

headquarters just outside the Manager's office in the Hollywood Roosevelt Hotel. Beginning Monday he will prepare one or two daily press releases telling the story of the Convention as it unfolds. Before the doors open, however, he will have examined all manuscripts for newsworthiness and have prepared written abstracts (in layman's language) of the important parts of each paper. Reporters from trade and city papers can then study them all in understandable capsule form.

PRICES	<i>Bill Kunzmann, National Carbon Division, Box 6087, Cleveland 1, Ohio</i>
Registration for the week	\$ 5.00
Registration for a single day	1.00
Ladies Registration (week)	2.00
Luncheon (tax and tip included)	4.00
Banquet* (tax, tip and cocktails included)	11.00

* *Bill Kunzmann said to remind everybody that the banquet is informal.*

Theater Television and the FCC

THE ENTIRE FIELD of theater television reached and passed an important milestone in the month of July 1951. After pleading the cause of theater television in many places and with great enthusiasm over the better part of a decade, the Society is no longer the only vocal public proponent. Theater circuits, exhibitors' trade organizations, manufacturers and the common carriers have joined the parade.

Equipment is being made, sold, installed and used on a commercial scale and the companies concerned with all aspects of equipment, operation and programming, as well as their trade organizations are beginning to move in a single general direction. Before long this link of communications between motion picture exhibition and television will be an integral part of the nation's entertainment industry.

As a consequence of this *imminent maturity*, our Theater Television Committee and its Subcommittee on Distribution Facilities believe that the new industry is well able to solve its own *commercial problems*. They have so advised the Board of Governors, recommending that the Society make no further appearance before the Federal Communications Commission in this connection, on its own initiative. Forthcoming hearings of the FCC described in Docket No. 9552 fall into the "commercial problems" category, because in addition to considering certain technical matters, the hearings will produce specific requests for allocation of sections of the radio frequency spectrum to the use of theater television. And they will also produce requests for the assignment of particular channels within those "theater television bands," to par-

ticular commercial interests. Using these two factors as a basis for its decision, the Board of Governors at its meeting in New York on July 19 ruled that the SMPTE would not appear at the forthcoming hearings.

FCC

Immediately following the Board Meeting, President Mole addressed the following letter to Mr. T. J. Slowie, Secretary of the Commission:

"The Society of Motion Picture and Television Engineers has given consideration to having its representatives appear at the hearings of the Federal Communications Commission beginning the first week in December and relating to channel assignments and related matters for theater television. The Society has for many years been active in studies of theater television methods, equipment and engineering aspects.

"Its primary functions in the developmental stages of theater television include the following: to coordinate the varied approaches which individuals and companies in the motion picture industry have taken toward the problems of creating the means of theater television; to establish desirable performance objectives practical of attainment at each stage of the art, and economic in the sense that equipment and facilities must be both manufacturable and operable; to arrange for the free exchange of information on video bandwidth, number of lines and suitable signal-to-noise ratios. These results have been accomplished through the Society's engineering committees.

"The consequence of this SMPTE coordination will doubtless be constructively evident in the statements soon to be filed with the Commission by commercial interests who propose to establish and to operate portions of a national theater television service. To further the development of such a service the Society is ready to serve the Commission as well as the motion picture industry through its study of particular technical questions.

"The Board of Governors of the Society believes that the Society's mission in the present preliminary stage of theater television development has been accomplished, citing as evidence the present broad interest of the industry as well as the constructive measures which the industry now proposes. Since the Society is a technical organization (and not a commercial institution), and since it will, of course, not propose to operate any portion of the theater television service, it does not propose to apply for the use of a band of frequencies in the radio spectrum, and for that reason does not propose to file an appearance nor otherwise participate in the forthcoming hearings. Further, the Society is convinced that the matters under consideration at these hearings can be adequately and informatively handled by the qualified engineering representatives of motion picture organizations there appearing.

"The Society has historically taken a constructive, cooperative and active position with respect to theater television. It is a pleasure to report that its Board of Governors continues its full interest in that field and has today authorized the following statement of its position with respect to the forthcoming hearings in the matter of Allocation of Frequencies and the Promulgation of Rules and Regulations for a theater television service.

1. The SMPTE, as a scientific and engineering society, is concerned primarily with technical matters. It is not concerned with commercial or industrial matters as such, and does not undertake to represent or speak for the motion picture industry or its parts.

2. The field of theater television has now reached a stage of technical and commercial development such that individual organizations appear qualified to express their viewpoints. Accordingly, the participation of the SMPTE in

regulatory hearings no longer appears necessary.

3. However, upon the request of the FCC the SMPTE will assign to its technical committees the task of studying specific technical questions and will thereafter present to the Commission the technical opinions and data they can produce.

"The Society particularly directs the attention of the Commission to its willing offer of further technical service whenever requested."

Industry

Since other industry groups had of recent years been either taking an active part in the Society's committee deliberations or following closely, developments within its committees, it was particularly important that they know where the Society stands at the present time. To keep them informed, President Mole wrote on the morning of July 20 to the Presidents or senior staff members of these eight organizations:

Motion Picture Association
Theatre Owners of America
Society of Independent Motion Picture Producers
Allied States Association of Motion Picture Exhibitors
Motion Picture Research Council
Metropolitan Motion Picture Theatre Owners Association
Independent Theatre Owners Association
National Exhibitors Theater Television Committee

Enclosing a copy of the statement to the FCC, the letters read in part:

"We believe the cooperative spirit that has characterized the industry-wide interest in theater television over the last few years has formed a firm basis for an effective theater television service, and we earnestly hope it will continue. The present outlook is most encouraging.

"In the same constructive spirit I have been asked by our Theater Television Committee and its Subcommittee on Distribution Facilities to extend the following invitation to all industry groups who have taken part in our work or otherwise shown a serious interest. If you find it convenient please pass this invitation along to the members of the [your organization] as

evidence that the SMPTE has no intention of stepping aside at this juncture.

"[Your organization] is invited to call upon the Society of Motion Picture and Television Engineers at any time for assistance in the study of specific technical matters. The results of such studies would, as is customary, be presented for free use of the industry at large."

Continued Interest

Mr. Mole and the Board felt it was important to avoid giving the impression that the Society was stepping aside now, after so many years of active interest in promoting early technical progress in this comparatively new field. The present move implies rather that the Theater Television Committee is now ready to concentrate on technical details and, like all other engineering committees within the Society, is at the service of all segments of the industry.

For a review of past work in this connection, look up the following:

1. "Statement on theater television," Theater Television Committee, D. E. Hynd-

man, Chairman, *Jour. SMPE*, vol. 53, pp. 354-362, Oct. 1949.

2. "FCC allocation of frequencies for theater television," *Jour. SMPE*, vol. 53, pp. 351-353, Oct. 1949.
3. "Theater television," Theater Television Committee, D. E. Hyndman, Chairman, *Jour. SMPE*, vol. 52, pp. 243-272, Mar. 1949.
4. "Statement of SMPE on revised frequency allocations," Paul J. Larsen, *Jour. SMPE*, vol. 48, pp. 183-202, Mar. 1947.
5. "Report of the Committee on Television Projection Practice," P. J. Larsen, Chairman, *Jour. SMPE*, vol. 47, pp. 118-119, July 1946.
6. "Frequency allocations for theater television," *Jour. SMPE*, vol. 45, pp. 16-19, July 1945.
7. "Statements of the Society of Motion Picture Engineers on allocation of frequencies in the radio spectrum for theater television service as presented before the Federal Communications Commission," *Jour. SMPE*, vol. 44, Feb. and April. 1945.

Letters to the Editor

Re: A Study of Current Misconceptions in the Optical Theory of Rotating Prisms for High-Speed Cameras

Summary: The analysis of the rotating prism, as published by J. H. Waddell in this JOURNAL, is wholly invalidated by an initial mathematical error. The correct calculation shows increasing speed of image displacement for increasing angle of rotation—a result directly opposite to that obtained by Waddell. Moreover, the advertised statement that "high index low dispersion glass" improves the resolution is without real foundation, as the influence of the value of the refractive index on the prismatic aberrations is practically insignificant.

A DESCRIPTION of the image formation by rotating prisms was given by J. H. Waddell,¹ with particular attention to the change in the speed of image displacement with increasing angle of rotation.

Unfortunately, a substantial mathematical error crept into the basic formula upon which Waddell's investigation was built up. His formula (5), which should

be the differential quotient of equation (4), is essentially incorrect. The mistake in differentiation led to the conspicuously false Fig. 2 in Waddell's paper, showing a curve turning downward to zero speed for increasing angle. In reality, the correct curve turns upward with increasing angle.

The writer has previously given a quantitative survey of the optical aberrations in question.² The image produced by the camera lens is continuously displaced by the rotating prism during the exposure. The displacement is

$$D \frac{n-1}{n} \left[x + \left(\frac{n+1}{2n^2} - \frac{1}{6} \right) x^2 \right] \quad (1)$$

in which D is the thickness of the polygonal prism, n is the refractive index, and x is the angle of rotation in radians (i.e., the angle between the optical axis and the normal to the prism face).