

## BOOK REVIEW

**Sound Film Recording and Reproducing by the Klangfilm Process (Klangfilm-Tobis System).** (Tonfilm Aufnahme und Wiedergabe nach dem Klangfilm-Verfahren (System Klangfilm-Tobis).) DR. F. FISCHER AND DR. H. LICHTER. *S. Hirzel*, Leipzig, Germany. 450 pages, 378 illustrations. Theoretical and practical knowledge of sound recording and reproducing from many sources has been collected in this volume, making it a summary of theory and a handbook describing the workings of the systems in use at present.

After an outline of the three sound systems, *viz.*, variable density recording, variable width recording, and wax disk recording, the authors describe the fundamental parts of the apparatus, such as the Kerr cell, the oscillograph, optical systems, photosensitive devices, wax disk engravers, and pick-ups. A full treatment is given of the theory of photographic sound reproduction, including a discussion of non-linear distortion introduced by incorrect photographic processing. Theories of various types of microphones, loud speakers, and amplifiers are presented, as well as a study of the distortion which may be introduced.

The second part of the book deals with the design of Klangfilm apparatus, describing in turn the recorder, various sound film attachments for projectors, disk recorders and reproducers, recording and reproducing amplifiers, portable amplifiers and news cameras, developing and printing, and dubbing.

The book is concluded with a discussion of room and building acoustics, and a detailed description of a typical installation in the Ufa studios.

The material presented appears to be very accurate; much of it has never heretofore been available in a compiled form. The illustrations are well drawn, and help greatly to clarify the text. The book can be highly recommended to any one wishing to study all aspects of sound pictures.

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