

Engineering Activities

Film Dimensions Committee The Committee met in May 1951 and in the absence of its Chairman, Dr. E. K. Carver, Dr. A. C. Robertson presided.

The main discussion centered around the problem raised by the decrease in the shrinkage characteristic of the film base over the years. In order to obtain optimum printing results now, negative film must have a pitch somewhat less than presently stipulated in the Standard for cine negative (PH22.34) under dimension B.

This then requires revision of the Standard. Two viewpoints were expressed as to how to proceed: (1) revise the Standard after sufficient data is available to standardize the cutting and perforating dimensions *at the time of use*, rather than at the time of manufacture; or (2) merely change dimensions B and L to a short pitch dimension in accord with present (but nonstandard) practices. It was indicated that the first procedure would require at least three years whereas the latter, possibly less than a year. Although it was generally felt that the first approach was more desirable, the other was considered a practical stopgap measure. It was, therefore, agreed to combine the two, preparing the groundwork for the long-range project while revising the present Standard for immediate use.

In addition, the problems involved in the use of film for computers were aired

and several standards were reviewed as to their potential value for proposal as international standards.

Sound Subcommittee on Magnetic Recording The status of the three Proposed American Standards initiated by the group was discussed at the last Committee meeting, held during the 69th Convention in May 1951 and chaired by Glen Dimmick. At that time, the proposals were before the Standards Committee which was balloting on the question of preliminary publication for trial and comment. (They were published in the *July Journal*.) Comments which had been received in the course of the balloting were analyzed and most of the meeting was devoted to improving the three Proposals. In the end it was agreed that early publication was more important than minor, though valid, revisions which would require redrafting the Standards and additional Committee approval via letter ballots. The indicated changes could then be made after all comments resulting from trial publication have been received.

The remainder of the meeting revolved about the drafting of Magnetic Test Film Standards, primarily for azimuth and frequency of 16-mm and 35-mm film. Mr. Dimmick is to prepare preliminary drafts and circulate them to the Committee for comments.—H.K.

BOOK REVIEWS

Elements of Television Systems

By George E. Anner. Published (1951) by Prentice-Hall, 70 Fifth Ave., New York 11. i-xii + 760 pp. + 11 pp. appendix + 18 pp. problems + 13 pp. index. 400 illus. $5\frac{1}{2} \times 8\frac{1}{2}$ in. Price \$10.35.

Even with the postwar commercialization of television and the most generous oversupply of technical books, there has been no book that could satisfy the need for a genuine television engineering text. For the service technician there are so many books that they crowd the test

equipment off his shelves; there is even a television encyclopedia on the service-technical level. But until the publication of Prof. Anner's volume, there has not been a thorough, rigorous engineering treatment of television.

For this reason alone, *Elements of Television Systems* is an important book. It is written by an eminently qualified person, for George Anner, as Assistant Professor of Electrical Engineering at New York University, has for three years held television courses at both graduate and

undergraduate levels and, during 1946-47, gave a special course in television for technicians at Columbia Broadcasting System. While at CBS he spent considerable time with operating personnel and equipment in studios and master control room, and at the transmitter.

The welcome novelty of Prof. Anner's approach is that he does not follow the custom of simply explaining the American system of television broadcasting. He treats television as a technical subject like any other, and begins at the correct place—the beginning—with the primary philosophy of translating a picture into an electrical signal, which is a single-valued function of time. Exploring the various methods of doing so, he explains why a certain system is the logical one, still in terms of methods and not of number of lines or frames.

The entire first section of the book deals with closed-circuit systems. This allows the distracting factors of standards details for a particular system and the irrelevant question of r-f transmission to be put aside so that the study is stripped to fundamentals. The figures governing critical flicker frequency for a cathode-ray tube, for example, are examined, so that the reader may use them as design criteria or use them to understand the reasons for broadcast standards, whichever his interest. The operation of the cathode-ray tubes is examined in detail and formulas for such items as electron velocity are derived. This basic approach is followed throughout the first section in the examination of scanning methods and generators, picture reproduction, camera tubes, and video amplification. Mathematical derivations, while not profuse, are present whenever warranted but not in such quantity as to preclude an informative qualitative reading of the text.

Part II deals specifically with the commercial telecasting system and its problems. Each of the adopted standards is described, in each case the factors governing the choice being recognized. Separate chapters are devoted to the existing and original special problems of standardization and the

work of the committees, choice of the number of lines, synchronization, vestigial-sideband transmission, transmitters, receivers, stagger-tuned amplifiers, receiving antennas, and the particular methods and difficulties of transmitting motion picture films.

The final section is an analysis of color transmission with the same basic approach—response of the eye, color matching and other optical principles concerned with color. This is followed with details of the RCA, CBS and CTI systems. An appendix furnishes a detailed analysis, principally mathematical, of the interesting case of dot systems of color transmission.

There are 18 pages of problems for the student. Footnotes throughout the book indicate a wealth of literature, mostly periodical, for additional reference, and useful subject and author indexes end the book.

This is not a book for nonelectronics people to use in beginning a television education. It is definitely, however, highly recommended as a text for the electronics engineer to employ, for both educational and reference purposes, and in designing commercial and industrial systems and components.—*Richard H. Dorf*, Television Consultant, 255 West 84th St., New York 24.

Gobo, Cuffo and Cucalorus

Words, words, words! amusing, confusing and many of them unnecessary are packed into the *TV dictionary-handbook for sponsors* just published by Sponsor magazine, 510 Madison Ave., New York, at \$2.00 per copy. This 70-page booklet lists 1000 television terms and although it is probably a handy guide for newcomers to the field of television production, it threatens to kick the props out from under the Society's motion picture and television glossary project.

Many television terms have been swiped from the movies, misinterpreted, then too loosely defined. *TV dictionary-handbook* does a good job of classifying and setting the record straight, but its chief merit is its breeziness.

SMPTE Officers and Committees: The roster of Society Officers and the Committee Chairmen and Members were published in the *April Journal*.