

Focusing

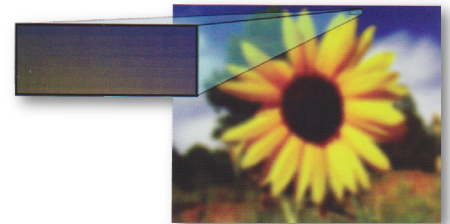
Where to start...

- ❑ When on auto, pressing the shutter button causes the camera to meter.
 - ❑ The camera's meter measures the brightness.
 - ❑ Settings appropriate for that scene are chosen.
- ❑ Settings can be chosen manually if so desired.
- ❑ There are several different types of autofocus but that isn't important to this lesson.

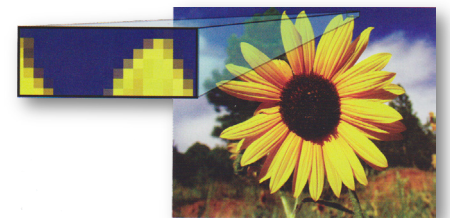
Focus – How it works

- ❑ There are two types of focus systems, phase detection and contrast detection.
- ❑ Contrast detection system
 - ❑ This simply means that the camera searches for contrast until the image has as much contrast as possible.
 - ❑ When the shutter button is pressed halfway, the camera begins to adjust the lens to find contrast, examines the contrast and then refocuses until maximum contrast has been achieved.

- ❑ This image lacks contrast in pixels.
 - ❑ Notice there is very little contrast from pixel to pixel.
 - ❑ When the camera reads this, it continues to adjust the lens until the image has more contrast.

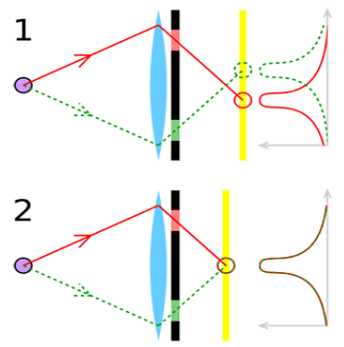


- ❑ This image now has a lot of contrast
 - ❑ Notice that each pixel has high contrast from one pixel to the next.
 - ❑ When the camera reads this, it is satisfied with its focus (because it reads a high level of contrast) and signals that focusing is complete and the picture can be taken.



- ❑ Phase Detection is a little more complex
 - ❑ For each focus point in the camera there are two sensors on each side of the lens.

- ❑ If the image is the two points will line up.
- ❑ If they do not, the camera knows how much to adjust the focus.



Focus – A Few other bits of Info

- ❑ Some cameras take more focusing than others.
 - ❑ This simply means that they are capable of more than those with less steps.
- ❑ Focusing is performed using , so in low light it is more difficult for cameras to focus.
 - ❑ Most cameras have a lamp (a flash that goes off) to aid focus in dimly lit areas.



Passive Autofocus System

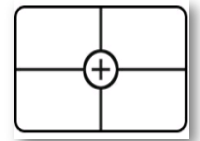
- ❑ The focusing procedure we just discussed is known as a system, but there are other systems.
- ❑ Passive auto focusing is simply the of the systems that are used.

Autofocus Modes

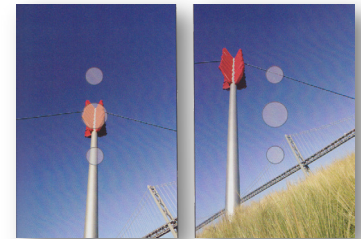
- ❑ Aside from simply focusing the image on contrast, cameras offer Autofocus modes to change the on focusing.
- ❑ These focus modes are entirely of the focusing system that the camera uses.
- ❑ The focus modes will vary from camera to camera and will often include of the following:
 - ❑ Focus Points
 - ❑ Face Detection Autofocus
 - ❑ Continuous Autofocus
 - ❑ Focus Tracking
 - ❑ Manual Focus

Autofocus Modes – Focus Points

- Focus points enable focusing to be chosen.
- On some cameras this will be marked as a box or in the middle of the frame.
- On more advanced cameras, an will be visible in the frame.
 - When a camera the chosen focus point will light.
 - The number of can vary from 7-20 depending on the camera.
 - The focusing point can often be to ensure that the correct area in the frame is in focus.
- Once focus has been locked on a subject, the subject can be moved of the frame without losing focus.



- It's often difficult to use the rule of thirds with a center focusing camera, but once the focus is locked, the camera can be to change where the subject falls in the frame.



Autofocus Modes – Face Detection

- In this mode, the camera automatically looks for when focusing.
- A usually appears on or around each face.
- Other version of this mode will not take the picture until the subject the camera is held steady, etc.



Autofocus Modes – Continuous Autofocus

- This mode each time the camera moves or is re-zoomed.
- This can really the cameras battery.

Autofocus Modes – Focus Tracking

- To focus on a moving subject, it involves locking in on a subject, and then until the shot is perfect.
- Focus tracking tracks a moving subject even when



the shot is reframed.

- ❑ To use it, simply active the mode and focus as usually, however the camera will probably never or show a green light, but the shot can be taken anytime.

Autofocus Modes – Manual Focus

- ❑ On cameras this is usually not a good option.
- ❑ On SLR cameras this requires flipping a on the lens. Changing focus with these cameras simply involves turning the focus ring.
- ❑ One good feature about manual focus is . When the camera is locked on infinity the camera will operate quicker.
- ❑ Manual focus is great for allowing freedom.



Evaluating Focus

- ❑ Even with a good size LCD screen, it is often difficult to truly on a camera.
- ❑ Zooming in can help on the cameras LCD can help, but the best way to view focus is to take the image to a bigger screen right away.
 - ❑ Eye-Fi
 - ❑ Tethering



Golden Rule on Focusing

- ❑ Just pay attention to the
 - ❑ The camera will not always perfectly focus so pay close attention and when in doubt, shoot multiple shots.

Focus & Exposure

- ❑ Focusing on a tells the camera to choose an exposure that works for that subject
- ❑ This may mean that the subject is in focus and correctly exposed but the background is soft and
- ❑ Subject and will not always be perfectly exposed

- ❑ The same shot can use different exposure settings depending on the that
is focused on.
- ❑ Focusing on the subject is important for getting the
- ❑ Experiment with the to see how it effects your shots.