

Book Reviews

Questions and Answers in Television Engineering, by Carter V. Rabinoff and Magdalena E. Walbrecht

Published (1950) by McGraw-Hill, 330 West 42d St., New York 18. 283 pp. + 2 pp. appendix + 16 pp. index. 175 illus. 6 × 9 in. Price \$4.50.

Although book lists today abound with volumes whose titles include "television," by far the majority deal with television receiver servicing or with the theory and design of receivers. Books which treat television as a many-faceted field, no part of which is more important than the other parts, are not common. This volume is such a work.

It is divided into twelve chapters: Antennas, Radiation, and Transmission Lines; R.F. and I.F. Amplifiers, Converters, and Oscillators; The Limiter, Clipper, Detector, and Sync Separator; Video Amplifiers; Deflection Systems; Cathode-Ray Tubes, Camera Tubes, and Photoelectric Cells; Images and Patterns; Optical Systems and Illumination; Transmitters; Standards, Laws, and Regulations; Receiver Principles, Filter Theory, and Power Supplies; and Analysis of Two Typical Receivers.

The book is intended as a reference source for those who are in the television field and as a "semi-textbook" for those who need to clarify and organize their knowledge. It is singularly successful in both roles, primarily because of the adoption and intelligent treatment of the question-and-answer technique. A writer whose object is simply to give an explanation of a certain rather wide subject too often tends to ramble, to lack organization, to use too many words, and to avoid being specific.

The authors here, however, have voluntarily bound themselves to the asking of the logical questions and to answering them specifically, succinctly and precisely. In this way, they have made each piece of information definitely useful in doing a certain job or in the study of a particular phenomenon or piece of equipment. They have paralleled the thoughts of the reader who uses the book for reference, for his reason for referring to the book in the first place is because he has a question in mind.

As a learning aid for readers who need to consolidate their knowledge the book is valuable because the questions have been chosen to carry the subject through in logical order. The reader who starts at the beginning of the book need not be an electronics specialist. He is introduced to the special character of v.h.f. propagation, the reasons for antenna design and the practical calculations, receiver inputs and other receiver circuits. The explanation of scanning methods leads into a discussion of cathode-ray tubes and photocells, which naturally carries forward to images and patterns. These three subjects are all linked with both transmission and reception. The next section, on optical systems and illumination, will be quickly understood by motion picture men and will make the pieces of the previous explanations fall into place neatly.

The section on transmitters is basic enough for instruction, but is also specific enough, with elementary calculations and figures to be of aid to the television specialist. Many of these questions, in fact, parallel those in FCC licence examinations, and may be used as review material for prospective examinees. In this section there is particular reference to the special applications of motion picture techniques to television.

The important definitions, FCC regulations, and standard practices in transmission are given in the standards section. The receiver section is devoted largely

to the points that do not ordinarily get full treatment, such as projection systems, filter configurations, and power supplies. The final chapter is a stage-by-stage breakdown of an RCA and a GE receiver from a design standpoint, with, in many questions, the interesting and instructive approach of asking the "why" of certain design provisions. The appendix contains additional information on proposed u.h.f. channels, metropolitan and community stations, interference ratios, allocations, power radiation regulations, and auxiliary (mobile pickup and relay) stations. The index is unusually complete and helpful.

This volume is not large enough to contain all the information that every reader might need at some time or other; but it is certainly a highly useful one to keep in any technical library, especially in conjunction with some of the more conventional books on receivers and other specialized divisions of the television field.—RICHARD H. DORF, Television Consultant, 255 W. 84th St., New York 24.

Réunions D'Opticiens, Tenues a Paris en Octobre 1946, Textes rassemblés par Pierre Fleury, André Maréchal et Mme. Claire Anglade, Institut d'Optique, Paris

Published (1950) by Editions de la Revue d'Optique, 165, Rue de Sèvres; 3 et 5, Boulevard Pasteur, Paris (15^e). xv + 673 pp. 6 × 9 in. Price on request.

This is a collection of 131 scientific papers presented by 109 authors at an international convention held in Paris in October, 1946. The volume contains numerous illustrations. It represents a summary of all modern research trends in the field of theoretical and applied optics.

The volume covers the following topics: basic theoretical studies, theory of aberrations, structure and perception of optical images, optical instruments, optical surfaces and materials, optical measurements, sources and receptors physiological optics and color, ophthalmological optics, spectroscopy, molecular optics, polarimetry, astronomical and atmospherical optics, and corpuscular optics.

While being of much interest to anyone interested in fundamental optical investigations, this volume is not intended as a textbook nor can it be used as such; and, of course, it is not an engineering manual. For this reason, a practical motion picture engineer will not find in this volume much that is of direct use to him, unless he wants to make himself acquainted with powerful new ideas and tools which at some future time may considerably influence motion picture art and engineering.—DR. K. PESTRECOV, Bausch & Lomb Optical Co., Rochester 2, N.Y.

Photographie Instantanée et Cinematographie Ultra-Rapide, par P. Fayolle et P. Naslin

Published (1950) by Editions de la Revue d'Optique, 165, Rue de Sèvres; 3 et 5, Boulevard Pasteur, Paris (15^e). Price on request.

Messrs. Fayolle and Naslin have undertaken to produce a text on high-speed photography, something that has been needed for a long time. There have been previous publications but they have generally covered only a small portion of the field. Tulpholme in his book, *Photography in Engineering*, discusses high-speed photography in one chapter. Other phases have been covered in *Lehrbuch der Ballistick* and in other numerous papers. Now, Messrs. Fayolle and Naslin have consolidated much of this lore in one text.

The summarization that they have given covering the optical problems of high-

speed photography is well done. The discussions of light sources and the various cameras which are in existence are good; and, for a text, to serve as a background in high-speed photography, it is invaluable today, if for no other reason than that no other such source exists.

There are, however, some exceptions to be taken to the text and your reviewer has written the authors that they have neglected many of the advances that have been made in the United States in the last two or three years, advances which have been described in the symposia on high-speed photography held by the Society of Motion Picture and Television Engineers. Such include the high pulse-rate Edgerton flash unit, the late advances in flashtube design by General Electric, the design of rotating prism cameras, and the development and use of high-speed motion picture cameras in this country. Furthermore, there is no reference to the incandescent lights which have been developed by General Electric for high-speed photography. Your reviewer might be a little biased but he feels that, if rotating prism cameras are discussed, then the two kinds that are manufactured in this country should be discussed rather than confining the description to one. Since the two cameras are about equally popular in this country, an impartial review should include discussions of both.

For those who are seriously interested in high-speed photography, it is felt that this book is a must. Ability to read French is not a requirement for understanding this book quite thoroughly.

It should be noted that the next major project of your Society's High-Speed Photography Committee is to produce an American textbook. Whether that will be chiefly the work of one man or the result of the efforts of the Committee as a whole is not yet established, but there will soon be a text in English in production.—JOHN H. WADDELL, Industrial and Technical Photographic Division, Fastax Cameras, Wollensak Optical Co., Rochester 21, N. Y.

Letters to the Editor

Re: Light Measurement for Exposure Control

[The publication of a paper under this title by Don Norwood, May 1950 JOURNAL pp. 585-602, has elicited the following comments.]

I was very interested to read the above noted article, for my development of the Duplex Incident Light Exposure Meter Technique has meant that for the last three years or so I have been working on almost parallel lines.

Before noting some further developments, I hope you will permit me to correct Mr. Norwood's statement on p. 595, in which he claims that his "concept of *Effective Illumination*, which takes into account illumination intensity and relative positions of observer, subject and light source *has not heretofore been crystallized or formulated*" [the latter italics are mine]. In contradiction to this statement, reference may be made to the November 1948 *British Kinematography* containing my article "Exposure Technique for Reversal Materials," from which it may be noted that I described this effect (which I named the "Duplex" technique) over two years ago before a meeting of the British Kinematograph Society in London.

Since reading my paper in 1948, a slight improvement over my originally described "Horizontal Duplex" method has been developed. The new recommended "Direct Duplex" method, which has been worked out by my colleague L. C. Walshe and myself, still consists of taking two readings with an incident light meter (of the flat window type), namely a "camera direction" reading (as