Nothing essential is omitted and nothing superfluous is included. The authors have accomplished their purpose of providing all the basic information in this field in an unusually systematic and logical manner.

The first few chapters provide essential background information including brief descriptions of the scanning process, the general characteristics of picture tubes as well as external accessories such as focusing and centering magnets.

The basic process of deflecting an electron beam in the normal type of cathode-ray tube is analyzed including a derivation of the equations fundamental to this process. The various kinds of distortion inherent in the usual deflection system are described in detail together with possible methods for minimizing or compensating for such defects. A short but comprehensive chapter on deflection coils is followed by a thorough consideration of the associated deflection circuits. Almost half of the book is devoted to the problems involved in designing practical and efficient horizontal deflection circuits. This includes the design of the output transformer with provisions for the picture tube high voltage supply. The problem of selecting the output tube and determining optimum operating parameters is thoroughly investigated. The final chapter provides a brief but thorough consideration of the basic principles that must be considered in the design of the vertical deflection circuit.

While this volume would be a valuable addition to the technical library of any television engineer it has a few limitations that should be mentioned. These are all relatively minor and in no way detract from its superior qualities. It may be noted from the title that this volume was prepared primarily for use in European countries. This means that the American reader will find relatively slight differences from usual practices and nomenclature in the United States. Fortunately the standards for the horizontal scanning rates established for TV broadcasting here and in the major part of Europe are almost identical. Two minor disappointments are that there is no material on transistorized deflection circuits or on circuits for color receivers.

However it can be hoped that eventually another volume in this series will become available which will provide this additional information with the same thoroughness and clarity. The fact that the volume just reviewed was originally issued in a German edition should not in the least be considered a shortcoming. There is even a considerable likelihood that the translation process resulted in a net improvement.—*W. J. Poch*, Radio Corp. of America, Astro-Electronics Div., Princeton, N. J.

American Institute of Physics Handbook (2d ed.)

Coordinating Editor, Dwight E. Gray. Published (1963) by McGraw-Hill Book Company, 330 W. 42nd St., New York 36. 2,058 pp. illus., index, 6 by 9 in. Price $29.75.

The title *Physics Handbook* suggests almost encyclopedic possibilities, and one can wonder how it may be compressed into one volume. Obviously the editor has had to be very selective — but it is surprising how much material he has been able to include. The work is a second edition, which "reflects recent trends in research, with special chapters on computers, a new section on solid-state physics, new emphasis in the acoustics section on liquids, and on magnetic materials." Other sections have been updated and expanded.

These nine major sections are on aids to computation, mechanics, acoustics, heat, electricity and magnetism, optics, atomic and molecular physics, nuclear physics, and solid-state physics.

Obviously the motion-picture and television engineer will have specialized interest in only a few of these fields. In optics he will find a number of items, including fundamental definitions, photometric units (though the "nit" — candle per square meter — is omitted), geometrical optics, colorimetry, etc., but for filters he is advised to consult commercial catalogs. There is an extensive section on acoustics edited by Leo L. Beranek. There is only a small amount of material on communication, in the section on electricity and magnetism — presumably reflecting the existence of a number of separate handbooks in that field. There is, curiously, a 23-page section on "Electrical Power Practices," including much material on motors. This probably indicates how much nowadays is dependent on electric power.

There is considerable material for browsing — though a handbook is not an ideal medium for this activity. In many places where the lack of space prevents inclusion of specific material, there is an extensive bibliography to suggest where the reader can find it.

The price of the book, and its being more than doubled as compared with the first edition, will undoubtedly restrain its purchase in the case of many engineers. Otherwise, it could readily be recommended as a general reference where one can find many things that are not usually easily available.—*Pierre Mertz*, Consultant, Lido Beach, L.I., N.Y.

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