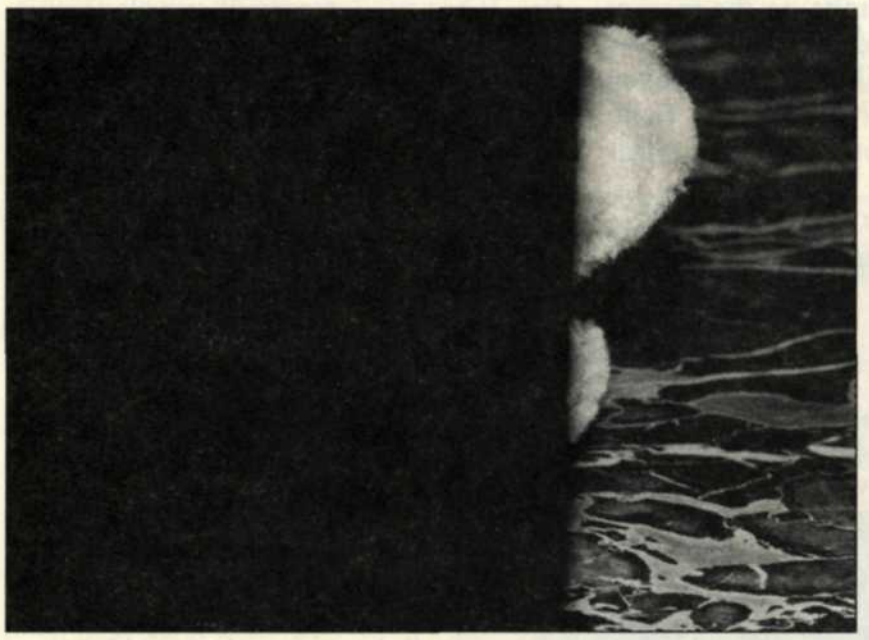
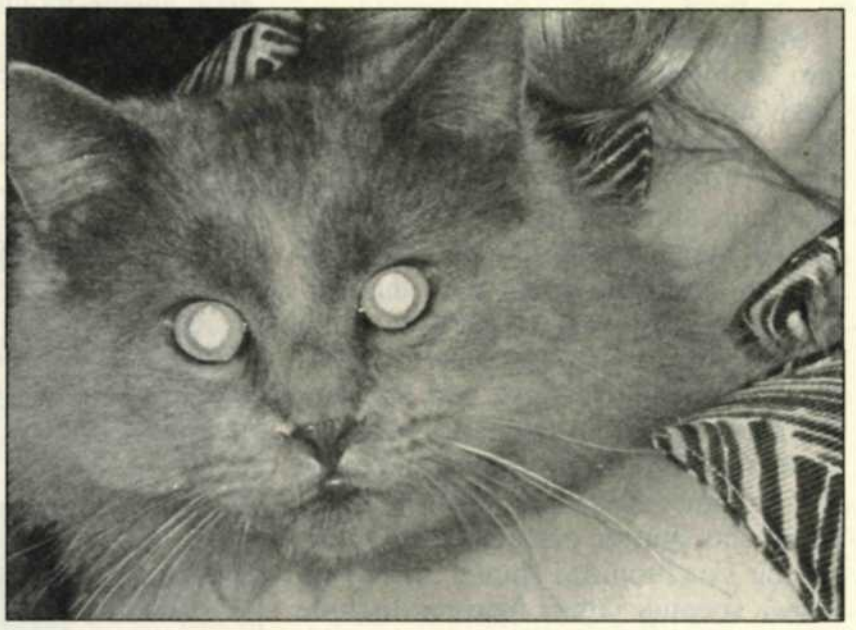
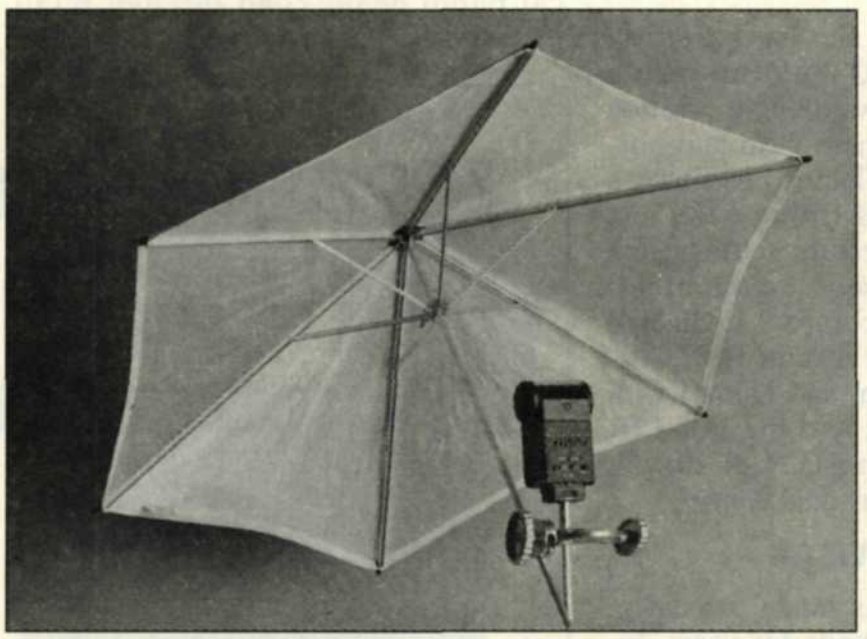
ELECTRONIC FLASH TIPS



▲ *Above:* Why does your camera's instruction manual specify a maximum flash-sync speed? Because if you shoot at a faster shutter speed with a focal-plane shutter, you'll get only part of a picture. This happens because focal-plane shutters completely uncover the film frame at one time only at the maximum flash-sync speed and slower. At faster speeds, the second shutter curtain begins to move across the frame before the first curtain has completely uncovered it, in effect moving a slit across the film to expose it. Since the flash duration is very brief, only the portion of the frame that is exposed when it fires will be exposed at higher shutter speeds. How do the camera/flash combinations that permit shooting at all shutter speeds pull it off? The flash fires many rapid bursts, in effect producing a flash duration that lasts as long as it takes for the slit to move across the entire frame. Of course, it can only do this at severely reduced power, so effective flash distances are greatly reduced.



▲ *Above:* Red-eye (white-eye in black-and-white, and green- or yellow-eye with some animals in color shots) occurs because the flash unit is too close to the lens axis—the light from the flash goes straight in and is reflected straight back at the camera off the subject's retina. If you can move the flash unit off camera, this is by far the best solution to the problem. Many shoe-mount flash units can be moved off-camera with TTL extension cords, retaining full automation. With built-in flash units that can't be moved away from the lens, many manufacturers offer red-eye-reduction flash: before the actual exposure, the flash unit emits a quick series of weak preflashes to "stop-down" the subjects' eyes and thus minimize (but generally not completely eliminate) the redness. (Some cameras briefly light a continuous lamp as an anti-red-eye device.) You can also reduce red-eye by making the shooting area as bright as possible—this method will very efficiently stop-down the subjects' eyes and minimize red-eye.



▲ *Above:* Direct flash lighting is harsh, often producing unflattering shadows on subjects (especially evident in portraits). One solution used by many pros is the umbrella reflector. The flash unit is aimed into the umbrella reflector and bounced back at the subject. The big umbrella effectively increases the size of the light source, softening it and the shadows it produces. Umbrella reflectors are relatively inexpensive and available at most camera stores. If you're serious about portrait or glamour photography, you'll find umbrellas a big help. Note: You will lose some light in the process of bouncing it off an umbrella, so if you are buying a strobe also, pick one with much more power than you think you need.

▲ *Above:* One common problem in flash photography is subjects at different distances from the flash unit. Since flash exposure is based on the flash-to-subject distance, the flash unit can't properly expose all subjects in a scene if they're at different distances from the flash. There are three solutions: First, you can move the subjects so they are all the same distance from the flash unit. Second, you can move the flash unit off-camera so that it is the same distance from all subjects. Third, you can use multiple flashes with each flash placed at a similar distance to your subjects at equal flash power or at varying distances if using variable power levels for the multiple flashes to produce the appropriate exposure level. ❑