



ALL ABOUT FOCUS

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TOPICS COVERED

- Single, Continuous and Auto AF
- Back Button AF
- Hyperfocal Distance
- Focus areas
- Predictive AF
 - AF Tracking Sensitivity
 - AF Shift Sensitivity

SINGLE SHOT AF

Nikon: **AF-S Mode**

Canon: **One-shot AF**

Sony: **Single-shot AF**

- Least intelligent auto-focus mode. If you have locked in focus and your subject moves, the camera won't adjust focus
- Good for portraits, landscapes, architecture



CONTINUOUS AF

Nikon: **AF-C Mode**

Canon: **AI Servo AF**

Sony: **Continuous AF**

- Keep your focus button pressed and the camera will continually adjust focus
- Best for moving subjects – sports, wildlife
- Why not always use it? This mode takes more processing power and lens adjustments, making it a greater drain on battery life.
- Note for Canon users – There is a “Continuous AF” feature but this will make the camera constantly focus, even when you are **not** pressing any button

AUTO AF

Nikon: **AF-A Mode**

Canon: **AI Focus AF**

Sony: **Automatic AF**

- The camera decides when to use single shot AF or Continuous AF
- If the subject is focused in One-Shot AF, then the subject starts moving, the camera detects the movement and changes the AF operation to Continuous AF
- Best for unpredictable movement – wildlife; children; street photography
 - Test with your camera to be sure you are satisfied with camera's functionality

FOCUS AREAS

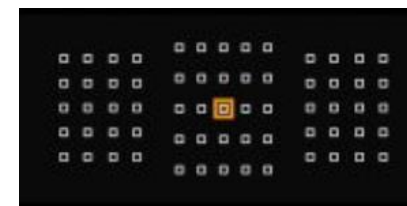
- **Wide** – includes all the AF points on the sensor. Good for birds in flight with very few birds in the frame



- **Zone** – includes large sections of the sensors. Choices are usually center, left or right.



- **Center Spot** - best **focus area mode for still subjects**. Gives you more accuracy when you're shooting a portrait or image where the exact focus point is vital.



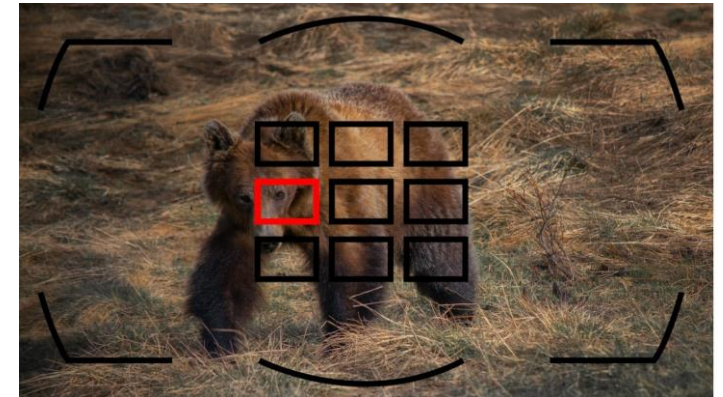
FOCUS AREAS

Nikon: **Dynamic AF area**

Canon: **AF Point Expansion**

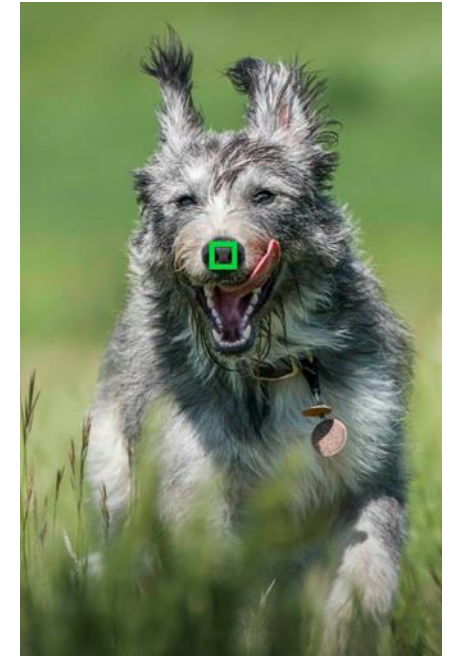
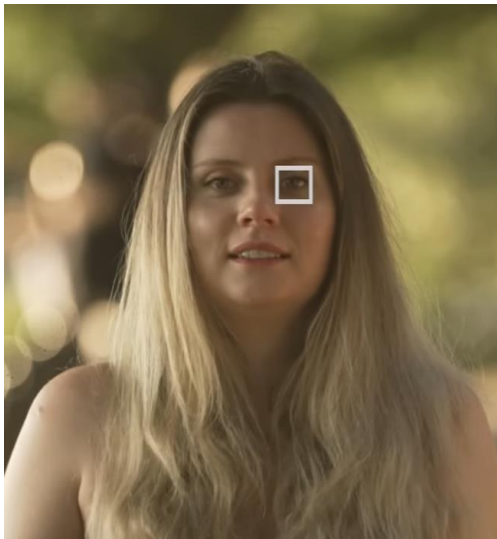
Sony: **Lock-on: Expand spot**

- Includes several focus points, usually 5-9 points
- Camera will choose the focus point within the assigned focus points that it thinks is the most appropriate (i.e. a face or head, closest subject)
- Nikon also offers **3D focus tracking**, which includes color recognition to improve focus accuracy



FOCUS AREAS

- **Tracking Spot** - start with the focus point on your subject. Once it's locked-on, the subject can move or you can move, and the camera will stay locked on the original subject
- **Eye AF** – looks for human faces and locks onto the person's eye, if in view
- **Manual focus** - more reliable than autofocus when shooting in low-light conditions and in some other cases like astrophotography, macro, still life or architecture
 - Some cameras auto-zoom when the manual focus ring is moved to help you see critical focus



PREDICTIVE AF

- Some cameras have AF Tracking Sensitivity – From Responsive to Lock On (or Low to High). Controls how quickly focus responds when your subject leaves the focus point
- Some cameras have AF Shift Sensitivity – (also called Blocked Shot Response) Controls how quickly the camera will "jump subjects" when in tracking mode



BACK BUTTON FOCUS

- Separates focusing and shutter release to two separate buttons
- This technique takes the autofocus function away from the shutter release button, and re-assigns it to another button on the back of the camera (or anywhere else)
- Allows continuous auto focus and single shot auto focus without changing dials or menu items
- Easier to keep the back button fully pressed than half-pressing the shutter button for long periods without accidentally taking a shot or losing focus



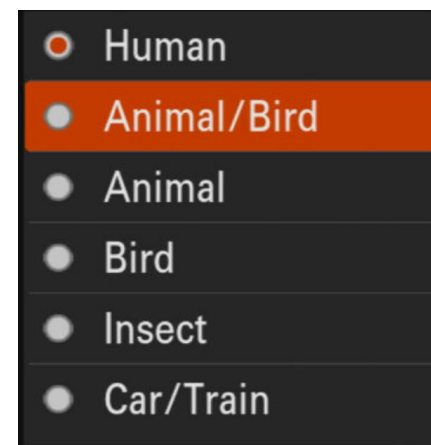
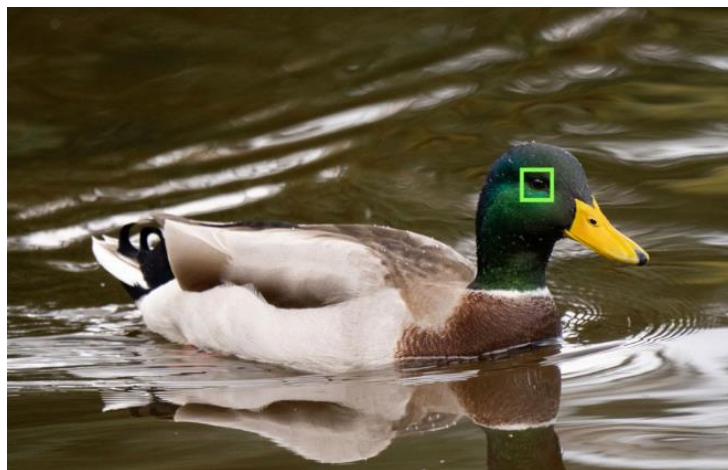
BACK BUTTON FOCUS

- Since the dedicated focusing button is only engaged when you need to focus, you can keep your finger off of it when you need to lock focus and simply keep on taking pictures
- If subject is constantly moving, just hold down the focus button with thumb
- See **Back button focus setups.pdf** in the Tutorials page (www.tripodcamera.com) for details on how to set up your camera



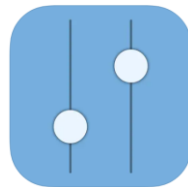
FOCUS SUBJECT PRESETS

- Animal, human, bird, vehicles
- Many cameras today allow you to select the type of subject you want the camera to prioritize. Check your camera's capabilities. If possible, assign a button or some other easy access to be able to switch between these subjects quickly



HYPERFOCAL DISTANCE

- Hyperfocal distance is the focusing distance that gives your photos the greatest depth of field. The technical definition is **the closest focusing distance that allows objects at infinity to be acceptably sharp**. The hyperfocal distance changes by focal length and aperture
- Get an app for your phone – “True DoF” app, or similar



HYPERFOCAL DISTANCE

Hyperfocal Distance Chart

(Intended for full-frame cameras; values in feet.)

	<i>f/2.8</i>	<i>f/4</i>	<i>f/5.6</i>	<i>f/8</i>	<i>f/11</i>	<i>f/16</i>	<i>f/22</i>
16mm	10	7	5	3.6	2.5	1.8	1.3
20mm	15.5	11	7.8	5.5	3.9	2.8	2
24mm	22.3	15.8	11.2	8	5.7	4	2.9
28mm	30.4	21.5	15.2	10.8	7.7	5.5	3.9
35mm	47.5	33.6	23.8	17	12	8.5	6
50mm	96.8	68.5	48.5	34.3	24.3	17.3	12.2
85mm	280	198	140	99	70	49.7	35.2

HYPERFOCAL DISTANCE

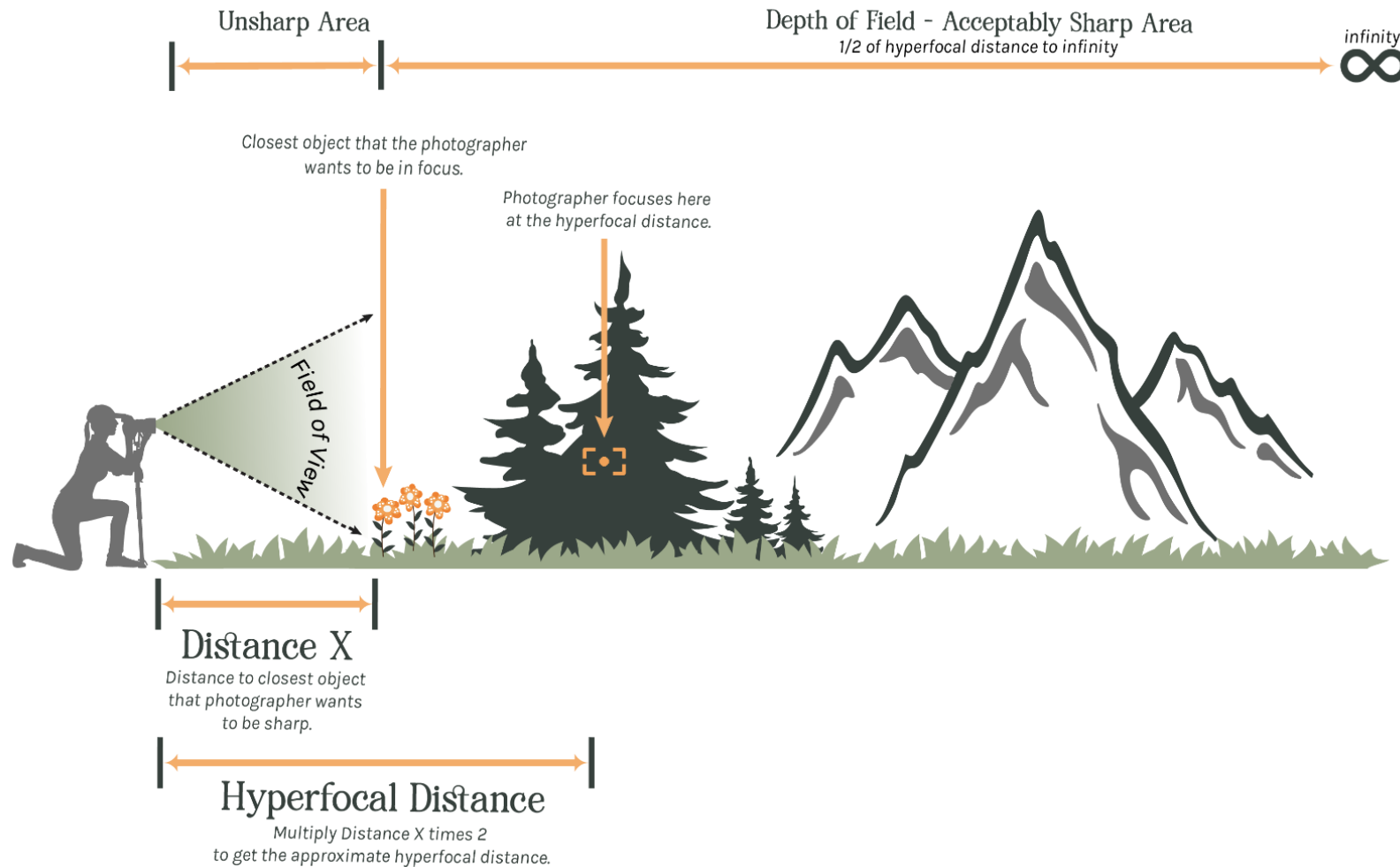
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Roughly, everything from **half the hyperfocal distance** up to infinity are in focus. So for the 85mm lens, at F/2.8 everything from 140' (half of 280') to infinity are in focus. Said another way, estimate the distance to the closest foreground element you want in focus, and focus at a distance **double** to that distance. Example, if the flowers in the foreground are 5 ft away, focus at 10 ft away.

HYPERFOCAL DISTANCE



PRACTICE

- The key to getting your shots in focus is **practice**
- Learn where all your settings are so you can quickly change them in the field
- Places to practice action photography
 - Dog park
 - Sporting event
 - Skate park
 - Fox Hollow Rodeo



QUESTIONS

