Book Reviews

Elements of Sound Recording, by John G. Frayne and Halley Wolfe

Published (1949) by John Wiley and Sons, 440 Fourth Avenue, New York 16, N. Y. 674 pages + 12-page index + vii pages. 463 illustrations. $6^1/_4 \times 9^1/_4$ inches. Price, $8.50.

Here at last is a book, for both the student and experienced recording engineer, that contains a wealth of up-to-date, useful information in a field which is so specialized—as most everything is nowadays—that very little outside of the professional journals is available in book form. The authors are well qualified to prepare such a volume, and have succeeded in presenting under one cover much of the meat of the subject. Diagrams and illustrations are profusely employed to supplement the text. Mathematical analyses are sparingly used and then only to illustrate basic principles.

Briefly to orient the newcomer to the field, the first few chapters deal with the nature of sound, sound waves, electrical, acoustical, and mechanical circuits. Chapter III, and the several following, cover microphones and their uses, vacuum tubes, audio amplifiers, network theory, filters, and equalizers. And here it is well to add that there are many charts and tables which are useful in determining constants for mixer circuits, loss pads, and filters.

Chapter X begins the discussion of practices largely unique in recording: compression and limiting, recording systems, disk recording, disk records and their processing. There follows, in considerable detail, subject matter on variable-density and variable-area film recording. Noise-reduction methods are thoroughly described.

The chapter on film laboratory processes contains much information on modern laboratory processing methods for sound film. A chapter is included on recording techniques. Film reproducing systems, both 35-mm and 16-mm, are described with much helpful information on theater sound systems and how to obtain the best quality from 16-mm sound films.

Of timely interest in the present state of the recording art is a chapter on magnetic recording—its basic principles, types of systems, and professional uses. There are chapters on loudspeaker systems and acoustics of stages and theaters. The final subject looks to the future with a review of stereophonic recording and reproduction relating the work done to the present time. Systems are described and results discussed, together with the operating problems which were encountered.

The subject of sound recording has so many ramifications that it is difficult to cover all parts adequately. This fact is recognized by the authors, who include a number of pertinent references at the end of each chapter to enable the reader to go into many of the subjects at greater length. For a thorough grounding in sound recording and reproduction, this book is a worth-while addition to the reference library of the engineer in this field.

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