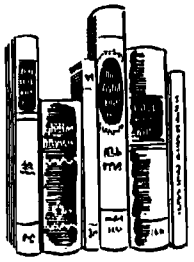

books reviewed

Solid-State Communications: Design of Communications Equipment Using Semiconductors

Prepared by the Engineering Staff of Texas Instruments, Inc. Published (1966) by McGraw-Hill Book Co., 330 W. 42 St., New York, N.Y. 10036. 366 pp. Diagrams. 7 by 10 in. Price $12.50.

This volume is a valuable complement to TI's *Transistor Circuit Design*. The text encompasses virtually all available state-of the-art devices for communication equipments covering the spectrum from RF to UHF. The device parameters are thoroughly treated as well as their variations with temperature. Three chapters are devoted in whole or in part to the problem of device stability at high frequencies. The Linvill Technique is a valuable tool for the determination of circuit stability and the text discusses and gives an example of its use. Other circuit techniques that are valuable to the circuit designer such as high input impedance techniques, gain control and the use of dual transistors in low-level circuits are covered. RF harmonic oscillators are treated separately as is the technique of designing low-distortion wide-band amplifiers. Considerable and justifiable emphasis is given to transistor noise. A simplified approach is used to be more meaningful to the design engineer. Extensive bibliographies are provided at the end of each chapter in the event the reader requires additional information.—*Bruce A. Fredendall*, Radio Corp. of America, Astro-Electronics, Div., Box 800, Princeton, N.J.

Printed Circuits Handbook

Ed. Clyde F. Coombs, Jr. Published (1967) by McGraw-Hill Book Co., 330 W. 42 St., New York, N.Y. 10036. 548 pp. inc. Index, Appendixes, Illus. Diagrams. 6 by 9 in. Price $15.00.

By combining and unifying the work of ten qualified contributors, the editor has covered a continuous sequence of printed circuit operations starting with engineering design and layout, and proceeding through final testing of the finished product. The approach is highly practical. Actual production operations are the subject matter of interest.

In every sense a reference handbook, the volume presents such informative material as clear photographs of problem conditions, graphs and tables showing the effects of variations in process parameters, and a 10-page Appendix giving standard dimensional tolerance recommendations of the Institute of Printed Circuits.

Subjects covered include: Design and Layout, Laminates, Machining, Image Transfer, Plating, Etching, Multilayer Laminating, Manual Assembly, Automatic Assembly, Encapsulation and Coating, Soldering (covered in 5 well-detailed chapters), and Assembly Testing.—*Bernard D. Plakun*, Barnes Engineering Co., 30 Commerce Rd., Stamford, Conn. 06902.

Sound Studios and Rooms for Sound Reproduction

By V. S. Mankovsky. Published (1966) by Isskusstvo, Moscow, USSR. 374 pp.

Briefly, it may be noted that the book includes 94 references, chiefly to Russian publications. The breadth of coverage is indicated by the titles and contents of the chapters:

No. of Figs.	No. of Eqs.	Chapters
2	0	1. Acoustic Processes in Rooms
41	116	2. Statistical Theory of the Acoustics of Rooms
32	37	3. Geometric Theory of Acoustics of Rooms
9	43	4. Wave Theory of Acoustics of Rooms
38	74	5. Sound Absorption Characteristics of Materials and of Structures
40	53	6. Sound Isolation of Rooms
29	30	7. Acoustic Characteristics of Cine, Radio Broadcasting and Television Studios
22	38	8. Reenforcement of Sound Under Room Conditions and in Open Space
24	9	9. Acoustic Characteristics of Rooms for Sound Reproduction
24	34	10. Acoustic Measurements in Rooms
261	434	

Skimming through the book, one is impressed with the presentation which uses 261 figures and 434 numerically identified equations in its presentation. In addition, there are many numerical computations; and, considering the inclusion of tables of characteristic data on materials of construction, it is obviously intended to be a combined theoretical and practical treatment of problems in its field.—*Deane R. White*, Photo Products Dept., E. I. du Pont de Nemours & Co., Parlin, N.J. 08859.

NFPA Handbook of the National Electrical Code

By Frank Stetka and Merwin M. Brandon, Published (1966) by McGraw-Hill Book Co., 330 W. 42 St., New York, N.Y. 10036. 640 pp. incl. Tables, Appendix, Index. Illus. Diagrams. 8 by 5½ in. Price $12.75.

This new handbook is based on the 1965 edition of the National Electrical Code of the National Fire Protection Assn.

The Code is essentially a specification and is therefore tersely worded. The *Handbook* presents the entire text of the Code and, in addition, interweaves a running commentary in which background, intent, cross-references and other relevant items are offered. It is this feature that gives the

book its character as an important reference work.

The authors have helped to prepare the Code, and are therefore qualified to interpret it in the *Handbook*.

Changes in the 1965 Code are identified by marginal rules. The publishers note that there are over 250 changes. There are new sections for mobile homes, trailers, deicing and snow melting. The section on projection booth practices has not changed; it is current and timely for nitrate film.—*Bernard D. Plakun*, Barnes Engineering Co., 30 Commerce Rd., Stamford, Conn. 06902

Soviet Cine Camera Equipment

By I. B. Gordychuk. Published (1966) by Isskusstvo, Moscow, USSR. 320 pp.

Instead of a review, some descriptive notes about this book follow:

The bibliography contains 56 references to Russian publications in the field.

The first chapter, "Principles of Construction and Performance of Basic Elements of Cine Camera Equipment," discusses many of the unitary elements present in any motion-picture camera.

The second chapter presents detail of the several models which are expected to be found in use under a variety of conditions, producing conventional and wide-screen pictures on 35mm film. In all, twelve models are identified.

The third chapter takes up equipment for photography of wide-format and panoramic films. Three camera models are identified for wide format photography. Two models are shown for panoramic photography. The type of camera assembly used for full circular panoramic photography is also shown.

The fourth and final chapter, "Methods and Instruments for Checking Cine Camera Equipment," treats a wide range of mechanical and optical tests to show the performance of the cameras.

An Appendix (18 pages) presents a lengthy tabulation of detailed information concerning cameras and lenses available in the USSR.—*Deane R. White*, Photo Products Dept., E. I. du Pont de Nemours & Co., Parlin, N.J. 08859.

Abstracts of papers appearing in other journals chosen for their importance and possible value to researchers as well as those of timely interest, are published in the *Journal* from time to time. Many translations of abstracts from foreign journals, chiefly those of the USSR, are made available to the *Journal* by the Research Laboratories of the Eastman Kodak Company. As a rule, translations are made of the abstracts and not of the papers. The journals in which the papers appear can be consulted at some libraries. Current issues of *Tekhnika Kino i Televidinya* can be consulted at, or borrowed from the Society's Headquarters Office.

Those requiring definitive and thorough searches of current literature and patents are referred to *Abstracts of Photographic Science & Engineering Literature* (*APSE*), produced by the Engineering Index, Inc., 345 E. 47 St., New York, N.Y. 10017, with the editorial cooperation of the Society of Photographic Scientists & Engineers.

The subject areas are grouped below:

Cameras
Cinematography
Color
Data Recording and Processing
Film and Its Properties
General
Laboratory Practice
Lasers
Lens Systems
Photographic Theory and Materials
Projection
Sound Recording and Reproduction
Television

CAMERAS

The RKS-2M ultra-high-speed lenticular-plate motion-picture equipment (in Russian), V. P. Gusev, O. F. Grebennikov, S. M. Provornov, B. I. Shablevich, and A. G. Medvedev. *Zh. Nauch. i Prikl. Fot. i Kinemat., 12:* 45–53, No. 1, Jan./Feb. 1967.

The RKS-2M ultra-high-speed lenticular-plate motion-picture equipment has been designed in the Leningrad Institute of Motion-Picture Engineers for filming rapid events at a frequency of 500 million frames/s. The camera can be used for the filming of processes the beginning of which can control the delivery of a synchronized pulse to the camera. Test runs with the camera have shown it to work reliably and the pictures obtained with it to be of sufficiently good quality.—S.C.G. (Translation of authors' abstract.)

CINEMATOGRAPHY

Cinematography from the kinescope screen without exposure correcting pulses (in Russian), V. I. Til'kin, *Tekh. Kino i Televideniya, 11:* 62–66, Feb. 1967.

A method of recording television programs on motion-picture film with apparatus using the afterglow of the luminophore, but with phase change and without intensifying pulses, is rational and its introduction into practice gives good results. Using the method described and carrying out the recommendations, any television studio, until such time as suitable apparatus is produced in quantity, can construct with its