Reports of the Engineering and Standardization Committees Activities

The brief reports published herein summarize the activities of the SMPTE Technology Committees, which were held concurrently with the 122nd SMPTE Technical Conference at the New York Hilton Hotel in November 1980. They reflect the growing volume of work carried on through the committees and the SMPTE Engineering Department.

For more detailed information on the activities or the individual projects, one should contact Alex E. Alden, Manager of Engineering Services of the SMPTE, at headquarters. The Society welcomes participation by specialists from industry in the work of its Engineering Committees, and all those who may be interested in exploring the possibility of active membership on any of the committees should contact A. E. Alden or Roland J. Zavada, Engineering Vice-President of the Society. While the Society is in a position to provide the mechanics for the development of National Standards, it relies heavily on the input made available from industry through its engineering committee members.

Standards Committee

The Chairman of the Standards Committee, Mr. M. Thomas, called the meeting to order on 13 November 1980, during the 122nd SMPTE Technical Conference.

The committee is responsible for the coordination of standardization activities among all of the engineering technology committees of the SMPTE. It reviews all draft proposals on a system approach, making certain that there is no technical conflict among documents being developed by the various committees.

The meeting afforded the engineering technology committee chairmen the opportunity to review the problems encountered in their meetings during the week. The chairmen were also enlightened on subjects in their own committees which may affect the work within their own committees.

To help keep the committees abreast of the scheduling of engineering meetings, a list of meetings will be compiled and circulated to the members of the Standards Committee by the Manager of Engineering Services.

An ad hoc committee formed under the Standards Committee is reviewing the activities of government agencies as it impacts on the voluntary standards effort. The reply submitted through legal counsel on the OMB Circular 119 reflected the Society's concern for interchangeable specifications rather than performance criteria. The ad hoc committee is charged with the responsibility of determining the national standards policy and will assess the potential for the Society's adoption of the recommendations during the next year. In addition, the committee will provide the engineering committee chairmen and members with a set of guidelines to insure the openness of SMPTE procedures and to make certain that the guidelines are followed in the engineering activities.

13 November 1980

L. M. THOMAS
Chairman

Committee on Audio Recording and Reproduction Technology

A well-attended meeting of this committee, which included representatives from Canada, Japan, and the United Kingdom, was opened by the Chairman, Mr. M. Strong, on 10 November 1980.

Some of the responsibilities of the committee reviewed by the Chairman included the question of microphone phasing, which is of concern to the film industry inasmuch as the phase for production has never been in accord with international microphone standards. The group concluded that the majority of recorders in use for motion picture production are incapable of the correct (i.e. standardized) usage of A-B powering and must use external powering. It was the consensus of the committee that our industry should support the existing international microphone standards. Manufacturers will be asked to comply with the standard in development of new equipment. A tutorial notice will be provided to users.

The need to have a Recommended Practice introducing specific guidelines for all super 8 audio reproduction was agreed to, based on a study made by Mr. R. Uhlig.

In a letter to Mr. Strong, the Chairman of the Subcommittee on Production and Post-Production, Mr. R. Hufford noted that the subcommittee has been instrumental in establishing a new ASTR 6 film for theatrical projection and stated that they will continue to work on a stereo version of the ASTR film. Mr. Strong noted that this subcommittee is also actively engaged in making studies of the state-of-the-art soundtrack systems, studying production and post-production methods for standardization and improvement. This work encompasses theater release optical and magnetic tracks and television release optical and magnetic tracks.

Other topics discussed included the development of 16- and 35-mm magnetic and photographic pink noise. Two subjects will become Recommended Practices: 16- and 35-mm optical control and data tracks.

10 November 1980

M. J. STRONG
Chairman

Committee on Educational, Industrial and Consumer Film Technology

In the meeting of this committee on 12 November 1980, the following projects were reviewed and approved for the next five years: PH22.75, American National Standard Designation of A and B Windings for Motion-Picture Raw Stock; RP 19, Specifications for 8-mm Registration Test Film; and RP 20, Specifications for 16-mm Registration Test Film.

A lengthy discussion on a proposed precision 16-mm reel for telecine use prompted the committee to form a joint working group with the Television Technology Committee to develop a proposed standard if such a reel is needed.

An ad hoc committee was formed under the chairmanship of Mr. P. Deer to review the super 8 jiffy test film to determine whether the quality will be acceptable for release. Messrs. F. Kolb and E. Schuller will assist the chairman. The group was asked to report

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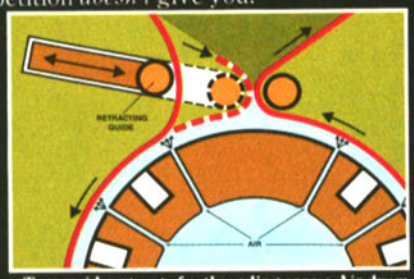

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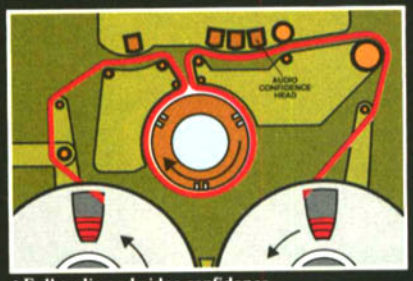

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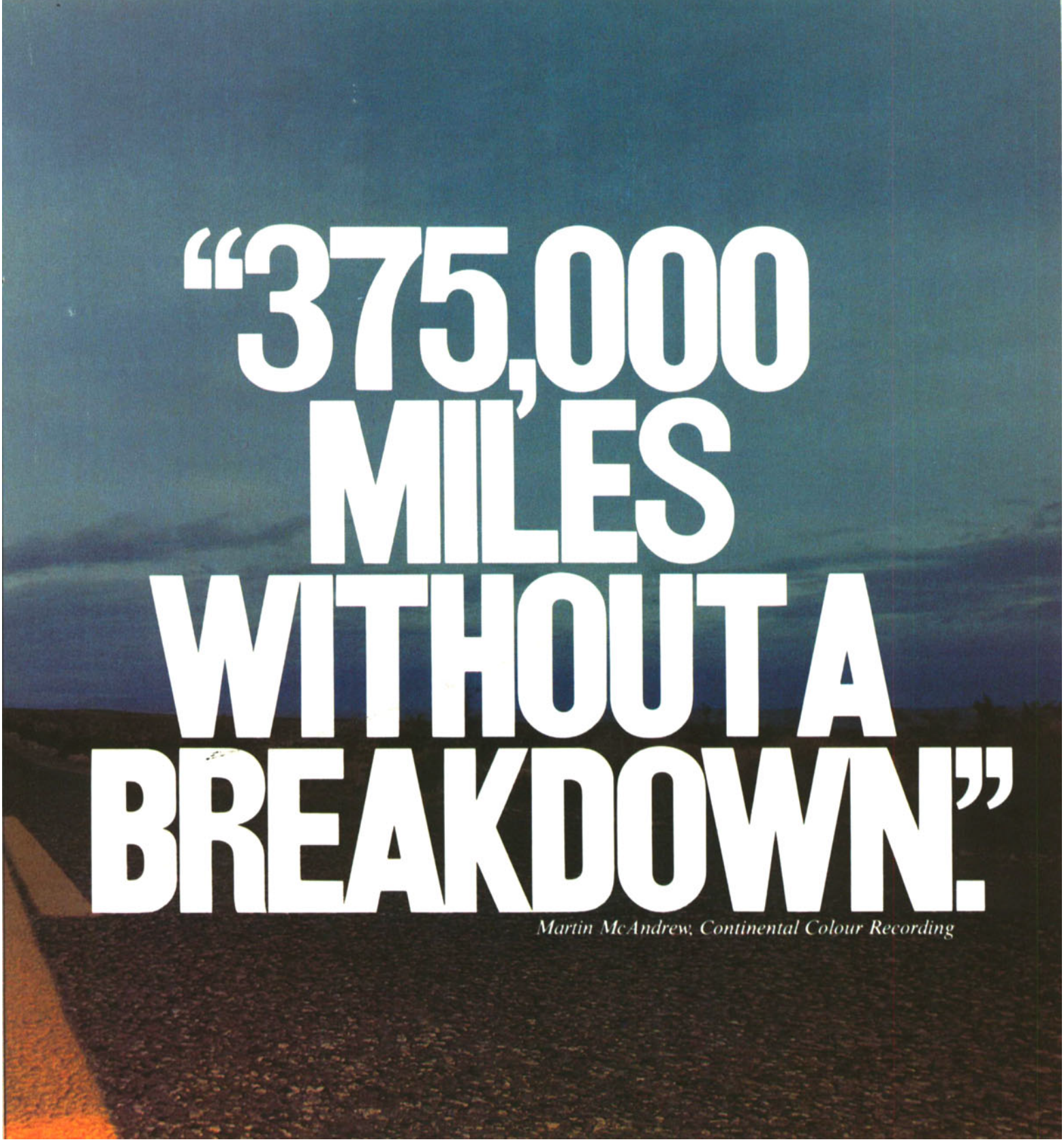

"much better than its main competitor. And the slow-motion capability of the BVH-1100's means that each can do the work of two separate machines, in less space, at less expense. No one else's equipment can match these 1100's.

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prior to the next meeting of the main committee during the 123rd SMPTE Technical Conference in Los Angeles, California.

In an attempt to improve the effectiveness of standards, the Chairman, Mr. W. Smith, asked the members to consider combining standards wherever practical such as the two documents specifying 16-mm laboratory and projection splices.

12 November 1980

W. H. SMITH
Chairman

Committee on Film Technology

Mr. E. Knutsen, Chairman of the Film Technology Committee, noted that this SMPTE committee will provide input to the ISO/TC 36 PWG-1, PWG-2, and PWG-6, Ad Hoc Committee on Motion-Picture Image Steadiness, which is chaired by Mr. K. Staes of Belgium. Other members of this group include Messrs. J. Ehrenberg (USA), M. Hecart (France), and Knutsen (USA). The following proposed objectives were reached at an informal meeting of this group in Varna, Bulgaria, on 24 September 1980:

1. Survey various steadiness measurement techniques.
2. Research and distribute relevant technical documents and test materials.
3. Consider need for new specifications of dimensional standards and new test methods pertaining to image steadiness.
4. Develop tutorial or other means of informing designers, manufacturers, and users of factors influencing image steadiness.
5. Determine current practical image steadiness capability and relate to future needs.

Information will be compiled in advance of the next ISO (International Organization for Standardization) Ad Hoc Committee on Image Steadiness, which is planned to be held in conjunction with the BKSTS (British Kinematograph Sound and Television Society) in 1981.

In addition, the committee reviewed a number of alternative proposals for specifying subtitles, and the redesign of the B & H perforation to reduce perforation wear.

The difficult task of possibly identifying a recommended perforation for vertical image placement of 16-mm film will be studied by the committee, taking into account the current draft document by the German standardization body, DIN (Deutsches Institut for Normung).

The Film Technology Committee will hold its next meeting concurrently with the 123rd SMPTE Technical Conference in Los Angeles, California.

24 September 1980

E. V. KNUTSEN
Chairman

Committee on New Technology

The committee met on 13 November 1980 in New York City. The traditional introduction of committee members and guests took place prior to the opening of the committee business by the chairman, Mr. R. Hopkins.

The four subgroups on digital television presented reports highlighting the intensive activity in this field, prompted by the emphasis put on component digital coding as opposed to composite digital coding. It was noted that one of the functions of the Task Force on Component Digital Coding, formed during the early part of 1980, is to act as liaison with other international organizations in an attempt to determine the requirements of a worldwide compatible code for digital television. The Study Group on Digital Television Tape Recording has completed a preliminary analysis of user survey data received earlier this year.

The Working Group on Digital Video Standards is currently making preparations for demonstrations of component digital coding to be held immediately prior to the 15th SMPTE Television Conference in San Francisco, California. The demonstrations will give the committee the opportunity to evaluate component digital television coding by subjective assessments and system presentations.

The Study Group on Digital Television, the senior group of the digital television subgroups, is continuing its investigation of questions involving long distance transmission of digital television data.

The Study Group on High-Definition Television, chaired by Mr. D. Fink, has been reactivated, and will examine the ongoing worldwide activities in high-definition television.

The members of the Study Group on Video Disc Systems noted that there is sufficient interest in this group's activities to warrant the continuation of their studies.

13 November 1980

R. S. HOPKINS
Chairman

Committee on Television Video Technology

At its 12 November 1980 meeting in New York City the Chairman, Mr. M. Fisher, stated that a tutorial paper is being prepared by Mr. L. DeMarsh on system colorimetry and may be available by early next year.

Pursuant discussions on the development of a standard for picture monitor phosphors resulted in the committee's decision to continue its study on this project.

A newly formed working group consisting of Messrs. R. Corley, R. Schafer, and E. Reichard will investigate the specifications of the gray-scale slides currently distributed by the SMPTE. A tutorial is being prepared by this group.

Mr. R. Lovick advised the committee that the film gate used for telecine differs from that which is used for direct projection and noted that this practice does not utilize all of the available film area. He recommended reviewing the standard to correct the difference of 3% more picture area available in the film gate which is not used. Mr. Lovick will prepare a tutorial paper for committee review and possible publication in the *SMPTE Journal*.

The committee will undertake the study of a common language which enables the interchange of graphic material on devices used for display of graphics.

An exploratory meeting was held by IEEE on 14 November 1980 to review the standards for measurement of camera resolution, luminance signals, aspect ratio and geometric distortion, and differential gain and phase. Since these topics are of interest to both the IEEE and the SMPTE, the question of jurisdiction will be reviewed by the JCIC (Joint Committee for Inter-Society Coordination).

12 November 1980

M. T. FISHER
Chairman

Committee on Theatrical Projection Technology

The committee convened on 11 November 1980, under the chairmanship of Mr. J. Baer. The meeting was well attended and included three visitors from France.

Three subjects of prime concern to the committee were discussed and acted upon at the meeting.

1. The Conference Projection Guidelines (EG-3), which document establishes the fundamental criteria for conference projection, will be rewritten and circulated to the committee for ballot.

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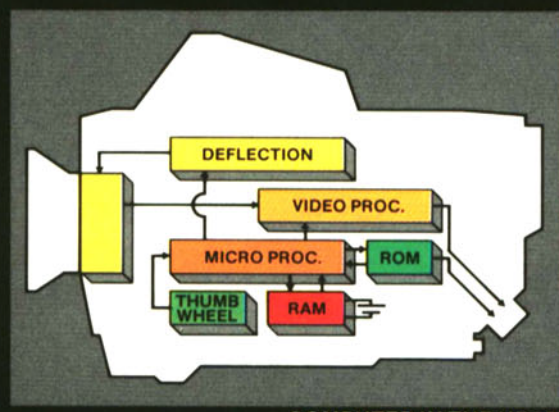

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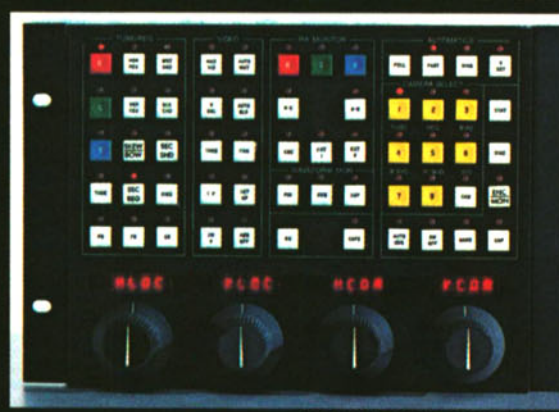

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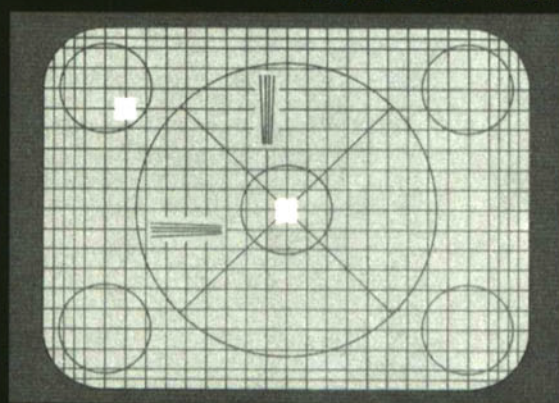

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2. Mr. C. Soule, the Secretary General of UNIATEC (International Union of Technical Cinematography Association), one of the visitors to the committee from France, submitted a paper describing mandatory guidelines for cinema acoustics, and the method of measuring the quality of picture/sound that is required in all new French motion picture theaters. The data contained in the paper will be incorporated in the SMPTE's new "Projection Manual," to be undertaken by a working group co-chaired by Messrs. G. Berggren and R. Hurd. They will be assisted by Messrs. Baer, P. Preo, B. Rifkin, and P. Smilowitz. The effort will be a consolidation of the SMPTE Projection Manual and the BKSTS Manual.
3. Mr. Baer reported on the ongoing study of film damage under the chairmanship of Mr. J. Pytlak, noting that the interim report presented at this meeting was given at the NATO (National Association of Theater Owners) Convention in New Orleans. Mr. Baer asked the members and those concerned with the subject to forward their comments and recommendations to Mr. J. Pytlak for incorporation in the final report.

Other topics acted upon included a report received from Mr. Z. Beiser regarding the study of screen luminance, with a final report to be prepared by Mr. R. Hurd, and a new test pattern for the alignment of anamorphic projection lenses, which has been completed and will be forwarded to the Standards Committee.

11 November 1980

J. G. BAER
Chairman

Working Group on Digital Control of Television Broadcast Equipment

This Working Group, chaired by Mr. R. McAll, has met several times this year.

A progress report presented by Mr. G. Little at the 1980 SMPTE Television Conference highlighted the advancement being made towards defining a proposed ANSI Standard and an SMPTE Recommended Practice for a protocol, and a separate Recommended Practice for a control language. The specifications on these documents were successfully field tested during the fall of 1980.

All interested parties are urged to contact Mr. McAll through SMPTE Headquarters.

R. W. MCALL
Chairman

Committee on Video Recording and Reproduction Technology

This very active committee held its third meeting this year on 9 September 1980 in Chicago, Illinois. Former meetings were held on 28 February 1980 at ABC in New York City, and 5 June 1980 at Hitachi Denshi America, Ltd., Woodbury, Long Island, New York.

Due to the heavy workload, this committee usually requires an all day meeting. The next committee meeting will be held on 11 December 1980 in San Francisco, California at KPIX. Information on future meetings can be obtained from Mr. A. Conte at SMPTE Headquarters.

Deliberations in Chicago included such items as: the recommendation not to agree with a proposal by the EBU to alter the User Bits in the Vertical Interval Time Code, the definition of dropouts for evaluation of tapes, and a revision of existing standards for the 1-in Type C recorders to reflect more accurately the practice being followed by the manufacturers.

Mr. C. Kennedy, the Chairman of the Working Group on Video Test Materials, reported that the group completed the specifications for the ¾-in, ½-in VHS and ½-in Beta-1 and Beta-2 reference test tapes.

The Working Group on the Study of Video Tape Leaders, chaired by Mr. N. Ritter, completed a revision of C98.9, Specifications for Color Video Magnetic Tape Leader, which will be submitted to the committee membership for ballot.

Mr. F. Remley reported that he prepared a number of reports to the CCIR, recommending the U.S. position on various questions which were subsequently discussed at the CCIR meeting in Geneva, Switzerland during the latter part of September 1980.

Mr. N. Ritter, the chairman of the technical advisory group responsible for determining the U.S. position on international standards developed through the IEC, reviewed the organization of this group. He indicated that those interested and willing to participate in this activity are most welcome. He emphasized the importance of attending meetings, reviewing documents, and being in a position to attend international meetings as a member of the U.S. Delegation.

Information on the activities of this committee can be obtained from Mr. A. Conte at SMPTE Headquarters.

9 September 1980

D. K. FIBUSH
Chairman

Working Group on Recommended Practices for Medical Diagnostic Display Devices (Electronic/Photographic)

This SMPTE Working Group, under the Chairmanship of Mr. K. Lisk, held its third meeting on 17 September 1980, concurrently with the AIUM (American Institute of Ultra Sound Medicine) Convention in New Orleans, Louisana. Two prior meetings were held in Chicago, Illinois on 1 April 1980, and Detroit, Michigan on 25 June 1980. All of the meetings were well attended.

At the meeting in New Orleans, the input parameters were defined and a medical display device encompassed the following sections and sequences: (1) input, (2) monitor electronics, (3) display, and (4) film and photography.

A well-balanced working group comprised of equipment manufacturers, users, and film experts is charged with the responsibility of identifying and evaluating the key parameters which affect the quality of the image displayed on the medical diagnostic devices. The group intends to derive recommended set-up procedures, test materials and practices which will optimize the quality of diagnostic images through the application of electronic and photographic technology compatible with medical imaging needs.

The attention of the working group is directed only to the camera (imager) and the viewing monitor. The actual diagnostic devices will not be addressed in any manner because of the limitation of the group's scope.

Subsequent to the SMPTE Technical Conference, this group held its meeting concurrently with the Radiological Society of North America in Dallas, Texas.

17 September 1980

K. G. LISK
Chairman

Committee on Laboratory Services Technology

The committee chairman, Mr. J. Ehrenberg, noted that work is being completed on: (a) PH22.55, American National Standard Leaders and Cue Marks for 35- and 16-mm Sound Motion-Picture Release Prints; (b) data track on photographic films; (c) edge identification for prints; (d) PH22.178, American National Standard Dimensions for 35-mm Motion-Picture Film Splices; and (e) diagonal sound splices for 16-mm film.

Other work covered by this committee included: RP 53, Scene-Change Notching for Printing 35-mm Motion-Picture Film, which has been forwarded to the Standards Committee for review; and the newly formed Working Group on Film Storage, chaired by Mr. P. Kurtz, will meet for the first time during this conference to define its scope and prepare a schedule for the completion of work.

The following Standard and SMPTE Recommended Practices will be reviewed in 1981 to determine if they conform to current technology:

PH22.48, American National Standard Location of Printed Areas for 16-mm Picture and Sound Contact Printing;

RP 14, Plotting Data from Sensitometric Strips Exposed on Type Ib2 (Intensity Scale) Sensitometers;

RP 15, Calibration of Densitometers Used for Black-and-White Photographic Density Measurement;

RP 65, Step Optical Reduction Printing of 35-mm Images and 16-mm Images.

RP 66, Step Optical Enlargement Printing of 35-mm Images from 16-mm Images.

Mr. Ehrenberg reviewed the EBU document No. 3087, Motion-Pictures Intended for Television Broadcast, specifying a number of items that may present problems to American laboratories serving European broadcasters. It was the general consensus of the committee that a reply to the EBU be prepared through our liaison on the controversial points of this document.

The next meeting of this committee will be held concurrently with the 123rd SMPTE Technical Conference in Los Angeles.

11 November 1980

J. M. EHRENBERG
Chairman

Working Group on Video Test Materials

The Working Group on Video Test Materials, chaired by Mr. C. Kennedy, took advantage of the 122nd SMPTE Technical Conference and held its meeting on 11 November 1980.

Topics discussed included (1) the revised and finalized new script for Subjective Test Tape No. 3, which will be made available in the ¾-in format as well as the ½-in VHS and Beta formats; and (2) revisions being made to a Recommended Practice specifying the conditioning of raw tape stock used to record reference tapes for 1-in helical scan videotape recorders.

Discussions on the desirability of a quick check tape for quadruplex and 1-in formats led the committee to conclude that the project was not practical for professional use.

11 November 1980

M. C. KENNEDY
Chairman

Working Group on Digital Video Standards

The working group met on 10 November 1980 to continue its discussion of various alternatives for a component coded standard and to review plans for the demonstrations at the SMPTE Television Conference in San Francisco, California. A total of 32 members were in attendance.

The digital demonstrations planned to be held prior to the SMPTE Television Conference are well underway and include equipment from approximately 22 groups in four countries. Additional digital demonstrations will be provided by four national organizations.

The report submitted by the SMPTE Task Force on Digital Television establishing specific objectives for the subjective assessments of a number of component coded digital video systems spanning the estimated range of quality desired for 525-line television was reviewed and approved. The report also included some guidance in the selection of material for technical demonstrations.

10 November 1980

K. P. DAVIES
Chairman

Study Group on Digital Television Tape Recording

This study group, chaired by Mr. W. Connolly, held its meeting on 11 November 1980, during the 122nd SMPTE Technical Conference, with approximately 40 members in attendance.

Of primary interest to the group, and discussed at length, are the upcoming demonstrations for a proposed digital format, scheduled to be held in San Francisco, California prior to the 15th SMPTE Television Conference.

Extensive consideration was given to the matter of effecting a liaison with the Audio Engineering Society's Digital Audio Committee. This will make them aware of the work being done by the study group and matters of mutual concern, in particular, work which is directed to digital audio. It was the consensus of the group that a cross membership be formed to assist in accomplishing the necessary work.

At the 8 December 1980 meeting, the members will review the activities of the study group and make their recommendations to the SMPTE Task Force on Component Digital Coding.

11 November 1980

W. G. CONNOLLY
Chairman

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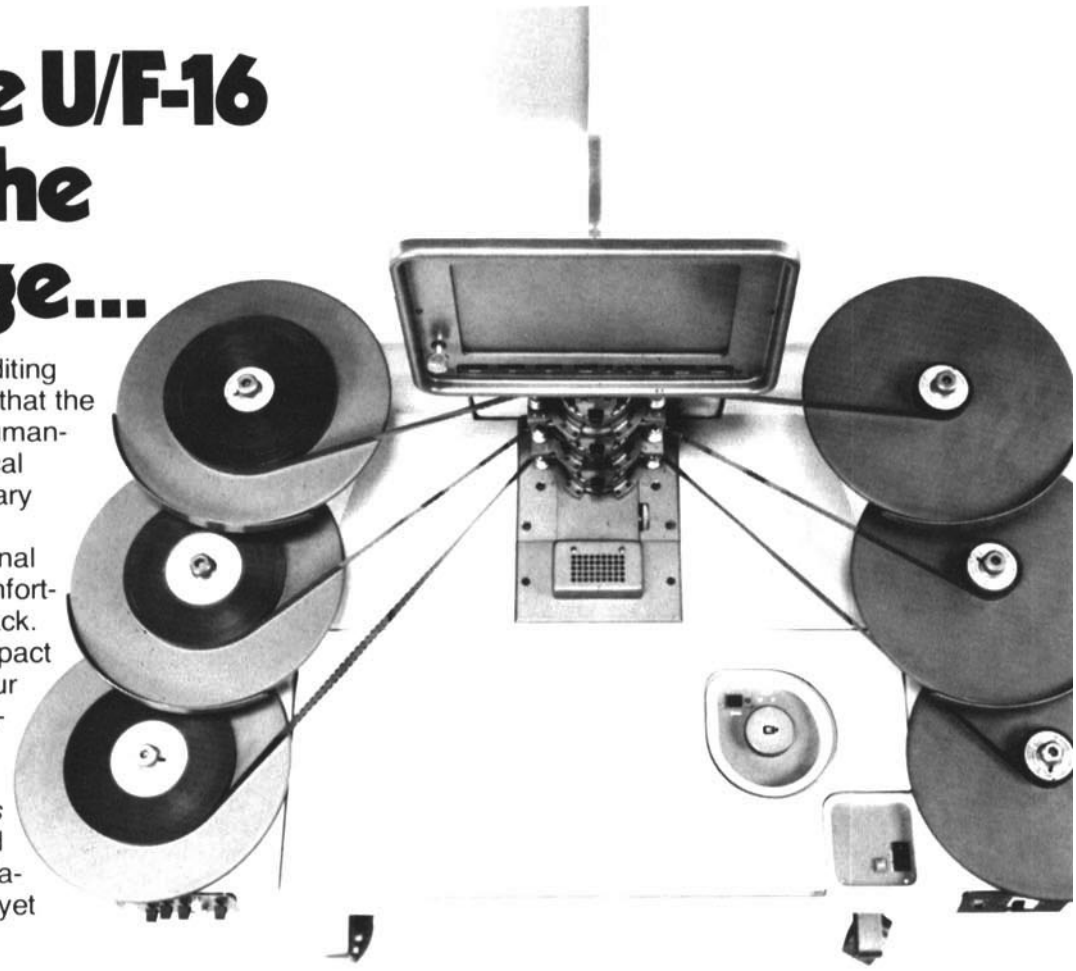

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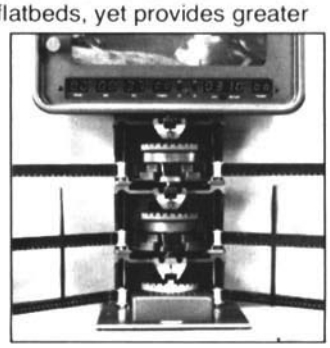
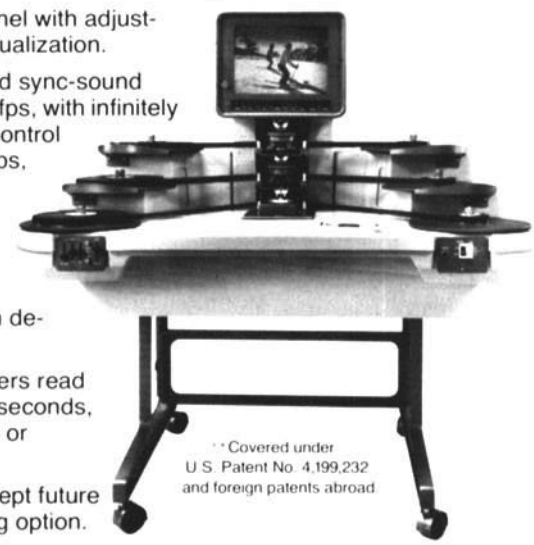
- Unique terraced arrangement makes the U/F-16 far more compact than conventional flatbeds, yet provides greater work area for the editor and his tools. All plates and controls are readily accessible to the editor without stretching.



- Like a synchronizer turned up on its end, the U/F-16 coaxial drive mechanism permits in-line vertical arrangement of all sprocket wheel assemblies for convenient marking, synching, and cutting of film. Permits instant coupling, uncoupling, and locking on any track by means of a simple lever.
- Single sprocket drive for simple threading and safer handling of each track.
- Continuous, high-quality flickerless projection on a bright screen. Unique 24-facet hollow polygon system** is placed away from all heat sources and ambient room contaminants. Rarely needs cleaning.
- Simple belt drive system eliminates need for torque motors. Provides gentler, safer start/stop.
- Manual or electrical "inching" capability.
- Simple threading path permits hand-feeding short lengths of film without use of take-up plates.
- Excellent sound quality. Conveniently located playback heads require no additional threading.
- Audio mixing panel with adjustable high/low equalization.
- Crystal-controlled sync-sound speeds of 24/25 fps, with infinitely variable speed control from 0.5 to 192 fps, forward and reverse. Push button on/off at sync-sound speeds stops machine right on desired frame.



- Electronic counters read hours, minutes, seconds, frames, and feet or decimeters.
- Designed to accept future time-base coding option.

**Covered under U.S. Patent No. 4,199,232 and foreign patents abroad.

For further information, please contact:

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Technology In The Service Of Creativity

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