

was Dr. Frayne's contribution in engineering a 7-mm stereo six-track magnetic film system and test films. He was made an Honorary Member in 1967.

Dr. Frayne joined the Society in 1930. In addition to his term as President (1955-56) his many services include the chairmanship of a number of committees including the Sound; Progress Report, Journal Award and Progress Medal Award Committees as well as the chairmanship (noted above) of the Education

Committee. He also served on the Board of Governors and as Editorial Vice-President and Executive Vice-President.

Among the many scientific papers he authored, 27 papers appeared in the *Journal* beginning with "Western Electric Noiseless Recording" (with H. C. Silent) in the May 1932 *Journal*. He is also the author (with Halley Wolfe) of a textbook, long recognized as a classic — *The Elements of Sound Recording*. The book was reviewed in the September

1949 issue of the *Journal* by Lloyd T. Goldsmith who said, "Here at last is a book for both the student and the experienced recording engineers. It has a wealth of up-to-date useful information in a field which is so specialized . . . that very little is available in book form."

His membership in other professional organizations includes the Audio Engineering Society of which he is a Fellow.

Dr. Frayne resides with his wife, Clare, at 1580 La Loma Road, Pasadena, CA 91105.

Letter to the Editor Re: A Reevaluation of the SMPTE Universal Leader for In-Field Motion-Picture Projection

Dear Sir:

At a time when projection practices are severely criticized for causing print damage, any aspect of theater projection that could lessen careless film handling should be examined. The following critique explores the importance of the present thread-up and sync leader system or SMPTE Universal Leader, as it is now called.

At the outset of this paper, the writer acknowledges the dedicated work done by the Subcommittee in designing and researching the many different areas which the Universal Leader attempted to correlate. The leader has been in use for nearly ten years and some important inadequacies have become apparent in the application of this leader in the theater projection area.

Some of the major complaints heard in the field from veteran projectionists are as follows:

(1) Count-down numbers are not easily visible as they "count down" through the projector gate. Projectionists are helped considerably by being able to see the "flash" as numbers pass through the projection head. This is most important when starting a machine "cold," i.e. without being cued by an outgoing projector. The projectionist counts the flashes caused by a large transparent area of the single number frame which passes much more light than the opaque, black area between the number frames. No such flash occurs with the SMPTE Universal Leader because of its neutral density.

(2) The neutral density of the Universal Leader may be eminently suitable for maintaining vidicon camera stability in a TV multiplex chain, but for the theatrical projectionist, it presents a hazard. As explained above, when the projectionist must start a machine cold, as after an intermission, with the old or Standard Leader, when the flashes stop he knows that the leader has passed No. 3 and is in black. He can now open the dower and the screen will be black until the first frame of the picture. With the Universal Leader, the frames after No. 2 are not black, but a neutral gray, blue or any number of other unattractive colors. If he opens the dower, this color will be projected onto the screen. So even if he is able to determine when the clock stops at No. 2, he is not clear to open the dower since the leader still has not gone to black.

The Universal Leader inhibits his performance and for this reason most projectionists in theater operations have very negative feelings about the leader. Many, in fact, remove it as soon as it appears on a print. It is replaced with the old Academy or Standard Leader.

A more important aspect of leader function in theatrical situations is the very real aid it presents to the projectionists in threading up the machine. Here is where a great deal of "up front" damage occurs and can be eliminated. The present SMPTE Leader does not function as well as it might in encouraging thread-up a good distance away from the sync section.

The further away from the sync count-down and body of the print proper the projectionist threads up, the less likely print damage will occur when the machine is misthreaded. Many times labs leave a large quantity of raw footage ahead of the

leader. This is either black or clear. Rarely is it of any help to a projectionist to have large lengths of leader if there are no frame lines for him to thread up on. If a leader could contain a specific "Projectionist Thread Here" section, projectionists could be coaxed into using this section to frame and thread with the sync section a safe distance away on the upper reel. He could then run his machine to the proper sync number, cuing up and checking the threading in one step.

The threading section should consist of the words PROJECTIONIST THREAD HERE with one frame for each letter of the wording. This should be followed with a section consisting of heavy, highly visible frame lines on clear frames, showing a small diamond in the center of each frame along with dotted "rack" lines for 1.85/1 aperture framing. This section should be of sufficient length (at least three feet) and placed between the identification section and the synchronization count-down section.

The other fine features introduced in the SMPTE Leader in 1965 are excellent changes and should be continued in the new Theatrical Leader:

(1) The adjustment of real-time spacing of the count-down numbers to seconds is logical and should be maintained.

(2) The problems of older projectors with slower starting sound stabilizers should warrant a count-down of at least 10 seconds. (Nos. 10 through 3.)

(3) The provisions for sound cues and printing punches as described in the original Universal Leader paper in the *Journal of the SMPTE* for January 1965, pp. 34, 35, should be maintained.

It should be emphasized that it is obvious from the industry response to the SMPTE Universal Leader in the past 10 years, that a practical, more directly tailored leader is needed for theatrical projection. Ninety-eight per cent of all releases in theater projection still use the old Academy Leader. It is suggested that the Society abandon the unworkable idea that one leader can be practical for both TV requirements and motion-picture exhibition requirements. If "universality" means unworkable compromise to any area of the industry, then it makes sense to forgo the convenience of such "universality" for the sake of practicality. The fact is that most major studios have ignored the Society's Universal Leader in favor of their "standard" leaders, which are based principally on the old Academy Leader. There is no shame in providing two SMPTE leaders — one for TV and one for theatrical prints. Recognizing the fact that one leader cannot fulfill the needs of both projection areas does not admit to some sort of engineering failure. Compromises will always exist with one leader; there is no need to compromise when two distinct leaders could solve the unique problem of each area with no compromise.

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