

Telephoto Flash

*How it works and how to use it
to improve all kinds of telephoto pictures*

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NO DOUBT YOU HAVE ATTENDED an evening concert or football game and noticed people in distant seats taking pictures with Instamatic-type cameras with flash cubes. Do any of these pictures ever turn out? Of course not. Part of the problem would be eliminated if the photographer used a single lens reflex camera with a telephoto lens but an amateur flash unit would be woefully inadequate. The solution would be to turn the amateur flash unit into a telephoto flash.

Telephoto flash is simply the process of adapting a shoe mount amateur flash unit to illuminate selected faraway subjects rather than any or all nearby subjects. To do this the light must be redirected. When light leaves a flash unit the angle of coverage is 45–50 degrees. In order to project the light necessary to redirect the light a greater distance it is necessary to redirect the light either with a fresnel lens or a parabolic reflector so that it covers only several degrees.

Flash thus modified becomes a useful tool to the bird photographer who often encounters his subjects under less-than-ideal lighting conditions. Telephoto flash has two basic drawbacks which should be noted. First, it can result in "pink eye," a horrible affliction in which the eye of the bird shows as a pink or red reflector. This is eliminated by catching the bird when it is not looking directly at the photographer. Second, the lighting will be "flat", since it is coming from exactly the same angle as the camera. But keep in mind that flat lighting is better than no lighting. These drawbacks are something to consider if shooting for salon prints but are not applicable if shooting to verify a sight record.

I GREATLY PREFER USING available natural light whenever possible but situations arise which demand manipulation of the light. At the first sign of low light I get out my flash unit.

I prefer to use a Nikkormat EL for my camera since it has a flash "sync" of 1/125 second which lessens the chance of a ghost image on the slide. For a flash I prefer the Honeywell 462 used in the manual mode. However any flash unit of similar size and output is adequate. The fresnel lenses are available from Edmund Scientific Company, 300 Edscorp Bldg, Barrington, N.J. 08007. For a 200–250mm camera lens use stock number 40,803 (\$7.25) and mount it 8½ inches in front of the flash. For a 300–500mm lens use stock number 60,498 (\$7.00) and mount it 13 inches in front of the flash. The fresnel lens should be mounted on camera lenses which do not twist to focus such as Leica, Novoflex, etc. On my Novoflex I use the accessory Pistar ring with the tripod mount turned straight up. The fresnel is attached by using a small L brace. The fresnel lens is mounted horizontally and parallel to the film plane. The flash is mounted on the hot shoe over the camera pentaprism. The parabolic mirror is mounted beside the camera body and allows twist focusing of the camera lens. The Camera 7 Maxiflash holds the flash unit pointing backwards and reflects the light on the bird. It is available from Camera 7, 7 Rue La Fayette 75, Paris 9e, France. In 1974 the price was \$44., but it is advisable to write for a price quotation in New Francs and then consult a bank for the current exchange rate. The price will include air mail postage.

The Honeywell 462 flash I use has a guide number of 56 with ASA 25 film. When I add the fresnel lens or the parabolic reflector it is an effective guide number of 190. This increase enables usage of f/5.6 at 35 feet; with ASA 64 film, f/5.6 at 50 feet or f/8 at 35 feet. These figures can serve as a guide when making your own tests. Probably the best way of measuring the output of your flash combination is with a flash meter. Set the meter for the speed of your

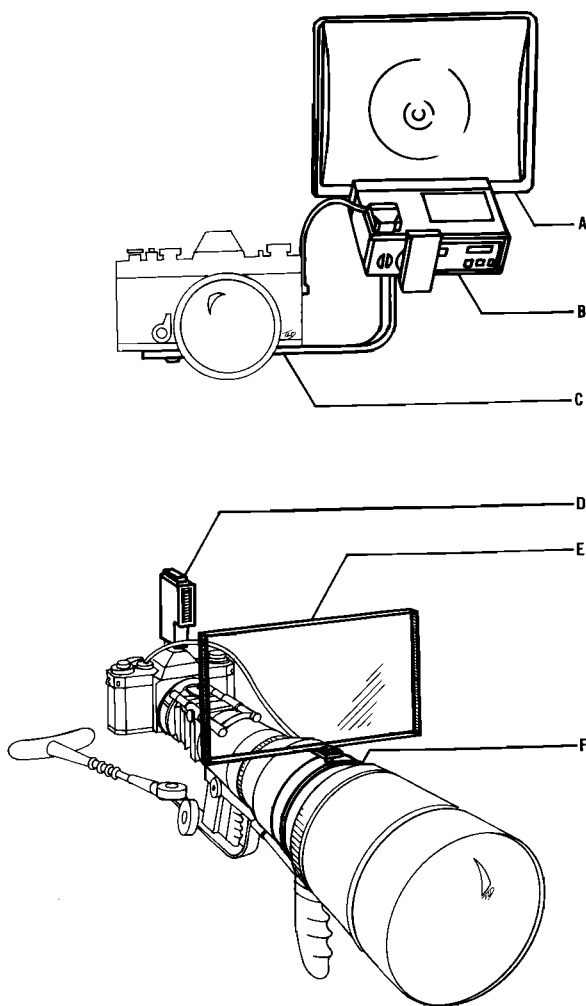


Fig. 1. Diagrammatic scheme of teleflash set-up. A. parabolic reflector B. flash unit pointing backwards C. flash mount D. flash unit E. fresnel lens F. pistol ring.

Drawing by T.L. DeMott

favorite film and place it on a table. Pick a distance marking on the lens barrel and set the focus to it. Back up until the flash meter is in focus. Press the open flash button and observe the reading on the meter. (Note: although the aiming of the flash is not critical when taking pictures, it is when testing with a meter, owing to the very small eye on the meter. Take several readings and use the highest. The result should correspond closely with the above guide.) Determine the correct aperture for each distance marking on the lens barrel speeds computing in the field. If you use a

Leica or Novoflex, you might consider scratching a series of thin lines along the barrel.

MANY PHOTOGRAPHERS ADVOCATE using a mirror to reflect sunlight on a shaded bird; but I have never had any success with this approach. I have used automatic flash units and placed the detachable eye in front of the fresnel lens and had limited success. The problem with automatic flash is that it never gives off exactly the same amount of light when it is repeated in the same situation and thus it is not for perfectionists. I prefer to use



Fig. 2. Barred Owl in available light



Fig. 3. Barred Owl using telephoto flash



Fig.4. Barn Owl, using telephoto flash, with parabolic mirror. Lens prefocused to 35 feet. Pink eye will occur if bird is looking directly into camera.

flash in the manual mode and be assured of the light output. I should mention here that the Vivitar 283 advertises telephoto flash. I have investigated this claim and found that they use a small fresnel lens close to the unit which increases the guide number from 60 to 87. The devices I have described would change the Vivitar guide number to 200.

The pictures accompanying this article show some practical applications of telephoto

flash. These accessories are light, relatively inexpensive, and are capable of greatly improving some marginal pictorial situations.

Bibliography

“Tele Flash? You Bet!! It’s Simple” by Ed Scully, *Modern Photography*, August 1971, p. 78.

“Keppler on the SLR” by Herbert Keppler, *Modern Photography*, September 1972, p. 16.

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