

Focus on Fundamental

S

3.1

Knobs,
Switches,
Levers,
Functions

Common Camera
Settings

Why do cameras need settings?

they don't!

- Select Auto and shot away!
 - Auto mode selects the components in the Exposure Triangle
 - Shutter Speed
 - Aperture
 - ISO
- Traveling from Boston to Seattle is about 3,045 miles
 - “Auto Mode” generally allows us to travel the quickest route – I-90 the entire way
- But...

How does
the camera
know
“The Look”
we are trying
to achieve?

Being able to manipulate the settings
allow us to:

Fine tune Shutter Speed,
Aperture, and / or ISO for “The
look” we are trying to achieve.

Sometimes creating “Artistic
Expression” can only be done
with the user being able to “Get
off Auto” and manipulate the
settings



“Non-Auto” modes allow us to take the
side roads, and “See and Experience
Real America”

The “Mode” Dial



Auto

- Camera controls Aperture, Shutter Speed, and ISO.

Aperture Priority

- Primarily used to blur backgrounds or bring both foreground and background into focus.
- You choose the aperture; the camera selects the shutter speed for best results, and ISO remains fixed...sometimes...
- Or, your camera may have an Auto ISO setting, and adjust the ISO, and leave the Shutter Speed fixed
- Experiment with your camera!

Shutter Priority

- Primarily used to freeze motion or create motion blur.
 - Baseball and Milky Waterfall photos
- You choose the shutter speed; the camera selects the aperture for best results. ISO remains fixed... sometimes.
- Or, your camera may change the ISO ,and leave Aperture fixed
- Experiment with your camera!

The “Mode” Dial Cont’d



Manual

- Select Aperture and Shutter Priority and ISO.
- Change any one of the three components to maintain the proper exposure
- Can also use Bulb and Time for long time exposure

Scene – Camera prioritizes aperture or shutter

- Sports – Prioritizes Shutter speed to Freeze the subject
- Flower – Prioritizes Aperture (Depth of Field) to help isolate the subject
- Different cameras have different “Scene” options

User 1, User 2, etc

- User selects Aperture, Shutter speed, and ISO floats
- Camera Remembers specific settings for future use

Shutter Release Button



2 Stage Button

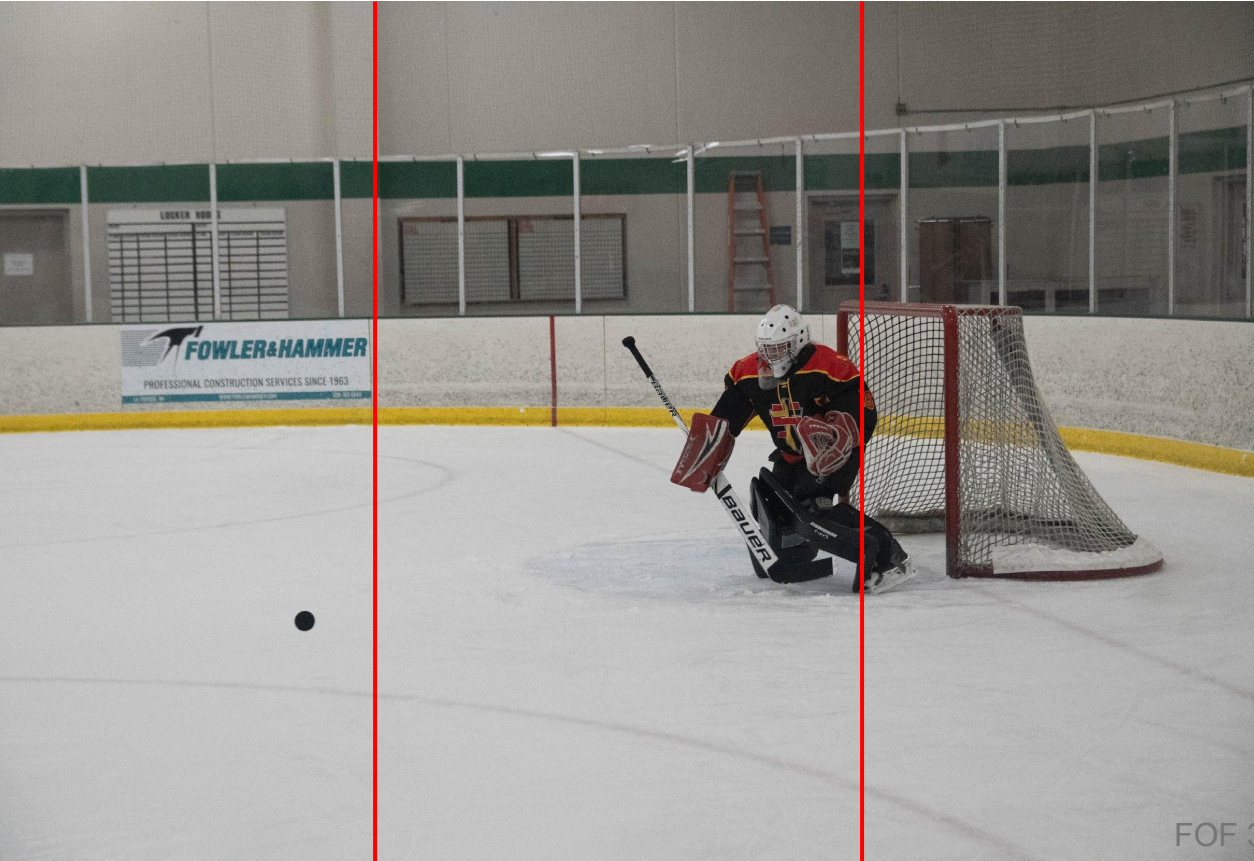
Stage 1- focus only

- Focus will retain locked even if camera is moved.
 - Useful when focusing on a subject, then moving the camera to put the subject “On the Thirds”
- Pre-Focus on the subject area (in front of the subject) allow for quicker auto focus.

Stage 2- Shutter Release

- Multiple release modes available

1/2 press to focus on the goalie
Move camera to the left and place goalie on the vertical “Third”
Take multiple shots
Allows to capture incoming puck



Shutter Release Options

- Single –
 - One Shot per Click
- Multiple
 - Keeps on shooting as long as shutter is depressed
- Time Delay / Self Timer
 - Pressing the shutter release starts a timer, and the photo is taken when the timer expires
- Time Lapse / Interval Shooting
- Remote –
 - Control Shutter with Remote Control Device

Single Shot

- i. The Release Option almost always used
 - i. The camera records one image every time you fully depress the shutter button.

Remember...

Every time you depress the shutter release...

The Camera

- i. Focuses
- ii. Meters Exposure
- iii. Adjusts one component in the Exposure Triangle if needed (if not in manual mode)
- iv. Then, the Shutter is opened



Multiple Shot (Continuous or Burst)

Records a continuous series of images — a *burst* of frames — as long as you hold down the shutter button.

Must choose:

Continuous High (maximum frames per second) or

Continuous Low (typically around three frames per second)

A few tips to know about this mode:

- How many frames per second you can capture depends on your camera and memory card speed
- The Memory Card Read / Write Speed –
 - How fast the camera reads the information off the sensor
 - How fast the information can be recorded on the memory card
- You probably can't use flash. Most cameras disable flash when you select this shutter-release mode because there isn't enough time between frames for the flash to recycle



Shutter Release Options

cont'd

- i. Time Delay (Self-timer mode)
 - i. Pressing the shutter release starts a timer, and the photo is taken when the timer expires
 - ii. Usually 2, 5, or 10 second delay
 - iii. Some cameras allow user to determine the time delay
- ii. When to use Time Delay Mode
 - i. Self Portrait
 - ii. Macro
 - iii. When using a tripod

Shutter Release Options

cont'd

- i. *Interval or intervalometer* shooting mode
 - i. This feature enables you to set the camera to automatically capture one or more frames
 - ii. Over a period of time, or a number of photos
 - iii. With a specified interval between capture sessions.
 - iv. Picture, delay, picture, delay, picture, etc.
 - v. Similar to Multiple Mode, but user can set interval between shots
- ii. When to use Time Lapse Mode
 - i. You might use this option to record the gradual opening of a flower bud over a couple of days, for example.
 - ii. Capturing the movement of the moon
 - iii. Demolition of a building
 - iv. Building a stage for a concert

Remote Shutter Release

i. Remote control mode:

1. Some cameras enable you to trigger the shutter button with a corded or wireless remote control.
 1. You may need to choose a special shutter-release mode to take advantage of that option, so consult your camera manual about this issue
 2. As with self-timer mode, you may be able to tell the camera to release the shutter as soon as you press the button on the remote or to delay the release for a couple of seconds.
2. Many cameras offer the option to use a smartphone instead of a dedicated camera remote to trigger the shutter release.
 1. To take advantage of this option, you need to download the proper app from the manufacturer's website



Focus Mode - Auto

AF-A Auto Autofocus

- AF-A (auto autofocus)
- Automatically switches between AF-S and AF-C modes, Depending on the subject under the active focus point(s).
- If the camera thinks the subject is static, it switches to AF-S.
- If the subject moves, it changes to AF-C.

AF-S Auto Focus Single

- Allows the camera to focus once on a subject a set distance away
- Will not refocus automatically if you or your subject move.
- Once you've achieved focus lock, the focus point will briefly flash green to confirm.
- Best for static subjects like landscapes

AF-C Auto Focus Continuous

- To use AF-C (continuous autofocus), half-depress the shutter button (or AF-ON) to continually focus on the subject under the active focus point(s).
- The autofocus system will automatically adjust to keep your subject in focus,
- The focus point stays red because the system is continually focusing.
- Follows the Subject, or Focuses on Eyes, or
- Best for tracking moving subjects, such as birds in flight

Focus Mode - Manual

MF - Manual Focus

- Can help you target your subject more accurately in low-light conditions,
 - such as for a tripod-mounted twilight shot,
 - or with fast-moving subjects travelling down a predictable path, like a racetrack.
- It's also good for low-contrast subjects, where autofocus would struggle to focus
- Or where there's little difference in color between your subject and the background.
- Useful if you want to use Focus Peaking
 - Works by detecting edges of highest contrast in your scene (and therefore most in focus) and highlighting them in a bright color, usually of your choice
- Use the Focus Ring on Lens

FOF 3.1 knobs





Auto Focus Areas

Pinpoint AF

Single AF

Wide Angle

Dynamic AF

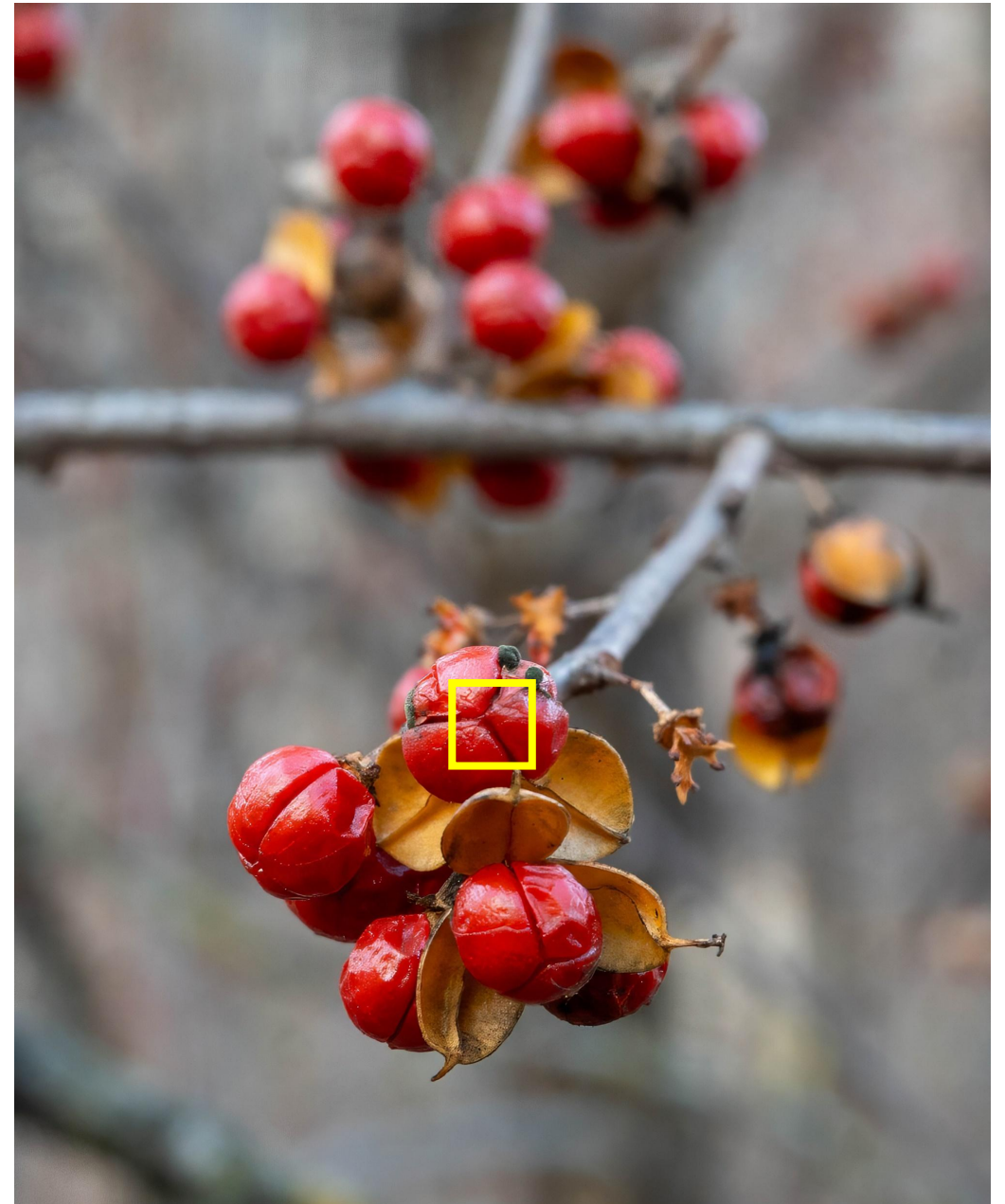
3-D Tracking

Auto Area AF

Auto Focus Area

Pinpoint AF

- Offers a very small, very precise AF point that is ideal for static subjects.
- The camera focuses on a point selected by the user.
- Only available in AF-S
- Ideal for when you're using very shallow depth of field photography
- Useful when using Macro



Auto Focus Area

Single Point AF

- Offers a standard sized AF point whereby one of the camera's multiple AF points is selectable. Similar to Pinpoint, but covers a larger area
- The camera focuses on a point selected by the user
- Available in AF-S as well as AF-C.
- This mode is ideal for stationary subjects and when you want to choose the exact point of focus.
- The post on the net was the auto focus area
- Used a deep depth of field to include the entire goalie crease



Auto Focus Area

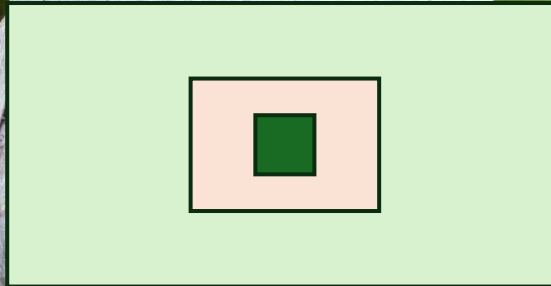
Wide Area AF

- Operates like a larger version of the Single-Point AF. It offers a larger field of active autofocus to detect and focus on a subject.
- There are two options for Wide-Area AF — larger and small. The smallest option is still much larger than Single-Point AF, while the larger option has more area still.
- Ideal for groups of people in the same plane of focus, such as a group portrait, or large subjects such as a vehicle or train



Auto Focus Area Comparison

- Pinpoint
- Single Point
- Wide Area



Auto Focus Area, Cont'd

Dynamic Area AF

1. The Dynamic-Area modes offer various size AF selectable area boxes — small, medium and large.
2. The focus point is selected manually. The camera focuses on the subject in the selected focus point when autofocus is initiated, but if the subject later briefly leaves the selected point, the camera will focus based on information from surrounding points.
3. Dynamic-Area AF is only available in AF-C mode.
4. Dynamic-Area AF mode is ideal for fast moving subjects (sports, wildlife) and want to cover a larger portion of the frame with the AF box,

3D Tracking

1. Continuously track that subject across the frame.
2. Only available in AF-C Mode

Auto Area AF

1. Mode lets the camera intelligently detect and determine subjects.
2. The camera will automatically prioritize and focus on these subjects.
 - Eye
 - Face
 - Animal
 - Vehicle
3. Auto-Area AF will often prioritize nearer subjects over far subjects

Metering

How your camera evaluates the light of a scene to determine the correct shutter speed, aperture, and ISO

- Matrix
- Center Weighted
- Spot
- Highlight Weighted



Matrix Metering (Evaluative Metering)

- Is the Default metering mode on most digital cameras
- The camera meters a wide area of the frame and sets exposure according to:
 - Tone Distribution
 - Color
 - Composition, and
 - Distance
- It works by dividing the entire frame into multiple “zones”, which are then all analyzed on an individual basis for light and dark tones
- Does not track Focus Point





Center Weighted Metering

- Meters entire frame but assigns greatest weight to center area.
- Compared to Matrix Metering, Center-weighted Metering does not look at the focus point you select and only evaluates the middle area of the image.
- Works great for close-up portraits and relatively large subjects that are in the middle of the frame.
- For example, if you were taking a headshot of a person with the sun behind him/her, then this mode would expose the face of the person correctly, even though everything else would probably get heavily overexposed.

Center Weighted Metering Comparison

Sky underexposed, loses detail
Midground, Foreground OK

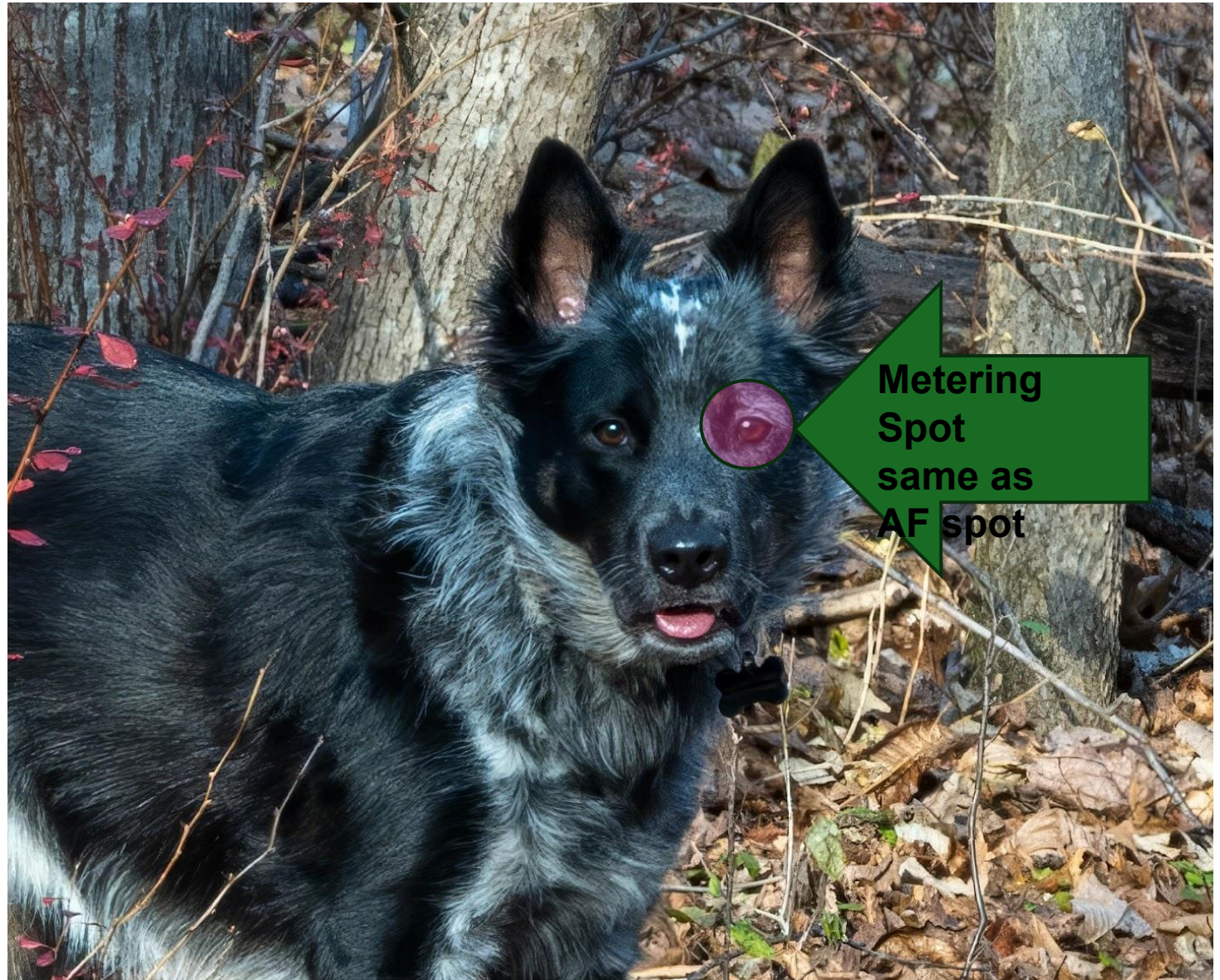


Midground, foreground underexposed, loses detail.
Sky exposed well



Spot Metering

- i. Camera meters current focus point
 - i. Does not matter where the focal point is - center of the frame, off-center of the frame, etc
- ii. Evaluates the light around your focus point and ignores everything else.
- iii. Choose this mode to ensure that subject will be correctly exposed, even when background is much brighter or darker.
- iv. Pinpoint AF and Single Point AF
- v. In short, spot metering is good when you want the brightness of your specific subject to be a “middle” value.



Highlight Weighted Metering

- Assigns greatest weight to highlights. Use to reduce loss of detail in highlights, for example when photographing spotlit performers on-stage.
- Highlight priority metering aggressively protects the highlights in your shots. This can be very useful if you have some brighter areas near your subject that you don't want to overexpose.

