The latest information on Fastax exposure times was found to be:

$$\text{exposure time} = \tfrac{1}{3} \times \frac{1}{\text{pictures/sec}}$$

according to the Wollensak Optical Co. *Lens and Shutter Guide*. At this stage, the basic exposure of the event is determined from the film speed, the light produced by the flame in foot-candles, and the exposure time.

For a first film, a test exposure is generally used to determine the basic exposure. From previous experience a basic aperture of $f/4.5$ is correct for the example cited. This basic lens opening is now modified by the following factors: reciprocity law failure, filters and effective aperture (as governed by lens extensions). To obtain an effective aperture of $f/4.5$ at the given lens extension, the f-stop setting is changed to $f/1.5$. For the film used, the reciprocity law failure at an exposure time of 1/25,000 sec requires one additional f-stop for neutral-density loss, and the use of a color-compensating filter requires at least an additional $\frac{1}{3}$ f-stop because of the different reciprocity law failure in the emulsion layers. Filtration to compensate for the 200 K difference between illumination and color film balance requires further adjustment, less than $\frac{1}{3}$ f-stop. Thus, the final aperture becomes approximately $f/0.7$. Of course, if a lens of this speed is not available, certain sacrifices have to be made. Either a faster film must be used or a slower framing rate must be selected, each of which again changes part of the calculation.

Rotating prisms present a limitation as to minimum f-number. The limit is near $f/2$ and therefore the use of a faster lens becomes ineffective.

This example of calculating the color exposure is given to show the general approach and the step-by-step procedure. The method is applicable to a wide variety of subjects and filming conditions.

Acknowledgment

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References

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2. J. H. Waddell and J. W. Waddell, *Photographic Motion Analysis*, p. 4, Industrial Laboratories Publishing Co., Chicago.
3. A. W. Zorgniotti, R. S. Hotchkiss and L. C. Wall, "High-speed cinephotomicrography of human spermatozoa," *Medical Radiography and Photography, 34:* 44–47, No. 2, 1958.
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5. K. H. Lohse, "Color exposure for high-speed photography of some self-luminous events," *Jour. SMPTE, 67:* 567–571, Sept. 1958.

Errata

"Progress Report," *Jour. SMPTE, 68:* 277–329, May 1959.

On page 310, the FP 20-S Projector with SPP 800 lamp is illustrated in Fig. 61 and described in the text in the section contributed from Germany. Although cited as developed by Philips in Holland, the development might also have been cited in the report from Great Britain where the equipment has received attention. It is hoped that in future Progress Reports a section direct from Holland can be included.

On page 316, an addition of credit should be made for Fig. 76, to read: "Fig. 76. The Tecnoscope Model 110 Printer; camera and projector head are 'Acme,' built in U.S.A. by Producers Sales Corp."

motion-picture standards

Proposed American Standard

A Proposed American Standard, PH22.107, Film Spools for 8mm Motion Picture Cameras, is published here for a three-month period of trial and comment.

This proposed standard was previously published in the January 1956 *Journal* for trial and comment. Comments were received and it was returned to the initiating 16 & 8mm Committee. The method of dimensioning the keys was changed necessitating revisions in the diagram and table of dimensions. Paragraphs 2.4, 3.3 and 3.4 were revised and Appendices were added to improve the clarity of the proposal.

All comments should be addressed to Society Headquarters, attention of J. Howard Schumacher, Staff Engineer, prior to September 15, 1959. If no adverse comments are received, the proposal will then be submitted to ASA Sectional Committee PH22 for further processing as an American Standard.—*J.H.S.*