

## Book Reviews

### **The American Annual of Photography, Volume 64, 1950. Edited by Frank R. Fraprie and Franklin I. Jordan**

Published (1949) by the American Photographic Publishing Company, St. Paul, Minn. 208 pp. incl. 120 illus. + 38 pp. Who's Who + 30 pp. Advt. Paper bound, 7 × 10 in. Price, \$2.00.

This 1950 issue (Volume 64), I feel, surpasses all previous issues. Articles such as "The Work of Jose Ortiz-Echagüe" are entertaining and inspiring, especially when so splendidly illustrated. Other articles are equally well written and illustrated. Such articles as "Printing Exposure Determination by Photoelectric Methods" and "The Physiology of Film Base" will probably appeal more to our technically minded SMPTE members but such articles as "The Motion Picture Camera in Science and Industry," "The Camera as a Field Research Tool," "Photography in Industry and Science," "The Work of Eadweard Muybridge," in fact all of the sixteen diversified articles will appeal to anyone interested in the progress of photography, pictorial and otherwise.

There are some 67 full-page pictorial illustrations of an international nature which are intelligently described and analyzed by Frank R. Fraprie.

The Who's Who in Pictorial and Color Photography as well as the exhibition records for the past three years will be of special interest to those who are concerned with salon exhibition.—JOHN W. BOYLE, 139½ S. Doheny Drive, Los Angeles 48, Calif.

### **Practical Television Engineering, by Scott Helt**

Published (1950) by Murray Hill Books, Inc. (A subsidiary of Rinehart and Co.), 232 Madison Ave., New York 16, N.Y. xv, 708 pp., including 30 pp. glossary, 14 pp. index, 387 illus. and numerous tables. 6 × 9 in. Price, \$7.50.

Mr. Helt's book is a significant contribution to the television-engineer-to-be. With the lifting of the freeze, the rush to install more television stations will be on in full force. Many electronics engineers will be faced for the first time with the day-to-day television operating problems. It appears that Mr. Helt was aiming toward that group particularly. They will find this book extremely helpful.

There is a certain unevenness in the density of theoretical treatment. Upon analysis, it becomes evident that this is just what Mr. Helt intended. For example, the section on studio lighting is right to the point with details of the type of lights to use and how to place them. Yet the theory of the image orthicon is covered in simple straight-forward language minus equations. This makes good sense because no operating engineer is going to design an image orthicon. He has only to recognize its operating characteristics and decide whether or not a tube should be used or rejected. Yet with lighting he can be a "designer" and with this book he has sufficient information to deal intelligently with the problem without reference to any other source material.

The discussion of lens theory is well handled and the bridge to electron optics skillfully presented. The advanced reader is naturally led to more rigorous texts on electron optics.

The importance of the cathode-ray tube oscilloscope to the television engineer cannot be overemphasized. Mr. Helt wisely goes into great detail to explain its operation and use. This chapter alone will make this book very important. He also gives interesting manufacturing information on cathode-ray tubes which provides the new television engineer with some useful background.

The chapter devoted to the synchronizing generator is quite complete. The theory and design concepts are well presented, particularly where they will provide a better understanding necessary to good maintenance technique. The succeeding chapters deal competently with video amplifiers and associated compensating circuits, power supplies and the receiver.

Mr. Helt makes a successful effort to provide the operating television broadcast engineer with a good understanding of the receiver. Too often, engineers overspecialize to a point where the station man has little understanding of the receiver man's problem. Yet no television system is complete without the home receiver.

With regard to the transmitter, more detailed information may be required. The author favors the studio engineer by providing helpful hints on approved maintenance procedures and best studio practice. The book is already long, nearly 700 pages.

Mr. Helt has succeeded in authoring a book which was greatly needed. He has accomplished his task with a professional quality. This book is fully recommended to the industry as a practical exposition of the engineering problems in television broadcasting.—E. ARTHUR HUNGERFORD, JR., General Precision Laboratory, Pleasantville, N. Y.

### **Sound Absorbing Materials, by C. Zwikker and C. W. Kosten**

Published (1949) by Elsevier Publishing Co., 215 Fourth Ave., New York 3. 171 pages + 3 pp. index. 92 illus.  $9\frac{1}{2} \times 6\frac{1}{2}$  in. Price, \$3.00.

The first-named author was formerly Professor of Physics at Delft Technical University, Netherlands, and is now connected with Philips Electrical Industries, Eindhoven. The second is Lecturer of Physics at Delft Technical University. Their book is essentially an account of the theoretical and experimental work done by them and by other European investigators, with some references to American sources, in developing along basic scientific lines the relation of the sound absorbing properties of materials to measureable physical characteristics of their composition and structure. The first chapter treats the use of acoustic impedance as a valuable intermediate step in this relation. In later sections the wave equations and impedance characteristics are derived for several types of absorbing media: an air-impervious compressible material with internal friction (sponge rubber), a porous material with an elastic frame (felt or mineral wool blanket), and a porous material with a relatively rigid frame, as exemplified by some of the common types of commercial acoustical materials. Methods of measurement of the material constants governing impedance, such as air-flow resistance, porosity (percent of voids), and compression modulus of the material structure are discussed. Measurement of impedance and normal incidence coefficients of small samples is covered in some detail, and typical experimental results are given.

Absorption by resonators is treated extensively. These include the simple Helmholtz resonator consisting of an air cavity with a small orifice and combinations of such resonators having staggered frequency responses. Practical constructions of this type have been used successfully in Europe for room acoustical correction. The basic resonator theory is extended to the more familiar case of a perforated rigid board over an air space which may be completely or partially filled with porous absorbing material. Useful design formulae and charts are included for the various cases. It is rather surprising that no mention is made of absorption by diaphragmatic vibration, which is utilized in the familiar curved plywood studio treatments and in at least one commercial material. Another

distinct type of absorber is the integrally perforated porous material. This is very widely used, but is touched on only briefly in the book, and no attempt is made to develop an adequate theory for this case.

In the final chapter, methods of absorption measurement at angles of incidence other than normal are briefly mentioned, and the difficulties in predicting absorption characteristics under random incidence or room conditions from normal incidence data are pointed out.—HALE J. SABINE, The Celotex Corp., Chicago 3, Ill.

### **American Cinematographer Hand Book and Reference Guide Seventh Edition, by Jackson J. Rose**

Published (1950) by American Cinematographer Hand Book, 1165 North Berendo St., Hollywood 27, Calif. 299 pp., 3 pp. index, 85 tables, 10 photographs in color + 38 pp. advt.  $6\frac{1}{2} \times 4$  in. Flexible binding. Price, \$5.00.

The Seventh Edition of this convenient pocket size hand book and reference guide has been expanded to 325 pages. It still contains the charts, formulas and technical information which professional cinematographers have been using for years but the book has been brought up to date with the addition of latest information on the various color processes: Technicolor, Monopack, Ansco, Kodachrome, Du Pont, Ektachrome, Bipack, Trucolor, etc. The new method of "Latensification" is explained as well as many of the newer gadgets being used in the professional field today. The color illustrations are extremely helpful in showing various "filter" results in monochrome. Magnetic recording, television photography and "T" stops are a few of the newer subjects. The author and compiler, Jackson J. Rose, A.S.C., has had the cooperation of his colleagues in the film industry and has been quick to use their suggestions for improving cinematography and finding a simpler way to achieve artistic photographic results.—JOHN W. BOYLE, 139 $\frac{1}{2}$  S. Doheny Drive, Los Angeles, 48, Calif.

### **Theatre Catalog, 8th Annual Edition, 1949-1950**

Published (1950) by Jay Emanuel Publications, Inc., 1225 Vine St., Philadelphia 7. 1-528 pp. + i-x, profusely illus., includes advtg.  $9\frac{1}{4} \times 12\frac{1}{4}$  in. Price \$5.00 (foreign shipments \$10.00 a copy).

This new *Theatre Catalogue* isn't the type of publication that motion picture and television engineers would normally read. It is, nevertheless, an impartial picture of motion picture operation and design, covering almost every phase of a fascinating business.

The engineer's interest in this great industry cannot properly be limited to his laboratory. Auditorium design is changing constantly and with it new problems confront the alerted engineer. Panoramic viewing conditions approaching the normal viewing conditions of the human eye are desirable, yet little has been done about it. Drive-in theaters are here to stay and so is theater television. Third dimension projection is a stimulus that theaters need badly. What is being done about it today?

The *Theatre Catalogue* not only discusses certain phases of projection and sound but dwells on design and construction, maintenance and management. The engineer must be familiar with these phases of the business, otherwise he cannot properly tackle theater operation problems.

Attention is directed, for instance, to the section on theater design and to the section on new equipment. Know well the ultimate use of equipment so carefully designed in the laboratory. Where and under what conditions will the finished motion picture be viewed by John Public? How can improvements be made in the over-all result? How can picture presentation be vitalized? What changes can be made to better a system of projection now essentially 23 years old?

The *Theatre Catalogue* is not primarily reading matter for an engineer—but it should be. By completely understanding a vast operation it is hoped that the motion picture and television engineers will: (1) see the inadequacy of current practices so that they may be improved; (2) publish the results of their findings freely so that others may develop the germ of an idea; (3) realize that they are likely to play as important a part as anyone else in this business' future; and (4) believe that their ideas are good as far as they go but that they do not go far enough.—LEONARD SATZ, Raytone Screen Corp., 165 Clermont Ave., Brooklyn, N.Y.

## Current Literature

THE EDITORS present for convenient reference a list of articles dealing with subjects cognate to motion picture engineering published in a number of selected journals. Photostatic or microfilm copies of articles in magazines that are available may be obtained from The Library of Congress, Washington, D.C., or from the New York Public Library, New York, N.Y., at prevailing rates.

### American Cinematographer

vol. 31, no. 5, May 1950  
Pushbutton Zoom Lens for TV  
(p. 160) H. I. SMITH  
Adapting Motion Picture Lighting to  
Television (p. 162) L. ALLEN

vol. 31, no. 6, June 1950  
The Infra-Red Photographer Evaluator  
(p. 196) S. HORSLEY

Matching Location Footage with  
Studio Shots (p. 197) H. A. LIGHT-  
MAN

Optical Effects with Any Camera  
(p. 198) I. BROWNING

When and How to Use Camera Angles  
(p. 201) P. TANNURA

Britons First With Tape Sound Unit  
for Silent Home Movie Projector  
(p. 204)

AnSCO Announces New 16-mm Color  
Duplicating Film (p. 205)

### Audio Engineering

vol. 34, no. 6, June 1950  
The Columbia Hot Stylus Recording  
Technique (p. 11) W. S. BACHMAN  
An Adventure in Loudspeaker Design  
(p. 14) H. T. SOUTHER

Considerations in the Design of Feed-  
back Amplifiers (p. 17) H. I. KEROES

### International Photographer

vol. 22, no. 5, May 1950  
Are Cameramen Necessary on TV?  
(p. 5) H. BIRCH

The Camera Optical Engineer (p. 8)  
R. L. GREENE

### International Projectionist

vol. 25, no. 5, May 1950  
Notes on Modern Projector Design  
(p. 14) R. A. MITCHELL

vol. 25, no. 6, June 1950  
Notes on Modern Projector Design,  
Pt. II (p. 7) R. A. MITCHELL  
Heat, Light Reflectivity is Upped by  
Kodak Mirror (p. 11)

An Optical Alignment Check System  
(p. 17) C. W. HANDLEY

New Simplex Sound System Shown by  
IPC (p. 23)

U. S. Navy 16-mm Projection Specs  
(p. 26) J. J. McCORMICK

### Motion Picture Herald

vol. 180, no. 1, July 1, 1950  
Safety Stock is Now 85% in Use by  
Trade (p. 13)

### Radio & Television News

vol. 43, no. 6, June 1950  
RCA's New Direct-view Tri-color  
Kinescopes (p. 46)

### Tele-Tech

vol. 9, no. 7, July 1950  
Experimental Tri-Color Cathode Ray  
Tube (p. 34) C. S. SZEGHO  
Process Screen Projection, Pt. I  
(p. 39) R. A. LYNN and E. P.  
BERTERO