

TAMING THE S.E.I. METER

by
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The $\frac{1}{2}^{\circ}$ S.E.I. is the most accurate meter in common use. It is a comparison photometer that is adjusted to a standard mark each time it is used. By standardizing the output of the built-in light source, all variables such as battery or bulb condition, temperature effects, etc. are cancelled out. Standardizing is quickly accomplished by pressing the button to activate the meter (turn on the light), and then turning the bar on the bottom of the meter to line up the needle with the red standard mark.

The meter is set up peculiarly and if not modified as will be described, it requires a great deal of mathematics to arrive at the previsualized exposure. The manual that is packed with the S.E.I. says you should set the black dot on the ring opposite the speed of the film and then meter the lowest value in the scene where you want to hold detail. Then read the indicated exposure. Actually the meter is set up to read about a Zone II. That method is very slipshod because you have only established one value - Zone II. Other subject luminances might fall where you would like them to, but you would never know - until too late!

But this meter can be set up with a Zone scale to utilize its full potential. Zone VI doesn't make one because of the limited demand, but here is how you can make your own:

1. Type or write the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or use a dymo labeler, etc.
2. Set the black dot opposite "ASA 4." This is an arbitrary reference point only and has nothing to do with the actual speed of the film to be used. Set the black dot opposite "ASA 4 (four)."
3. Paste the number 2 (two) on the beveled silver ring in line with f/2.8 (see illustration).
4. Paste the number 1 (one) opposite f/2.
5. Paste on the other numbers:
 - 3 opposite f/4
 - 4 opposite f/5.6
 - 5 opposite f/8
 - 6 opposite f/11
 - 7 opposite f/16
 - 8 opposite f/22
 - 9 opposite f/32

Now, meter a dark card. (See "Film Speed Test" in THE ZONE VI WORKSHOP).

1. Look at the SHUTTER SPEED on the barrel that is opposite your Zone I sticker. Set that speed on your camera shutter. In the illustration, it shows 1/10 on the center (white) scale is opposite my Zone I. Make sure you read off the scale that is the same color as the dot under the telescope! (The meter has three ranges covering 1 to 1,000,000).

2. Close the lens to its smallest aperture and expose.
3. Without further reference to the meter, next open up by $\frac{1}{2}$ stops until you reach f/11 for Tri-X, f/4 for Pan-X.*
4. Develop the film and with a densitometer locate the frame that has a density of .08 to .10 above film base plus fog. (Film can be sent to Zone VI with \$5.00 for densitometer check). That frame will be about f/22 for Tri-X, f/11 for Pan-X. (35mm. users see note at end).
5. Paste a sticker on the barrel indicating the film and f/stop that gave you the proper density for the Zone I exposure. My sticker reads, "Tri-X, f/22."

Your "speed" for your film is an f/stop! You always use the same f/stop (or equivalent).

Meter a value that you wish to place on, say, Zone VI. Look opposite your pasted-on Zone VI label to find the shutter speed that you should use with your personal f/stop. Let's assume the shutter speed that appears opposite Zone VI is 1/125. Say "1/125" out loud. Next, meter a low value and see which Zone 1/125 falls opposite. If you are satisfied with those placements, your exposure will be 1/125 second at your personal f/stop. (Of course, if your f/stop is 16, instead of 1/125 at 16 you can use 1/250 at 11, etc.).

Ignore any numbers to the right of your Zone scale forever. You work only with your personal f/stop, the shutter speed, and your Zone scale.

This method is far easier to use than it is to describe and much of it seems to make little sense (like setting ASA 4 regardless of the film being used), but if you follow the directions - blindly if necessary! - you will be making the most precise previsualized exposures imaginable after only a few minutes of practice.

Note: The meter shown here was set up so that my Tri-X exposure works out to f/22. This is fine for view camera users because those lenses stop down to f/64. If you are using a 35mm. camera and Tri-X, it would be more convenient to set the black dot at 1.0 (not 10) - one point zero - before attaching your Zone scale. Then your personal f/stop will be close to f/11 which is more convenient for 35mm. use. If you decide to start with the black dot opposite 1.0, then paste on your Zone II opposite f/1.4, Zone III opposite f/2, IV opposite f/2.8, etc. When you make the film speed test, open up from the smallest aperture to f/5.6 for Tri-X and 2.8 for Pan-X.

To use other films is easy. You simply test for Zone I as above and add the information to your label. The "information" will always be an f/stop. Your label may look like this:

* Make one exposure for each $\frac{1}{2}$ stop setting - If your lens closes down to f/22, expose at f/22, f/16/22, f/16, f/11/16, f/11. (five exposures).

Tri-X	f/22
Pan-X	f/11
K-II	f/8

After the Zone numbers are pasted on, it is a good idea to wrap several layers of transparent tape over them to protect them from scuffing and dampness.

One further modification; (I've never owned a piece of photographic equipment that couldn't be improved), is the addition of a short piece of black rubber hose that is slipped over the telescope eye piece to cut down flare. If it extends about 3/4" beyond the lens, it will act like a small lens hood.

To review:

1. Set up the meter with a Zone Scale.
2. Locate your personal f/stop - the one that delivers .10 density at the shutter speed that is opposite your Zone I sticker. Note that for this test the shutter speed stays the same for all exposures. Only the aperture is changed by $\frac{1}{2}$ stops. The shutter speed is the one opposite Zone I.
3. In the field, meter, for example, a flesh tone. Note the shutter speed that appears opposite your Zone VI sticker. Other values are then metered and will fall on the Zones opposite that speed.

