

TRI-X: F/1.9 AT 1/400 SEC.



Arthur Kramer on assignment tries Eastman Kodak Company's amazing high speed film. Here is what he found about it.

We're off on one of the first photo assignments ever to be shot on Eastman's new high-speed film, Tri-X. One 35mm Canon camera is Tri-X loaded; the other holds Super-XX for comparison. The shutters of both have been checked for accuracy. We're going to use one lens for both cameras, a Serenar 50mm f/1.9, to make sure our results with the two films are as comparable as possible. How fast is the film? Well, Eastman Kodak Co. claims Tri-X (available in 35mm, 620, 120 roll film and 4 x 5 film pack sizes) has about twice the speed of Super-XX. Its ASA daylight exposure index is a conservative 200 with an exposure index rating of 160 correct for tungsten lighting. Its exposure and develop-

ment latitude are described as "exceptional" by Kodak.

All right. Our assignment is a midnight jazz concert in Carnegie Hall featuring three small musical groups plus a large orchestra. There won't be much light, maybe none. We've got a Norwood Director meter along. We hope the meter needle will register something more than zero. As a matter of fact we're in luck. Before the performance starts we take meter readings with the slide out for maximum sensitivity. Computing the proper exposure from the meter dial, we figure we should shoot at f/1.9 and 1/5 sec. in the dark areas, and f/1.9 at 1/20 sec. in the light areas. Ever try to stop a jazz musician at 1/5 sec. or even 1/20? So we have a good

SUPER-XX: SAME EXPOSURE



chance to test the speed of the film. Let's assume it has an exposure index of 1000 in tungsten light. We move the meter dial around to 1000. With this film rating the meter says we should shoot at $f/1.9$ and $1/50$ in the dark areas and $1/200$ in the light areas. This film's supposed to be fast? Let's double the rating to 2000 and see what we get with forced development. Now we're reading to shoot in the dark areas $f/1.9$ at $1/100$ sec. at $1/400$ in the light areas—quite a difference from the recommended meter readings based on film ratings. Here come the Stan Getz quartet. They begin to play. The two soloists are in our light area. We shoot with Tri-X at $f/1.9$ and $1/400$ sec. We shift the lens over to the Super-XX loaded camera and make another picture at the same exposure (see pictures above). We mark each roll of film so that we know these must be “pushed” in development if we're to get anything at all.

From the stage, you can hardly see the audience in the hall. For fun we make a $1/2$ sec. exposure at $f/1.9$.

A reflecting light meter reading won't even budge the needle from zero. We also shoot the same scene with Super-XX, same exposure.

Now back in the darkroom, the rolls of Tri-X and Super-XX shot at the 2000 rating are loaded onto Nikor reels. Both films are placed in the same tank. Normal development in DK50 (the highest energy developer recommended by Kodak) is seven minutes at 68 degrees with intermittent agitation. We develop for 15 minutes. The results (see pictures above) speak for themselves. When both Tri-X and Super-XX are pushed for maximum speed, the difference is immense. The Tri-X is a good, full-bodied, amply detailed negative. It has detail in the shadows and good highlights. We print it easily on a No. 2 paper. The Super-XX negative is almost clear film with only the highlights printable.

So now we know that for maximum film speed, Tri-X has it over Super-XX. We also try forcing development of Tri-X in a famous imported (Continued on page 109)

TRI-X ASSIGNMENT

(Continued from page 81)

developer we'd been using with Super-XX. With DK50 the negatives are better, with less graininess, more shadow detail, maybe a bit more speed. My new recipe for maximum speed—Tri-X and DK50.

Maybe you're not shooting in the dark. Maybe you're in a well-lit room or outdoors and you've got a few rolls of Tri-X. Suppose you shoot at the 200 ASA exposure index or 160 tungsten exposure index. What do you get under normal conditions? Let's see. We'll expose both Super-XX and Tri-X normally—that's 160 for Tri-X and 80 for Super-XX. One roll of each will be developed for the recommended time, 16 minutes in Microdol. Then we'll make enlargements of each negative to see how they compare.

We grab the guy with whom we share the studio and push him into a chair. We set up portrait lighting with a highlight and a shadow side on his face. With Tri-X and a film rating of 160, we make an exposure by meter of 1/100 at f/5.6;

(Continued on page 110)

JANUARY, 1955

TRI-X ASSIGNMENT

(Continued from page 109)

with Super-XX at a film rating of 80, we expose at 1/100 and f/4. Now we develop each normally in Microdol. Let's take a look at the negatives. The Super-XX negative is a bit denser than the kind I like to work with. I'd generally shoot at a rating of about 200 with Super-XX in tungsten light. But that Tri-X! It's about one stop denser than the Super-XX, even when both have been given normal development. It's much too dense a negative for my liking. I'd rate it at about 400 tungsten instead of 160. Further ex-



The meter needle wouldn't budge. For fun, we made a $\frac{1}{2}$ sec. exposure at f/1.9 on Tri-X of the jazz audience. Here's what we got. On Super-XX, the negative was almost blank, unprintable.

periments prove that Super-XX at 200 and Tri-X at 400 give me negatives of about the density I like when developed normally. That's indoors. Outdoors, although Super-XX is rated at ASA 100, I always have been happier with negatives shot at 250. With Tri-X, I try 600. The negatives are good.

Now let's make some enlargements from the portraits and check the graininess. We make 20 diameter enlargements on No. 2 paper, same time and same development for Super-XX and Tri-X negatives. Not much sense in showing them here, you can't see enough difference. *Although Tri-X is faster than Super-XX, the graininess is about the same.* The film's tonal rendition and contrast are very similar to Super-XX. The main adjustment you must make when using Tri-X is one of speed, not quality. And don't overdevelop Tri-X if you expose normally or overexpose. Overdevelopment without an accompanying underexposure produces real highlight blocking, image decomposition and heavy graininess (see pictures, *opposite*).

What have we learned from all this testing? We discovered that Tri-X when badly underexposed will yield far stronger results under forced development than Super-XX exposed similarly. Under normal conditions with normal development, there seems to be a bit more than a full stop difference between



Don't overexpose and then overdevelop Tri-X. Both top picture made on Super-XX and bottom picture on Tri-X were exposed at Super-XX film rating of 80. They were then developed for 21 minutes in Microdol, 5 minutes more than normal. Super-XX was good quality negative. Tri-X had blocked highlights, loss of definition and much graininess.

the two films. (For work in normal conditions, we would use Tri-X at 600 outdoors and 400 in tungsten light with normal development in Microdol.)

What are you going to use Tri-X for? We don't think it's to be employed as a general purpose film. It's just too darned fast to handle easily in bright sunlight unless you have a camera with speeds of 1/1000 or more and a lens giving extremely good definition when stopped down to or past f/22. In poor light, in existing light photography, it should prove a real friend. The photographer with a roll film or film pack camera and an f/3.5 lens can now take the pictures which last year were available only to the man with a 35mm camera and f/2 lens. And the man with an f/2 or faster lens can become more unobtrusive than ever, working when necessary in lower light intensities with no flash or flood, but still confident that his pictures will have sufficient detail in highlights and shadows with acceptable graininess.

—THE END