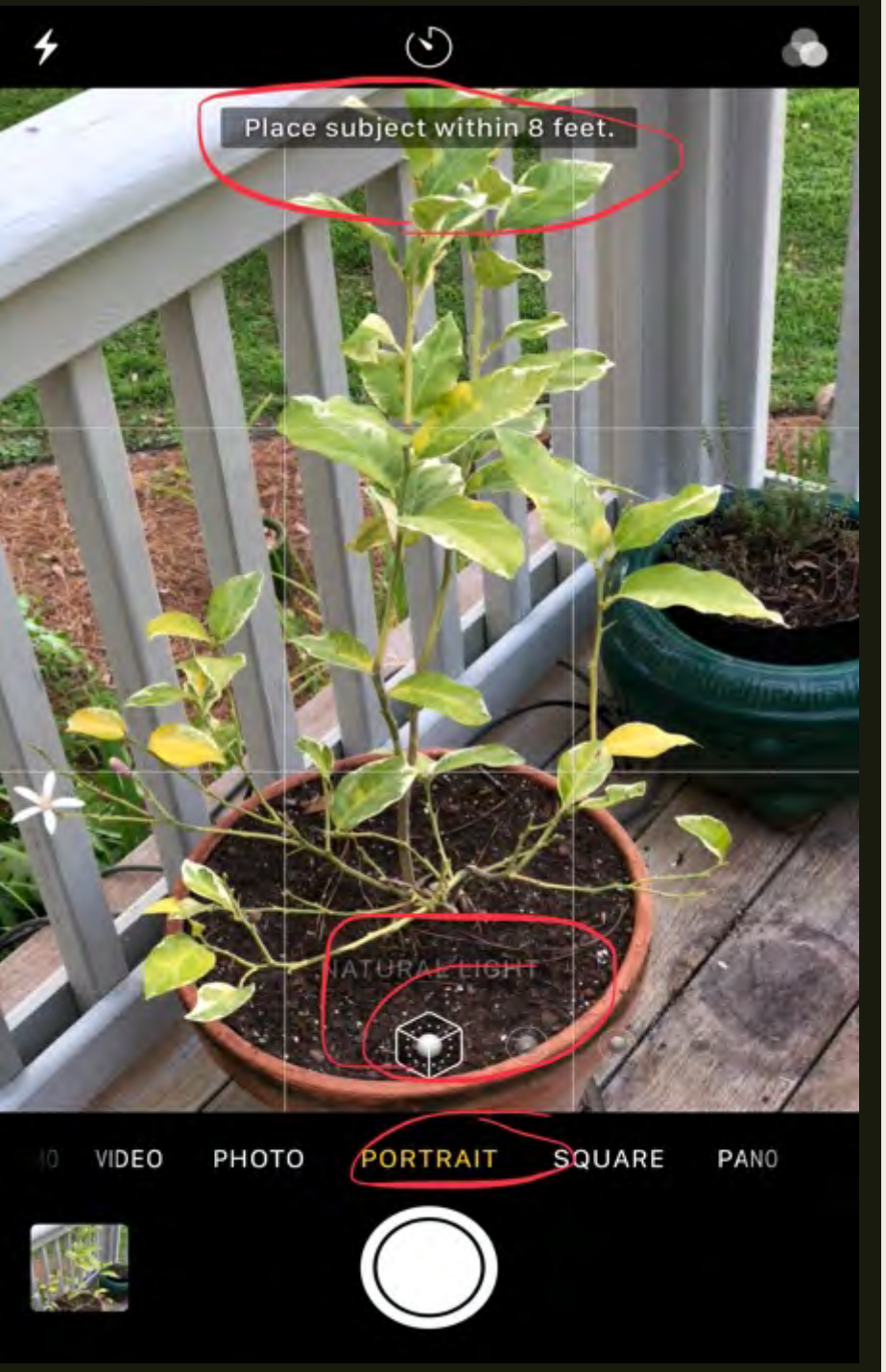


Zoom – Digital Zoom

Digital Zoom can be activated in two different ways.

Pinch Gesture: Touch the screen with two fingers and expand the distance between the fingers.

Touch the Zoom Scale (the small circle) and hold. A sliding scale will appear, allowing for setting of specific Zoom factor up to 10X



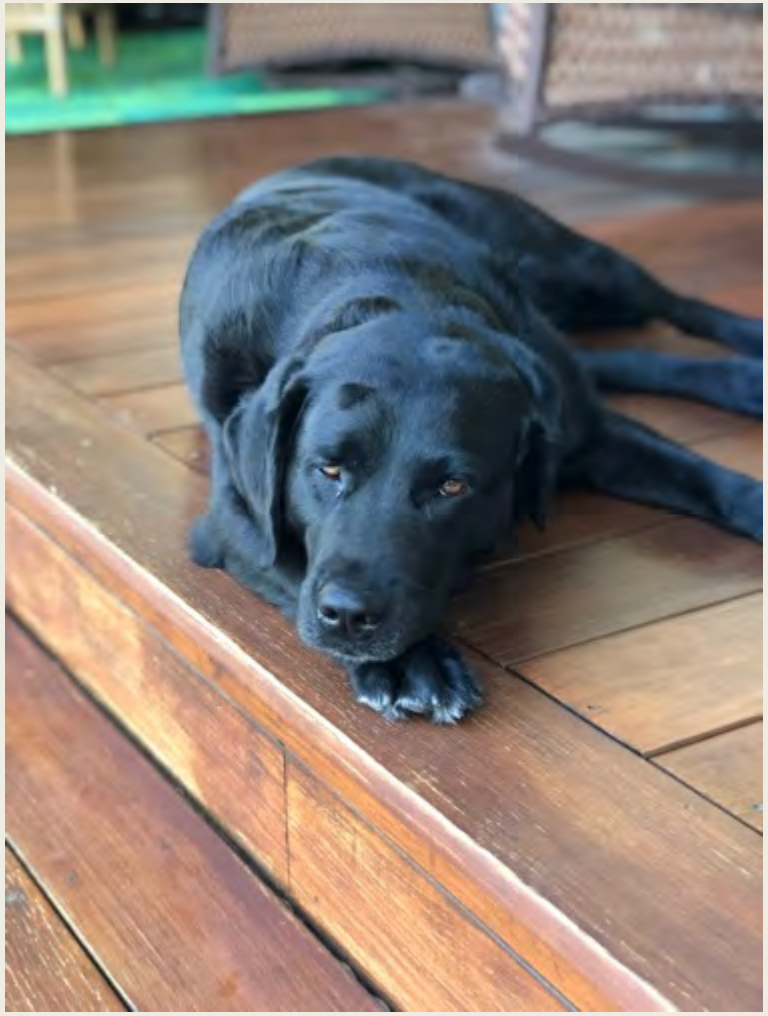
Portrait Mode

On iPhone 7 Plus and above, there is a portrait mode, which uses two lenses simultaneously. This is to create a Bokeh effect simulating a reduced depth of field.

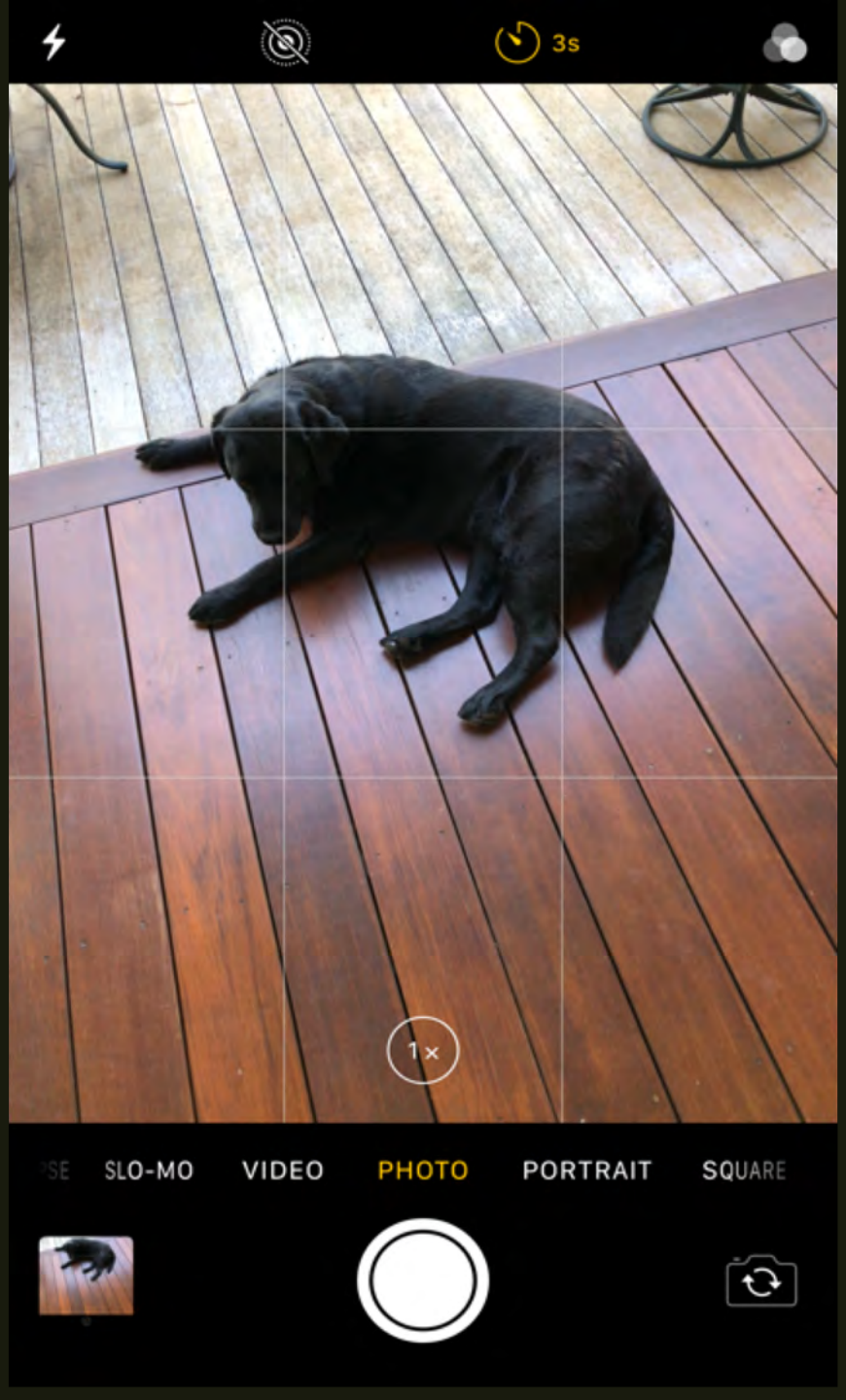
The portrait mode also provides a number of “lighting” settings. This is accomplished by using a combination and sequence of the four built LED flashes.

The lighting settings are: Natural light, Studio light, Contour light, Stage light, Stage light mono.

Portrait Mode
2 lens, Bokeh



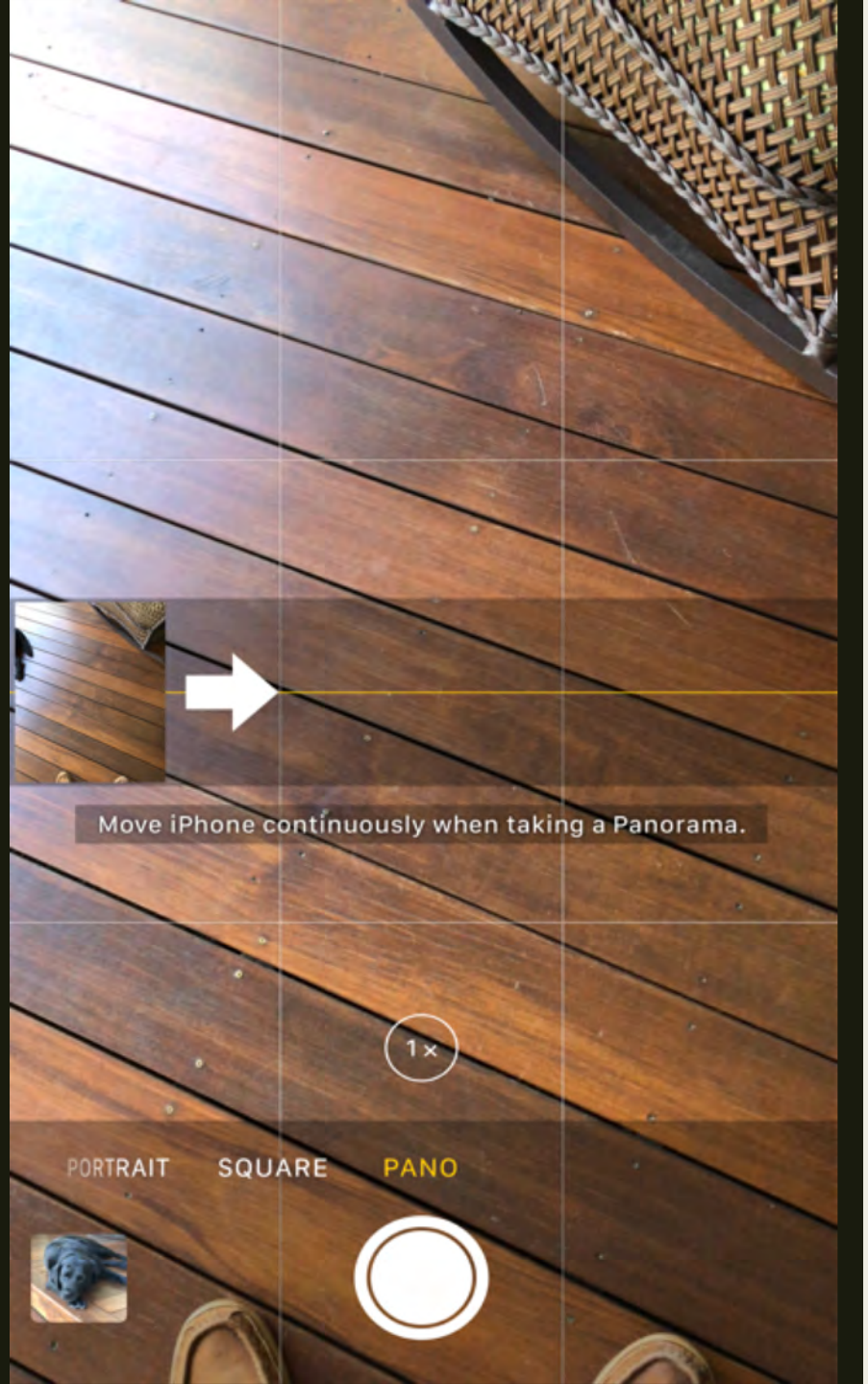
Normal Mode



Timer

Timer mode is available for delayed shutter release.

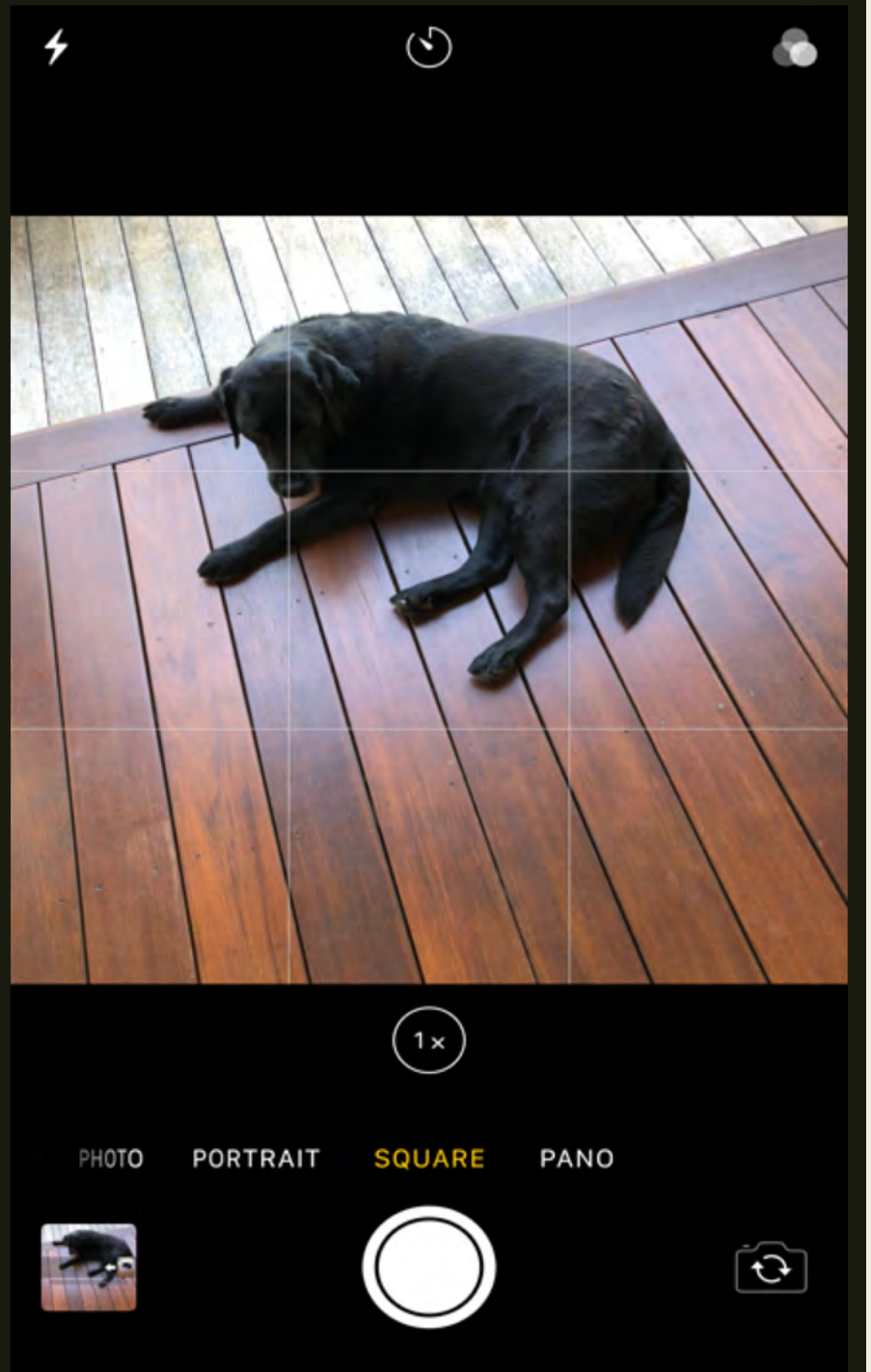
There are two settings: 3 sec, 10 sec



PANO MODE

Panoramic mode allows for an easy Panoramic shot.

Limitations are horizontal only (either direction), and is limited to 270 degrees.



Square Mode

Changes aspect ratio to 1:1, the same as you see on the screen.

The default aspect ratio for iPhone is 4:3 for photos and 16:9 for video.

This is a big difference from DLSR cameras which are 3:2 (4 X 6 photo requires no cropping).

Cell Phone camera and most point and shoot are designed for the “old” aspect ratios of TV not print.

Tips – Using Built in App

Use the volume (- +) key on left of phone for shutter release instead of on screen button (Headphone volume controls also work and can serve as remote shutter cable).

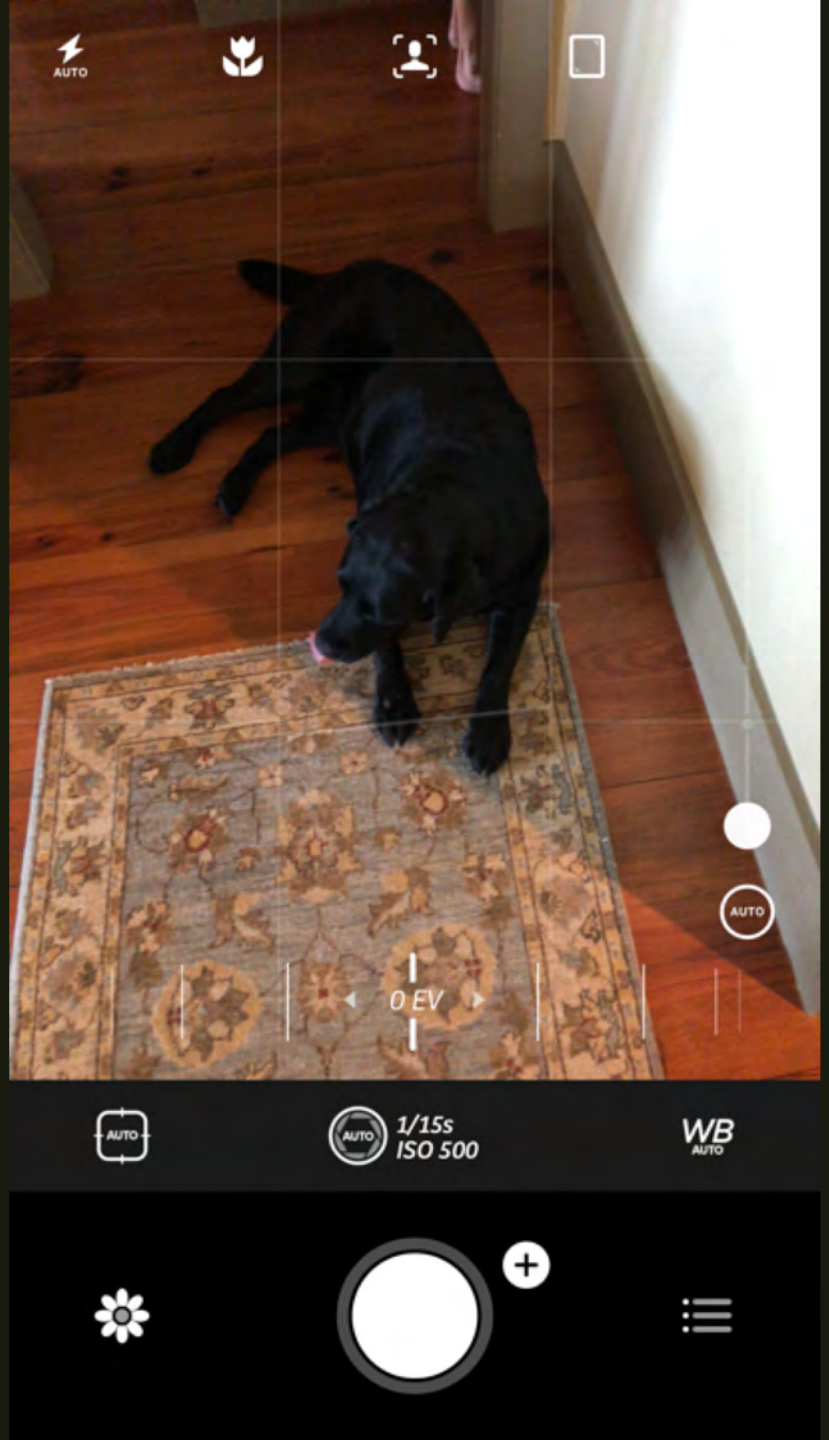
Use Apple watch to see your camera view and use remote shutter on watch face. Use to camera to see hidden places shown on your watch.

If you hold the shutter down, you will go into Burst mode (and fill up your Camera Roll with unintended shots).

HDR is always on. Only result is saved. Change this and other settings by going to:
<Settings><Camera>

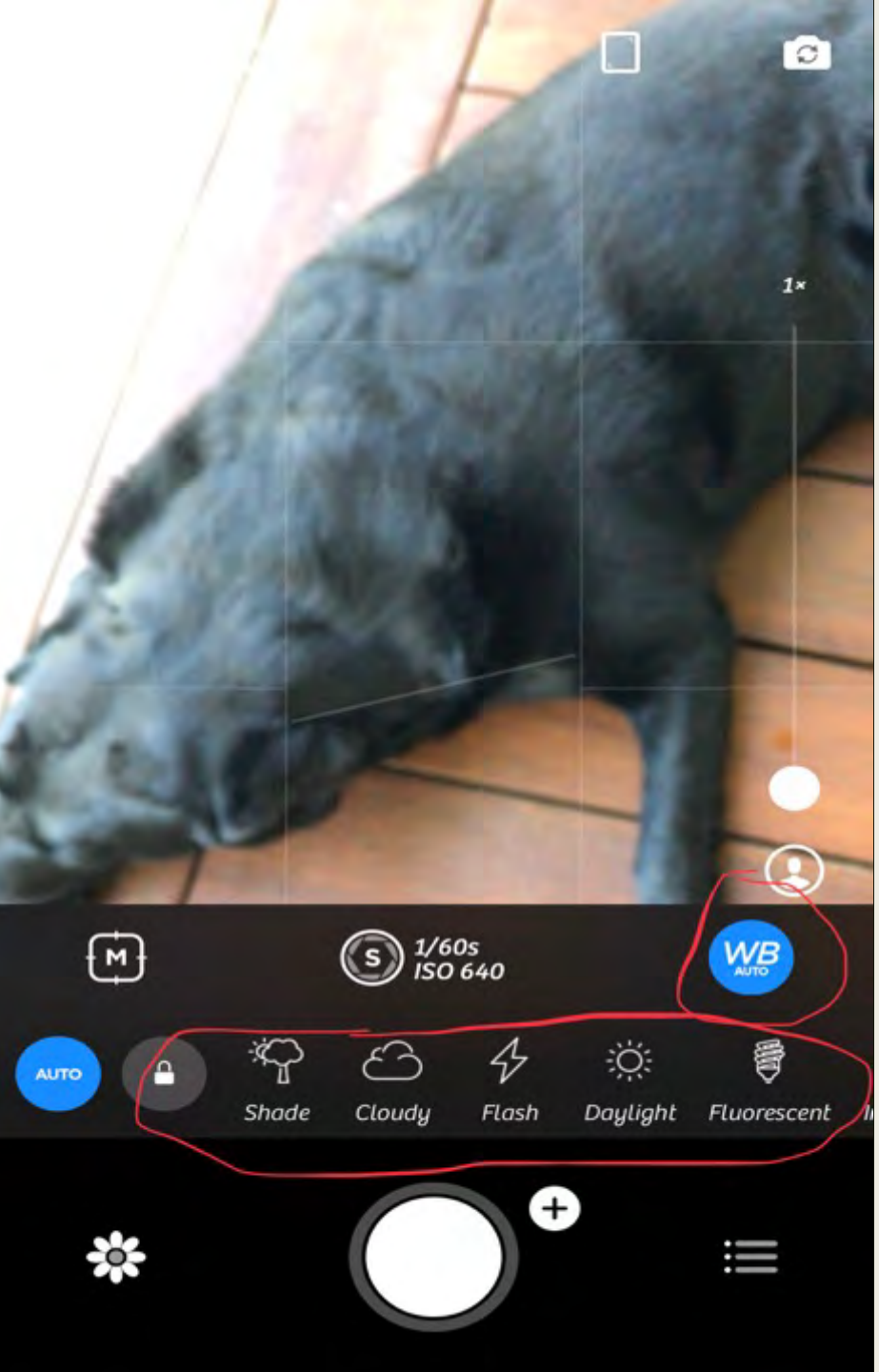
“Camera+” App Additional Functions

- Shutter control
- ISO control
- WB control
- Manual Focus
- Save RAW
- Advanced Filters
- Scenes
- Fill Flash
- Macro Mode
- $2.99 Available on App Store



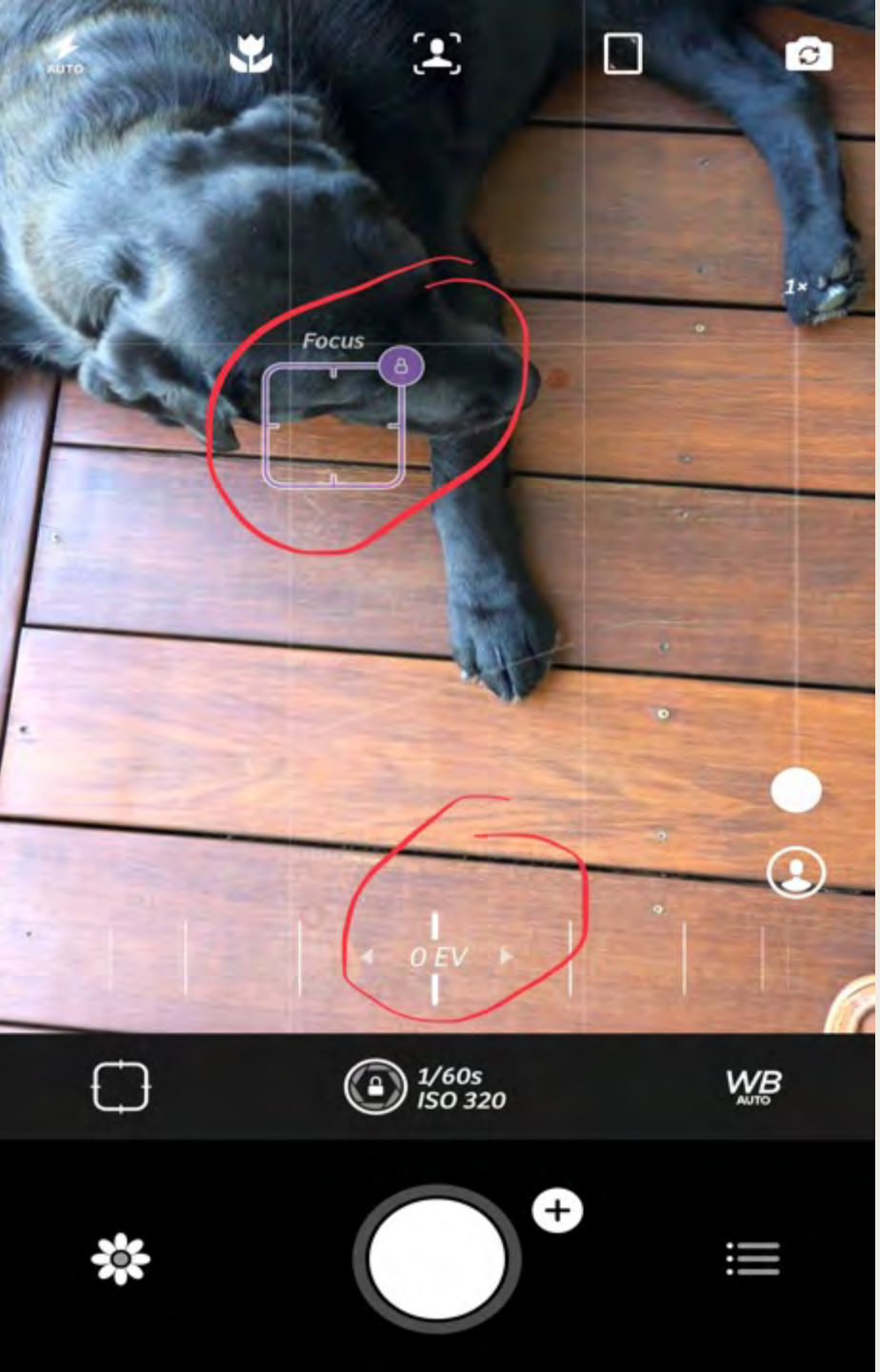
Camera+
Main Screen

- Flash
- Macro Mode
- Portrait Mode
- Aspect Ratio
- Front/Rear Camera
- Zoom Scale
- Focus Mode
- Manual Focus
- Auto – Shutter/ISO
- White Balance
- Photo Editing App
- Shutter Release
- Settings
- Help Menu



Camera+
White Balance

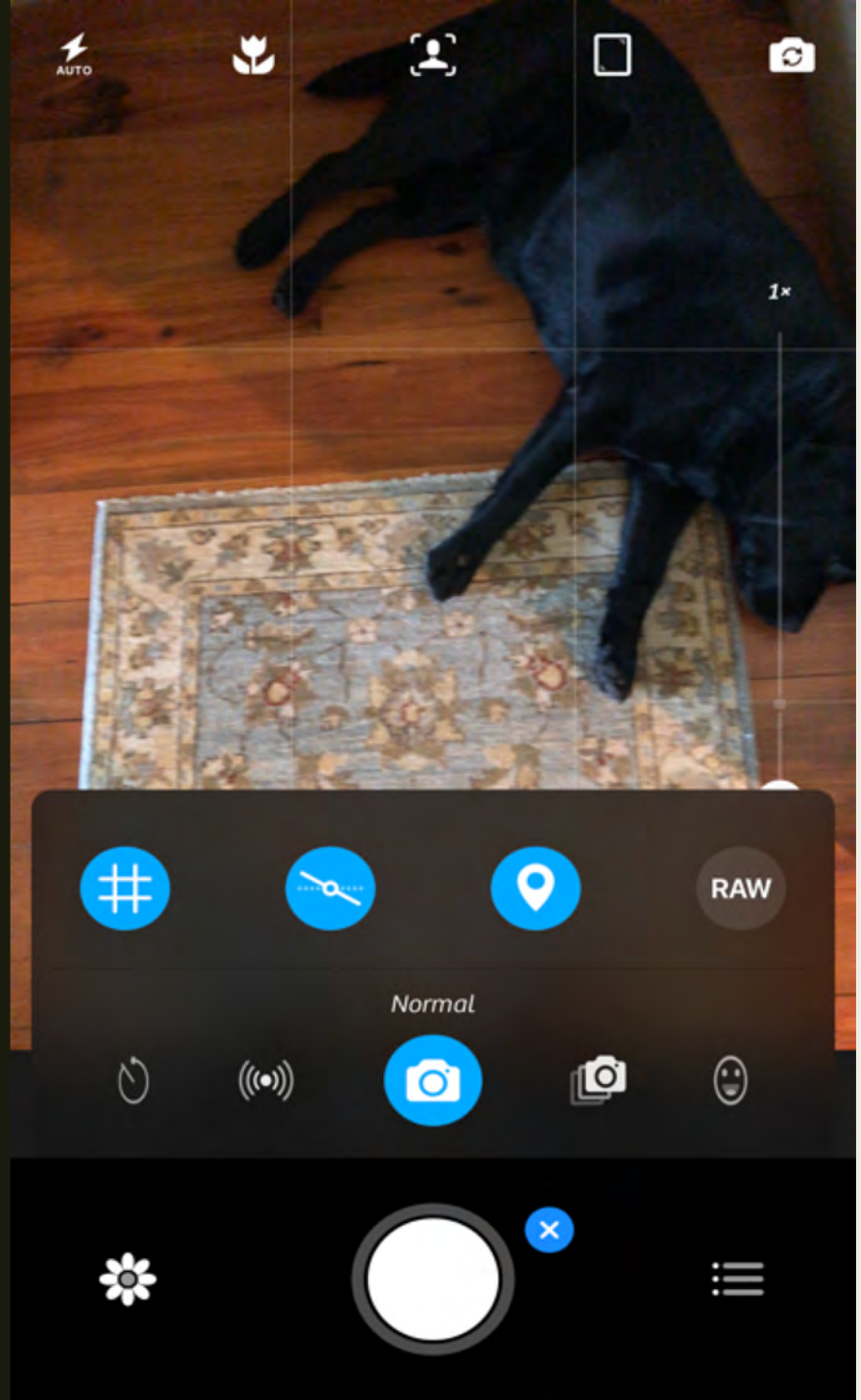
Gives Full Control over White Balance. Advantage when taking JPG.



Camera+
Exposure Compensation & Auto Focus

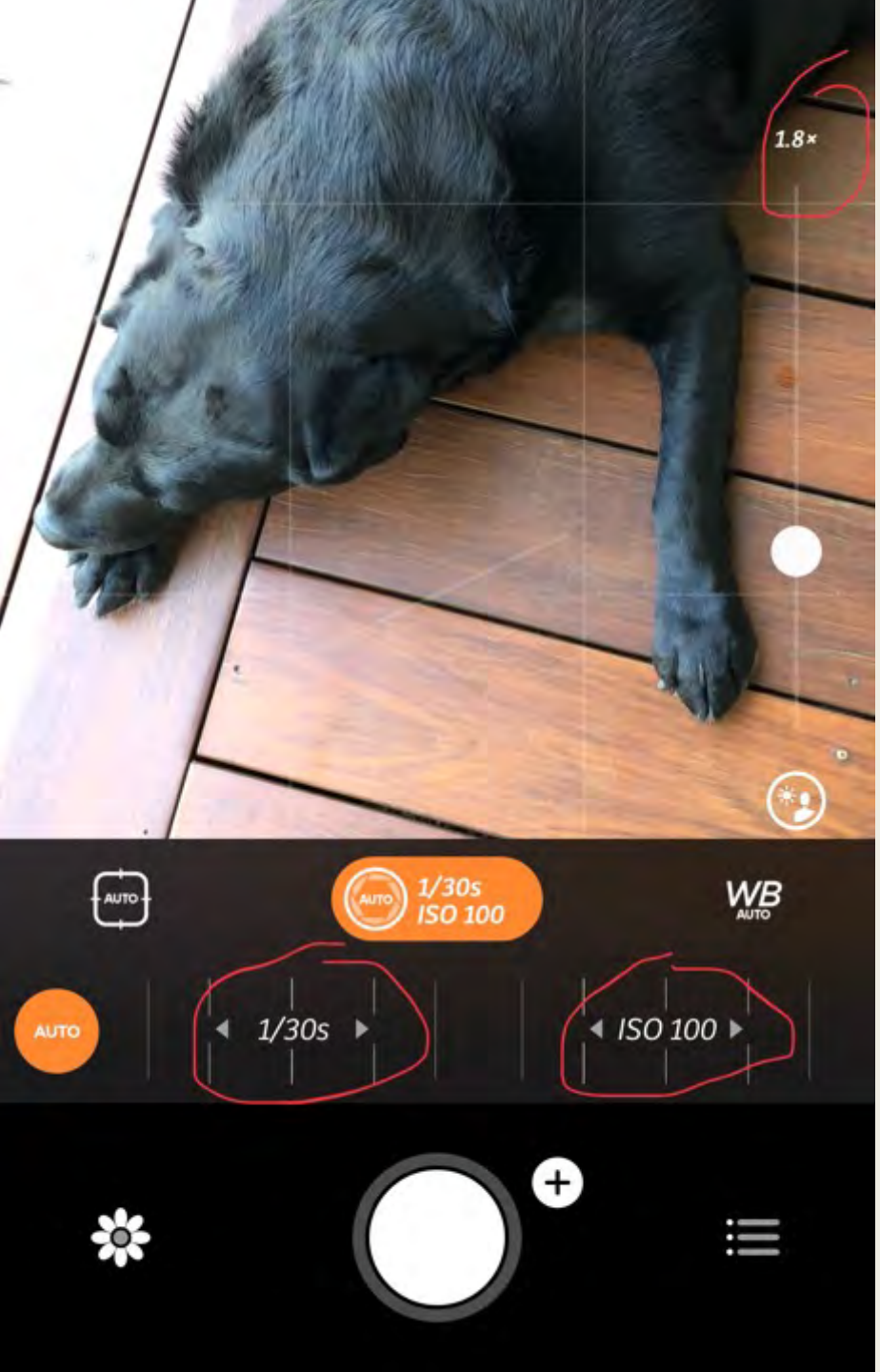
Sliding scale to adjust Exposure Compensation (EV) while still in Auto mode.

Adjust point of Focus



Camera+
Mode & Other Settings

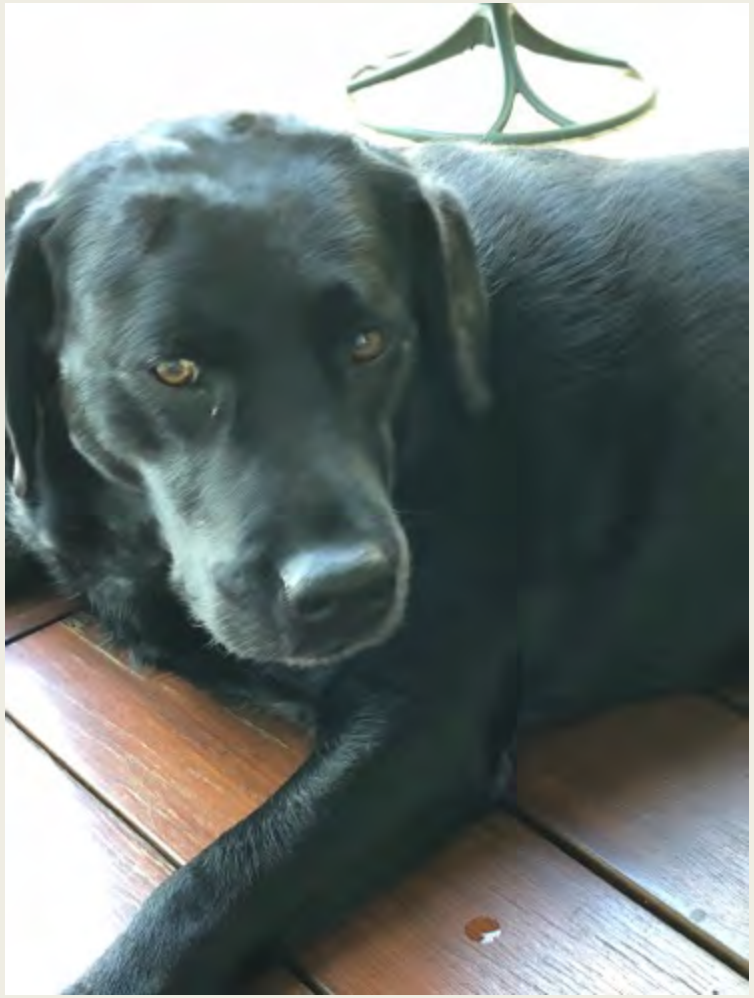
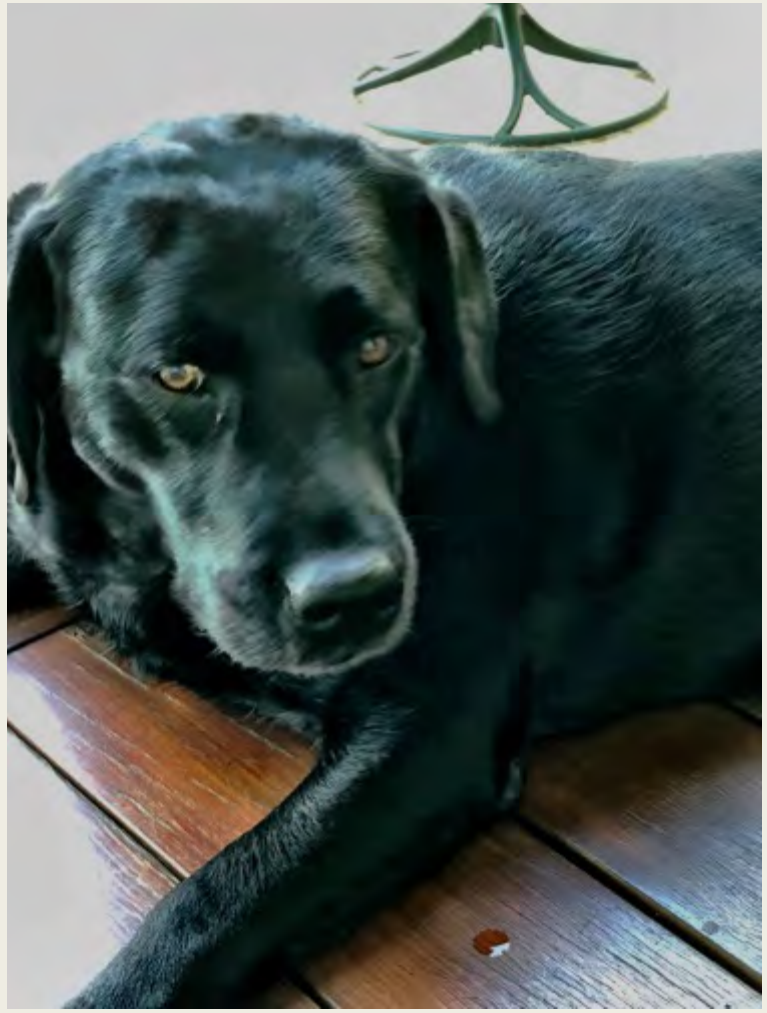
- Grid
- Level
- Geotagging
- RAW
- Timer
- Stabilizer
- Normal
- Burst
- Face Detection



Camera+
ISO & Shutter Speed

Allows for independent control of Shutter Speed and ISO.

Other Features of Camera+

- Good selection of Scenes
- Built in Editing App with lots of capabilities
- Extensive Help System
- Active Web site with tips and Blog
- Can shoot in JPG, TIFF, & RAW or combination
- Updates with every phone and IOS

Clarify Scene Option