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### Technology Review, November 1961

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## GROUND SUPPORT SYSTEMS FOR MISSILES AND SPACE VEHICLES

By KENNETH BROWN and PETER B. WEISER, University of California, Los Angeles. University of California Engineering Extension Series. 490 pages, \$15.00.

Presenting a complete description of the systems required to support either a missile or a space vehicle. Directed toward the engineer having no prior acquaintance with ground support systems, the text approaches the system as a whole unit - assuming subsystems involved is merely an integral part of the overall system. All subsystems are considered with full discussions of recent advances.

# FUNDAMENTALS OF HEAT TRANSFER

By GROBER, ERK, and GRIGULL; translated from the German by J. R. MOSZYNSKI, Case Institute of Technology. McGraw-Hill Series in Mechanical Engineering. 527 pages, \$15.00.

This translation is from the German classic GRUNDSETZE DER WARMENBERTRAGUNG first published in 1933 and revised in 1955. Apart from its value as a classic in literature, the Third Edition as rewritten by Grigull covers all the fundamentals of the subject and gives a very thorough account of European research in heat transfer up until 1955. Bibliography includes important publications since 1955.

## SYNTHESIS OF OPTIMUM CONTROL SYSTEMS

By SHELDON S. L. CHANG, New York University. 381 pages, \$11.75. A second-year-graduate-level text bridging the gap between a standard text on the subject and the current literature on optimum control. It may also be used as a supplementary text for a one year graduate course, and as a reference book for industry. The book is designed to equip students with advanced design techniques for higher performance systems where the ultimate in response is required.

## ELEMENTS OF THERMODYNAMICS AND HEAT TRANSFER, Second Edition

By EDWARD F. OBERT, University of Wisconsin; and ROBERT L. YOUNG, University of Tennessee. Available in January, 1962. A major revision of a very successful text used primarily in the service course given in the M.E. department to students in other engineering disciplines. The Heat Transfer material has been substantially expanded, an effort has been made to strengthen the mathematical developments of the First and Second Laws, and the theory is built upon the concept of function.

# DESIGN MANUAL FOR TRANSISTOR CIRCUITS

By JOHN M. CARROLL, Electronics, McGraw-Hill Pub., Co. 376 pages, \$9.50.

A selected group of articles from Electronics magazine showing an engineer how to design circuits using transistors and other semiconductor devices.

## FOUNDATIONS OF STRUCTURES, Second Edition

By CLARENCE W. DUNHAM, Yale University. The McGraw-Hill Civil Engineering Series. Available in January, 1962.  
An extension and improvement of successful text dealing with the practical application and theory of foundation engineering and design. As before, it is intended for reference by structural and foundation



engineers, and for text use in senior courses in Foundational Engineering or specialized courses in Soil Engineering.

McGraw-Hill Book Company, Inc.  
330 West 42nd Street  
New York 36, New York

#### COMPUTER-CONTROL SYSTEMS TECHNOLOGY

Edited by C. T. LEONDES, University of California, Los Angeles. The University of California Extension Series. 649 pages, \$16.00.  
This book, developed from a series of lectures offered at various centers in California, combines a unified, integrated treatment of computer-control systems technology with the presentation of a number of currently significant applications. The first sections of the book deal with the theory of digital and analog computers. Then control theory is studied. Finally these two fields are blended by considering the development of some systems of varying degrees of difficulty.

#### RECENT ADVANCES IN HEAT AND MASS TRANSFER

Edited by J. P. HARTNETT, University of Minnesota. 404 pages, \$9.75.  
This book brings together a collection of the most important papers in Heat and Mass Transfer. All the articles have appeared in various journals, magazines or symposia, and have gained wide recognition as outstanding contributions. Of considerable value to all those actively involved in the use of heat transfer information, Suitable as an auxiliary text for graduate courses in transfer processes.

#### PEACETIME USES OF OUTER SPACE

Edited by SIMON RAMO, Thompson Ramo-Woolridge, Inc. 279 pages, \$6.95.  
This remarkable volume brings together outstanding scientists, educators, and businessmen for an examination of the coming space age. Emphasizing the peacetime, non-military aspects of space technology, the book seeks to heighten public responsiveness to the full impact of science and technology in shaping our future. Contribution include: Lwston Faneyf, J. H. Doolittle, Lloyd V. Berkner, Congressman Overton Brooks, Ralph J. Cordiner, Willard F. Libby, Vice Admiral John T. Hayward, Joseph Kaplan, Morris Neiburger, Brigadier General Don D. Flickinger, Leo Goldberg, Edward Teller, and Frederick R. Kappel.

#### PLANNING A COMPUTER SYSTEM: Project Stretch

Edited by W. BUCHHOLZ, IBM Corporation. Available in January, 1962.  
This book is primarily concerned with the selection of an instruction set and related functional characteristics of a high-speed digital computer. The specific subject of the work is the powerful and highly sophisticated computer: the IBM 7030. The authors of individual chapters have actively participated in the design project developing this computer and the text thus reflects the substance of direct personal experience. Reason are given for various design choices and compromise between conflicting requirements are analyzed. Numerous original ideas are discussed.

#### LINEAR VACUUM TUBE AND TRANSISTOR CIRCUITS: A Unified Approach to Linear Active Circuits

By A. J. COTE, Jr. and J. BARRY OAKES, The Johns Hopkins University. The McGraw-Hill Electrical and EElectronic Engineering Series. 411 pages, \$10.75.  
This senior-graduate level text presents a basic approach to the analysis

and synthesis of linear vacuum tube and transistor circuits, and emphasizes the difference and similarities between these two devices. This viewpoint permits the designer to select the optimum combination of external passive elements that will make the best use of the device employed in a particular application.

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