engineering activities

The beauty and charm of the Lake Placid Club, the color and warmth of the October foliage, the enticing golf course, tennis courts and hiking trails—none of these were enough to stop eleven engineering committees from holding their committee meetings on schedule, with a surprisingly large attendance and with an extraordinary amount of work accomplished. This report will attempt a general review of the deliberations of each committee.

Color

The work of this committee is, for the most part, done through its various subcommittees. One subcommittee, chaired by W. R. Holm, reported that the preparation of a monograph on "Elements of Color in Professional Motion Pictures" has been completed. It is tentatively planned to publish this work in booklet form as a *Journal* supplement.

Another subcommittee, with H. W. Knop as chairman, reported that the monograph on "Projection Light Sources and Screens for Color Films" is virtually completed. Completion is expected in the early part of 1956.

A third subcommittee, on "Densitometry of Color Sound Tracks," was formed, H. P. Brueggemann chairman. The initial aim of this group is to agree on a specific technique for the densitometry of sound tracks which can be adopted as the industry standard for color films.

Film Dimensions

The change in the film base over the years has resulted in a film with a constantly decreasing shrinkage characteristic. To compensate for this, both 35mm and 16mm film have been manufactured with a smaller pitch than specified in the existing standards. A standard to cover the situation already exists for 35mm film. At this meeting, note was taken of the volume of 16mm and 32mm on 35mm short-pitch film. It was felt that these films should be standardized and steps were taken to initiate this process.

The group viewed favorably the film-dimension concepts established at the ISO/TC 36 Stockholm meeting in June 1955 in respect to the desirability of one standard for all 35mm film. This would be done through the process of (1) tabling all data common to the differing 35mm films and (2) using a separate diagram and table to list the specifications for the differing perforations. A Proposed American Standard along these lines is to be drafted for consideration of the entire committee.

The titles of the existing film-dimension standards came up for critical examination and a subcommittee was formed, chaired by W. O. Brandsma, to prepare a consistent, concise and descriptive set of titles.

Film Projection Practice

This committee has been quite active in processing a rather large number of standards. The status of all these standards was reviewed and further actions were initiated to continue their processing. In outline form, this is the present status of this work:

PH22.104, Projector Aperture for 35mm CinemaScope Prints with Magnetic Stripes

PH22.105, Projector Aperture for 35mm Superscope Prints with Optical Sound

PH22.106, Projector Aperture for 35mm CinemaScope Prints with Optical Sound

Approved by Film Projection Practice and submitted to Standards Committee.

Z22.4-1941, 35mm Motion Picture Projection Reels

The first draft of the proposed revision of this standard was rejected by the committee. The discussion at this meeting laid the basis for a second draft to be prepared by F. H. Riffle, chairman of the subcommittee dealing with this question.

PH22.29 and .78, Screens and Mounting Frames for Theaters

Until now, these two have been separate standards. At this time, it was decided to combine them into one standard and to delete all reference to specific sizes of screens and frames inasmuch as the variety of existing aspect ratios precludes such standardization.

The effectiveness of heat filters in decreasing the destructive effects of film blistering was analyzed and W. R. Holm was assigned the task of making an experimental study of this question. Subsequent to the convention, he reported that with very rugged test conditions the use of a heat filter was completely effective in preventing film blistering.

High-Speed Photography

The prior nomenclature activity was reviewed in detail and Kenneth Morgan was assigned as coordinator to centralize the future work on this project.

The need for special standards for 16mm film for high-speed work was analyzed. The pitch of the perforations, the tolerance applied to this dimension and excessive film shrinkage were termed potential sources of trouble. R. D. Shoberg agreed to make a survey of high-speed camera users to determine the actual extent of these difficulties and whether official committee action is warranted.

Note was taken of the forthcoming Third International Congress on High-Speed Photography to be held in London, September 10–15, 1956, and of the requirement that papers to be presented there must be submitted by January 1956, since it is planned to pre-print all papers for use at the meeting. In addition, general plans were made for the high-speed sessions at the Society's 79th Convention.

Laboratory Practice

Two key activities have been under consideration for some time: (1) Printer Light Change Cueing of 16mm Negatives, PH22.89; (2) Nomenclature. The first involves experimental studies to establish a satisfactory method of cueing the light-change mechanism in the printing process so that notching the negatives for this purpose can be abandoned. Progress on these studies was reviewed and suggestions were made for completing this project. There was wide acceptance of the concept of employing a time-delay device so that the position of the cue spot could be standardized at or near the scene change; the ability to vary the time delay would permit the differing printers to make prints from the same cued negatives. A proposed American Standard is to be prepared incorporating this technique.

There are two aspects to the nomenclature project: One is the need to revise American Standard Z22.56-1947, Nomenclature for Motion Picture Film Used in Studios and Processing Laboratories, so that it is up to date; the second is the desirability of producing a more complete glossary of terms normally employed in the laboratory field. How to accomplish both of these objectives was the question and to this end specific forms were established and definite assignments were made to assure progress in both areas.

Brief consideration was given to the preparation of a second draft of a proposed standard on the aperture for 35mm contact printers and also to the need for developing a standard on glass electrodes along the lines of British Standard 2586, 1955. The former is to be circulated shortly for con-

sideration of the entire committee and C. F LoBalbo was assigned the task of ascertaining the need for the latter.

Screen Brightness

A varied and extensive program of work was reviewed in great detail:

Projection Screens. The Subcommittee on Projection Screens, chaired by Armin J. Hill, submitted a progress report dealing with classification of screens, definition of basic terms and recommendations on American Standards and two American War Standards relating to projection screens. The report and recommendations, with but a few modifications, were accepted with a commendation on the high quality of work and the subcommittee was directed to continue along the lines outlined in the report.

Drive-in Theater Survey. Additional data on this survey had been obtained. These data confirmed the general conclusions drawn from the earlier data, published in the July 1955 *Journal.* It was decided that it would be valuable to publish a brief report which would list the new data and its substantiation of the previously published material.

International Standard. William Kelley, a delegate to the Stockholm meeting of ISO/TC 36, summarized the discussions on screen brightness at that meeting and reported the agreements reached for preparation of a Draft ISO Proposal. A comparative analysis was made of the differences between the Draft ISO Proposal and the existing American Standard, PH22.39-1953. The effect of the new projection methods and resulting new, metallized screens was noted and the need for rapidly establishing standards for these screens was recognized.

U.S. Standards The foregoing discussion led to a review of the two American Standards on 16mm and 35mm screen brightness and to questions of desired objectives in improving these standards. A subcommittee was formed to give this further consideration and to make specific recommendations.

Meeting of C.I.E. Aspects relating to motion-picture work of the June 1955 Zurich meeting of the International Commission on Illumination (C.I.E.) were reported to the committee and discussed briefly.

16 & 8mm Motion Pictures

Consideration of nine standards occupied the center of interest of this group. The following conclusions were reached:

PH22.8, 16mm Film Projected Image Area
PH22.20, 8mm Film Projected Image Area
PH22.79, 16mm Sound Projector Test Film

These three proposals were approved for submittal to the Standards Committee for further processing.

PH22.7, 16mm Motion-Picture Camera Image Area
PH22.19, 8mm Motion-Picture Camera Image Area

An objection to the second draft of PH22.7 and an objection to the first draft of PH22.19 were debated and new drafts were agreed upon for consideration of the entire committee.

PH22.41, Optical Sound Record on 16mm Prints

An objection to the third draft of this proposal was not accepted and it was voted to ask the Standards Committee to continue its processing. It is expected that this proposal will be published for trial and comment in the February or March *Journal* along with introductory material explaining the nature of the controversy and the reasons for the accepted solution.

PH22.23, 8mm Projection Reels

The first draft brought forth several objections and a second draft is to be prepared which, it is anticipated, will resolve these objections.

Z22.80, Scanning-Beam Uniformity Test Film for 16mm Motion-Picture Sound Reproducers (Laboratory Type)
Z22.81, Scanning-Beam Uniformity Test Film for 16mm Motion-Picture Sound Reproducers (Service Type)

These are under review by a subcommittee working to reconcile discrepancies between the two standards.

Sound

Proposed American Standard PH22.40, Optical Sound Record on 35mm Prints, had been approved by the Sound Committee prior to this meeting. Based on a question from the British, in a letter referring to international agreements reached in 1952 in New York, the picture-sound separation specification of this standard was studied anew. This second look indicated that this could be clearer since it did not define the 20-frame separation as a print or a projector-threading specification. This problem was resolved by making a separate specification for each condition; and to improve further the clarity, explanatory material was added in an appendix to the standard.

The proposed American Standard on the four magnetic soundtracks for CinemaScope prints has run into difficulty. The sole area of controversy is the width of the effects track, track No. 4. This width was initially proposed as 29 mils but was changed to 41 mils in order to increase the playback level with the same signal-to-noise ratio. Opposition to the wider track was voiced in that it would probably increase the 96-cycles/sec amplitude modulation and appreciably reduce the tolerance between this track and the projector. This issue was not resolved and the question was therefore tabled for further consideration at the next meeting.

The results of the Stockholm meeting of ISO/TC 36 were reviewed in relation to the existing American Standards and the standards proposals in progress within the committee. This revealed several gaps in the committee's program of work, and action was initiated to fill these gaps.

Magnetic Recording Subcommittee

This committee discussed briefly questions relating to (1) batch identification of magnetic film; (2) 16mm multifrequency, signal level and azimuth test films; and (3) 16mm sound reproduce characteristics. The bulk of its time, however, was devoted to the question of the picture-sound separation on 16mm motion-picture prints with magnetic sound. Prior U.S. standardization had established the same separation, 26

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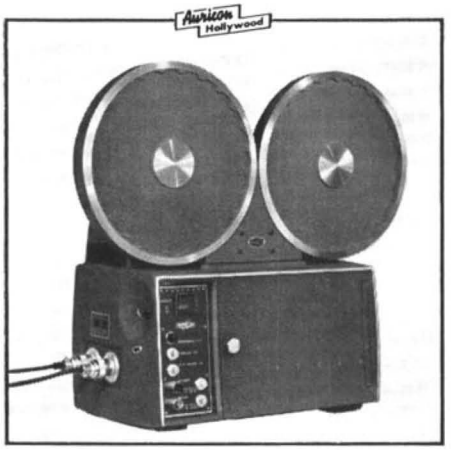

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frames, for both the magnetic and optical-photographic sound records. New technical developments, new uses of the magnetic sound record and differing practices abroad have sparked proposals that this specification be changed to 28 frames. While a consensus appears to favor this change, unanimity does not exist, and the pros and cons of 28 frames vs. 26 frames were discussed and analyzed in great detail. The question was not resolved, but the discussion provided an excellent foundation for further consideration.

Television

At the previous committee meeting, a subcommittee had been appointed to recommend the design of a gray scale for inclusion in color release prints intended for use on color television. The subcommittee submitted a progress report which, after study, was accepted as a valuable contribution to this project. The subcommittee was asked to continue its work and to field test the conclusions reached.

The relationship between the existing American Standard, 16mm Motion-Picture Television Projectors for Film Chains Operating on a Full-Storage Basis, PH22.91-1955, and the new developments in the television field was examined. This led to the appointment of a subcommittee, with H. N. Kozanowski as chairman, charged to write tentative standards of good engineering practice for 16mm projectors as applied to present-day pickup equipment and to study PH22.91-1955 with a view toward bringing this standard up to date.

PH22

PH22, ASA Sectional Committee on Motion Pictures, represents the U.S. on Technical Committee 36, Cinematography, of the International Standards Organization (ISO). Inasmuch as the second meeting of ISO/TC 36 was held in Stockholm in June 1955, PH22 devoted this meeting to analyzing the results of the Stockholm meeting and to establishing the requisite procedures for furthering this international standardization program.

A general outline of the ISO picture was submitted by D. R. White, chairman of PH22, for committee consideration. This report, as approved by the committee, was published on page 631 of the November 1955 *Journal*.—*Henry Kogel*, Staff Engineer

section reports

The Pacific Coast Section held its regular program meeting on December 20, 1955, in Radio Studio A of the American Broadcasting Company, Hollywood. Attendance totaled 210 members and guests.

The program was outstanding for materials, technique and presentation. A demonstration of the new Anscochrome reversal 16mm film was given by John Kowalak of Ansco. Sid Solow of Consolidated Film Industries presented a demonstration and discussion of the technique used in making 16mm Eastman color prints from original Kodachrome, using 16mm Eastman color negative as an intermediate. Carl Hauge, also of Consolidated Film Industries, described and demonstrated a highly novel visual scene counter for laboratory projection rooms. Fred Albin of ABC-TV. discussed the video recording technique as it has been modified and developed for Vidicon TV camera reproduction.

The Society is grateful to the American Broadcasting Company for again providing a Studio for our meeting, and to Cameron Pierce of ABC-TV for his cooperation in making the arrangements — *E. W. Templin*, Secretary-Treasurer, c/o Westrex Corp , 6601 Romaine St., Hollywood 38.

The Western New York Subsection of the Atlantic Coast Section announced new officers at the December 14, 1955, meeting held at Kodak Park, Rochester. The new officers are:

Chairman: A. C. Robertson, Eastman Kodak Co.

Secretary-Treasurer: George T. Negus, Eastman Kodak Co.

Program Chairman: Walter I. Kisner, Eastman Kodak Co.

Board of Managers:

Arthur E. Neumer, Wollensak Optical Co.

John L. Forrest, Ansco

Monroe E. Sweet, Consultant

David D. Manning, WHAM-TV