



The Newsletter of the Syosset Camera Club

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Autofocus

Surrounded by technology as we are, it is easy to take for granted the incredible convenience of autofocus. Not only is it fast, it is accurate- typically within a distance of 1/3 of the depth of field at the widest lens aperture.

First a little background: The first autofocus camera ever, was a Leica which in 1976 which was called the Correfot. Unfortunately they never marketed it. In 1978 Leica also demonstrated an autofocus SLR. The title for the first mass-produced autofocus camera however, goes to Konica for the C35 AF, a simple point and shoot released in 1977. I'm sure you will remember the 1978 Polaroid SX-70. Believe it or not, that was the first autofocus single-lens reflex camera. The 1981 Pentax ME-F, which used focus sensors in the camera body coupled with a motorized lens, became the first autofocus 35 mm SLR. In 1983 Nikon released the F3AF, their first autofocus camera, which was based on a concept similar to that used in the ME-F. The Minolta Maxxum 7000, released in 1985, was the first SLR with both the AF sensors and the drive motor contained in the camera body, as well as an integrated film advance winder, which became the standard configuration for Minolta, as it would for Nikon. Canon however, developed their EOS system with motorized lenses

Meeting Schedule

October

20 "Birds of Prey" presented by Dave Gardner

27 Critique and "Special Exposure Conditions" presented by Marty Silverstein

November

3 Competition – Judged by Laura Eppig

10 "Macro Photography" presented by Harvey Augenbraun

17 Critique and Presentation TBA

December

8 Competition – Judged by Andrew Kurchey

15 "The Past 5 Years of my Vision" by Ken Bausert

22 Critique and Presentation TBA

January 2012

12 Competition – Judged by Adolfo Bricerno

19 Lecture by John Brokos

27 Critique and Presentation TBA

February

9 Competition – Judged by Leon Hertzog

16 Lecture *Open*

23 Critique and presentation

March

8 Competition – Judged by Joe Senzatimore

15 Lecture on Flash by Marty Silverstein

22 Critique and presentation TBA

April

5 Tentative SCC Board Meeting

12 Theme Competition Seascape Judged by Dick Hunt

19 "Digital Show" by Jan Altes

26 Critique and presentation

May

10 Competition - Judged by

17 "Monitor Calibration" by Ben Vaccaro

24 End of Year Competition

June

1 or 8 Awards Dinner - Tentative

instead. Nikon adopted this strategy with their AF-S lenses. Today, entry level Nikons use lens based autofocus only.

The process of autofocus starts with one or more sensors behind the lens which may or may not do double duty with the autoexposure system, allowing the camera to meter and focus on the same spot.

All modern SLRs allow a choice between manual and automatic selection of the active sensor. The algorithms used also detect the subject's location and whether it is moving towards or away from the camera, including the subject's speed and acceleration. This keeps the subject in focus regardless of where or how fast it is moving. Canon calls this feature AI servo. Nikon calls it "Continuous Focus". A feature called trap focus can be used to automatically release the shutter when the subject moves into the area of focus.

The data collected from sensors controls a motor that adjusts the focus of the lens. Refinements in this area are the subject of a whole different article. When using a lens that does not autofocus, the camera's electronics can be used as an "electronic rangefinder," in which an indicator in the viewfinder confirms optimal focus.

The speed of an autofocus system is partially dependent on the maximum aperture of the lens. F-stops of around f/2 to f/2.8 are generally considered optimal in terms of focusing speed and accuracy. Faster lenses may actually take slightly longer to focus, because although they admit more light, the shallow depth of field requires a longer time to achieve critical focus.

Most cameras will autofocus reliably with lenses that have a maximum aperture of at least f/5.6, while high end SLRs can often function with lenses that have a maximum aperture of f/8. This is an important feature when considering the use of a teleconverter, where f/5.6 becomes f/8 or /11 depending on whether it's a 1.4x or 2x.

Active AF systems are mostly of historical interest such as in the Polaroid SX-70. They measure distance to the subject independently of the optical system. There are several ways of doing this, including ultrasonic sound waves and infrared light. In the first case, sound waves are emitted from the camera and the distance is determined by the time required for the reflection to be received at the camera.

Passive AF systems determine focus by analyzing the image that is entering the lens. They do not direct any energy toward the subject, although an autofocus assist beam of infrared light may be used when there is not enough light to take a measurement. Passive autofocusing can be achieved by phase detection or contrast measurement.

Phase detection is achieved by dividing the incoming light into pairs of images and comparing them. The system uses a beam splitter comprised of a semi-transparent area of reflex mirror, coupled with a secondary mirror to the light to an AF sensor at the bottom of the camera. Micro-lenses capture the light rays coming from the opposite sides of the lens and divert it to the AF sensor, creating a rangefinder with a base within the lens's diameter. The two images are then analyzed for light intensity patterns

<p style="text-align: center;">Canon Lenses for Sale</p> <p>EF 70-300 IS f4-5.6 USM with hood \$400</p> <p>100 mm Macro AF f2.8 USM \$400</p> <p>EF 28-135 mm f3.5-5.6 IS \$300</p> <p>All in first class condition- no dings</p> <p>Phone Ira Sunshine: 516-496-4482</p>
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the
direct

Scores for Syosset for October

Judges - Dennis Golin - Susan Nolan - John Brokos

BLACK AND WHITE A

Alan Agdern	Lions Lusting	24
Valerie DeBiase	Band shell	22
Peter Newman	The Fisherman	22
Ramesh Patwah	Anchored Boat	20
Linda Volin	Amazing Architecture	20
Jules Weisler	Kinderjik Windmill	19

BLACK AND WHITE B

Sunil Chhatpar	Lighthouse 4	24
Burt Ettinger	Alley Lady	21
Frank Kirshenbaum	Mystical Rome	21

COLOR PRINTS A

Alan Agdern	Waiting For Lunch	24
Valerie DeBiase	Goin' To The Chapel	22
Chris Ferrara	Small Cars, Big Falls	22
Peter Newman	Duck Into The Soup	24
Ramesh Patwah	Reflections	23
Marty Silverstein	C'mon Dad, Let's Play	25

COLOR PRINTS B

Sunil Chhatpar	Gorilla Looking	22
Burt Ettinger	West Cost Lighthouse	24
Frank Kirshenbaum	Bee Posse	22
Linda Volin	Let's Shake Hands	19
Jules Weisler	Parrot	21

DIGITAL A

Alan Agdern	Long Beach Surfer	21
Chris Ferrara	Sea Life	21
Barry Goldstein	Barn Odyssey	21
Gerald Harrison	Hummingbird 5476	22
Peter Newman	Fearsome March	22
Ramesh Patwah	Flower	21
Fred Sterman	Downtown-1	19
Marty Silverstein	morning muster	23
Linda Volin	Balloon Spectacles	20
Jules Weisler	3 of a kind	22

DIGITAL B

Sunil Chhatpar	Butterfly 7	23
Sunil Chhatpar	Water Lilly	23
Alice Langholz	Palouse greenery	23
Alice Langholz	Greek lighthouse	19
Stan Rothman	under the bridge	21
Stan Rothman	vertical symphony	22

and the separation error is calculated in order to find if the object is in front focus or back focus. This gives the direction of focusing and amount of focus ring's movement. Phase detection is generally the fastest method and the one used in most SLRS when not in live view mode.

Contrast measurement is achieved by measuring contrast within a sensor field, through the lens. The difference between adjacent pixels of the sensor naturally increases with correct image focus. The optical system can thereby be adjusted until the maximum contrast is detected. In this method, AF does not involve actual distance measurement at all and is generally slower than phase detection systems, especially when operating under dim light. Furthermore focus tracking is not feasible. As it does not use a separate sensor, however, contrast-detect autofocus can be more flexible and potentially more accurate. This is a common method in video cameras and consumer-level digital cameras that lack shutters and reflex mirrors. Mirrorless interchangeable-lens cameras, including Micro Four Thirds, exclusively use contrast measurement autofocus with the exception of the new Nikon 1 series. Their manufacturers claim performance comparable or even faster than phase detection systems, though it is unclear under what conditions these claims hold true.

In July, 2010, Fujifilm announced the F300EXR, which included a hybrid autofocus system consisting of both phase detection and contrast-based elements. The sensors implementing the phase detection AF in this camera are integrated into the camera's Super CCD EXR.

Monthly and YTD Standings

Note: If total entries at the end of the year are 18 or more, there will be no adjustment to the YTD average. If total is 15-17; 0.1 adj.; 12-14; 0.2 adj.; 9-11; 0.3 adj.; 6-8; 0.4 adj.

	Top 2 Scores Avg				Top 2 Scores Avg		
	Sep	Oct	YTD Avg		Sep	Oct	YTD Avg
B&W A				Color AA			
DeBiase, Valerie	8.25	9.25	8.75	Agdern, Alan	8.75	9.50	9.13
Herbst, Al	No Entry	7.50	7.50	Silverstein, Marty	9.25	8.75	9.00
Markewitz, Moshe	No Entry	8.50	8.50	Creative			
Metzger, Peter	No Entry	8.50	8.50	Bass, Vivian	No Entry	8.00	8.00
Newman, Peter	7.50	8.25	7.88	Newman, Peter	8.25	8.25	8.25
Patwa, Ramesh	8.75	8.25	8.50	Rose, Doreen	No Entry	9.00	9.00
Ross, Alan	No Entry	7.50	7.50	Scheinerman, Ira	8.75	8.50	8.63
Scheinerman, Ira	No Entry	8.00	8.00	Silverstein, Marty	No Entry	9.00	9.00
Volin, Linda	7.50	7.00	7.25	Sterman, Fred	No Entry	8.00	8.00
Weisler, Jules	8.25	8.25	8.25	Weisler, Jules	No Entry	7.75	7.75
B&W B				Digital A			
Chhatpar, Sunil	7.00	8.50	7.75	Agdern, Alan	8.50	9.00	8.75
Ettinger, Burton	9.50	7.50	8.50	Ferrara, Chris	6.75	8.75	7.75
Ferrara, Chris	No Entry	7.50	7.50	Goldstein, Barry	8.00	8.50	8.25
Kirshenbaum, Frank	6.50	No Entry	6.50	Goldstein, Carol	7.50	No Entry	7.50
B&W AA				Digital B			
Agdern, Alan	8.50	9.00	8.75	Greenberg, Carole	No Entry	7.50	7.50
Silverstein, Marty	9.50	9.50	9.50	Harrison, Aileen	7.00	7.50	7.25
Color A				Digital AA			
DeBiase, Valerie	8.00	7.75	7.88	Silverstein, Marty	9.50	9.00	9.25
Ferrara, Chris	8.00	8.25	8.13				
Markewitz, Moshe	No Entry	7.50	7.50				
Metzger, Peter	No Entry	8.50	8.50				
Newman, Peter	9.00	8.25	8.63				
Patwa, Ramesh	9.50	8.25	8.88				
Ross, Alan	No Entry	8.00	8.00				
Scheinerman, Ira	No Entry	9.25	9.25				
Color B							
Bass, Vivian	No Entry	8.50	8.50				
Chhatpar, Sunil	7.75	9.25	8.50				
Ettinger, Burton	7.75	8.00	7.88				
Herbst, Al	7.25	7.75	7.50				
Kirschen.,Frank	7.75	9.00	8.38				
Langholz, Alice	No Entry	8.00	8.00				
Monahan, Maylan	No Entry	7.75	7.75				
Volin Linda	7.50	7.50	7.50				
Weisler, Jules	8.75	8.00	8.38				