

Works on Rocket Technology by K. E. Tsiolkovskiy — the historical works of the Soviet pioneer in rocket technology translated by NASA — is available from Clearinghouse, U.S. Department of Commerce, Springfield, Va. 22151 (Order No. N-65-36893) at a price of \$3.50 (microfiche \$2.00). The 434-page book was published

in Russian in 1947 and translated by NASA in 1965. The reader will find propositions on the use of reactive exhaust from aircraft engines, projects for powerful semi-rocket engines for an airplane, a project of air-breathing rocket engines for flights into the stratosphere, outlines of a rocket airplane for flying out of the atmosphere, considerations on the structure of interplanetary stations, and finally a proposition on future colossal settlements somewhere in the region of the asteroids. Tsiolkovskiy considered all these subjects in a scientific manner and expressed logical conclusions based on results obtained by mathematical calculations and by the use of the state-of-the art in all fields of science and technology.

Laser-Induced Nonlinear Optical Effects is a survey of Soviet literature on that subject compiled by the Aerospace Technology Div., Library of Congress, Washington, D.C., for the Air Force. The 52-page survey is divided into three chapters. The first chapter deals with multiphon processes and the generation of harmonics and also discusses amplification and modulation of light in nonlinear media. The second chapter is concerned with another category of nonlinear effects — stimulated Raman scattering. The closing chapter reviews recent Soviet work in laser-induced gas breakdown. The survey (AD-624 029) is available from Clearinghouse, U.S. Department of Commerce, Springfield, Va. 22151. It is priced at \$3.00 (microfiche 50 cents).

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NASA SP-80 IEEE-NASA Symposium on Short-Term Frequency Stability is available from Clearinghouse, U.S. Department of Commerce, Springfield, Va. 22151, at a price of \$3.00 (microfiche 75 cents). The 317-page volume contains papers on users' viewpoints and requirements, theory, devices, and measurement techniques of importance to missile and spacecraft tracking and guidance system designers as well as to manufacturers. One paper discusses the basic relation between the frequency stability specification and the application; another reviews short-term frequency stability from the standpoints of theory, measurement and status. In the category on devices, a paper discusses noise spectrum properties of low-noise microwave tube and solid-state signal sources. A section on measurement contains a paper on stability measurement techniques in the frequency domain.

Microelectronic Power Supplies, an 81-page report by Litton Systems on an oscillating regulator used in 5-ampere power supply models developed for the Naval Air Development Center, is available from Clearinghouse, U.S. Department of Commerce, Springfield, Va. 22151, at a price of \$3.00; or 75 cents in microfiche (Order No. AD-624 838). The report explains that in 2-ampere models a more simplified approach was possible due to lower current rating. For each ampere rating, models of 3, 6, and 12 V were developed. These power supplies in comparison with conventional equipment of similar performance reveal a fivefold reduction in size and weight with no sacrifice in reliability, the report states. The power supplies cost more because of the uniqueness of the components. Litton anticipates that this cost will decrease as its usage in avionics or shipborne equipment increases.

Feature Films on 16, a directory of sound feature films available in 16mm from more than 40 American distributors, is available from Educational Film Library Assn., 250 W. 57 St., New York, N.Y. 10019, at a price of \$5.00. The directory has been compiled and edited by James L. Limbacher, EFLA Vice-President. The directory was published by Continental 16, a division of Walter Reade-Sterling, Inc. The 100-page directory contains information on 6,000 feature films, including the year and country in which each film was

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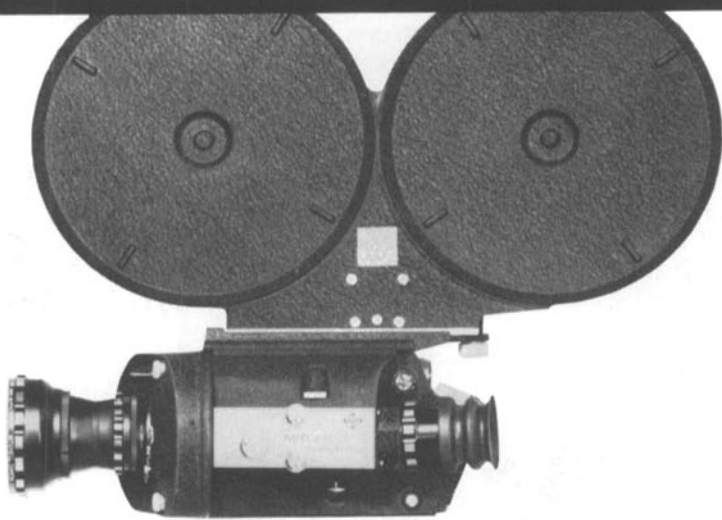
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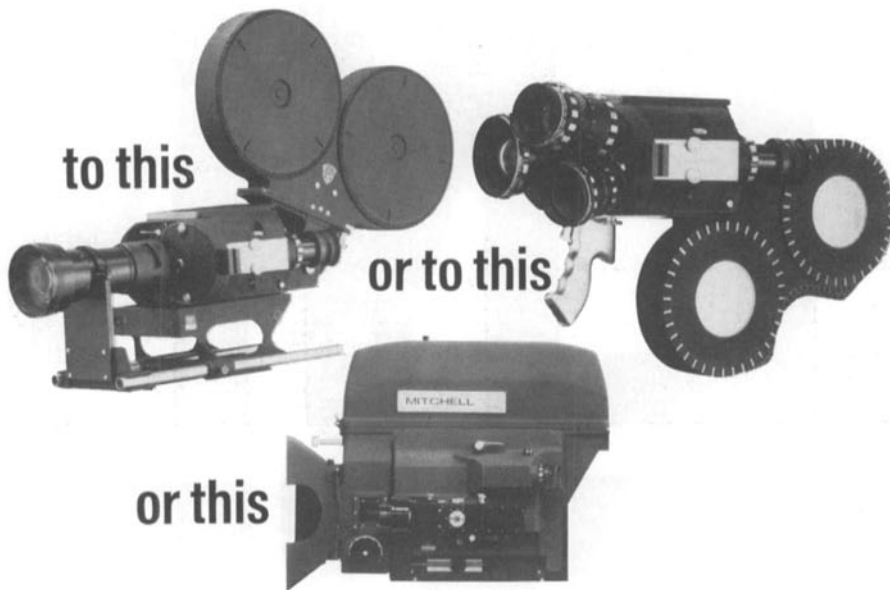
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produced, major cast members, running time, name of the distributor and other special information.

A new edition of *Screen Photography*, a technical handbook on the use of screens in printing, has been published by Gevaert-Agfa N.V., Mortsel, Belgium, and is available (as booklet No. 21.2928(564A)) from Mr. Thomas J. Dunne, Graphic Arts Sales Manager, Agfa-Gevaert, Inc., 275 North St., Teterboro, N.J. 07608. The 40-page booklet contains information on the three major printing processes, the history and action of screens, the nature and action of glass and contact screens, how to expose, the effect of screen angles (moire effect), recommended sensitive material, development and handling of screens. It is illustrated with photographs and line drawings and contains tables and charts.

Production of 8mm Sound Films is a bulletin describing the revolution in the nontheatrical film field caused by 8mm film. It explains single and double system sound film production procedures and application techniques. It also provides specifications for recommended printing techniques and laboratory facilities. Part of a continuing series on 8mm audiovisual equipment and techniques, it is available from Director of Communication Products and Services, Fairchild Industrial Products, 221 Fairchild Ave., Plainview, N.Y. 11803.

How to Select and Install Standby Electric Plants, reprinted from the January 1963 issue of *Electrical Construction and Maintenance* is available in an 8-page brochure from Onan Division of Studebaker Corp., 2515 University Ave. S.E., Minneapolis, Minn. 55414. Intended as a practical guide to the selection of emergency electric generating equipment, the brochure answers such questions as: What capacity standby power plant is required? Which type of engine is best — gas, gasoline or diesel? What cooling methods can be used? What are the installation considerations, electric output requirements and control needs?

Robot Photographic Automation, a booklet describing Robot electro-automatic recording system for scientific and industrial photography, and *Densitocolor Densitometer*, a leaflet on color and black-and-white densitometry, are among some 20 or so booklets and leaflets available upon request from Karl Heitz, Inc., 979 Third Ave., New York, N.Y. 10022. Among the other titles are *Robot Photographic Room-Surveillance*, an 8-page booklet describing the use of Robot Auto-Sequence cameras in safes (or portable) for photographic room-surveillance (burglar traps) in banks, libraries, museums, etc.; and *Rebikoff Color Temperature Meter*, a leaflet on accurate color temperature readings.

Power Supply Handbook P965 is a 52-page illustrated booklet available from Trygon Electronics, Inc., 111 Pleasant Ave., Roosevelt, N.Y. 11575, which describes the company's line of standard

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power supplies and modules. The handbook contains an application note section that features discussions of remote voltage programing, constant current regulation, series and parallel operation of power supplies, remote current programing and protection circuits as well as a glossary of standard power supply terms.

The Arriflex-35 2C line of cameras and related accessories are described in a 12-page illustrated brochure available from Arriflex Corp. of America, 25-20 Brooklyn-Queens Expressway West, Woodside, N.Y. 11377. Detailed descriptions of the various camera models are given, together with specifications. Blimps and many other accessories are also described and illustrated.

Film transports are described and illustrated in a 33-page booklet available from Richardson Camera Co., 2201 West Desert Cove Road, P.O. Box 9187, Phoenix, Ariz. 85020. The booklet also illustrates and identifies the perforation characteristics of various types of motion-picture film now in use. A table is included which lists standard film sizes most commonly used for data reduction purposes. A glossary of terms is also included.

Color-TV Servicing Guide by Robert G. Middleton (published by Howard W. Sams & Co., Indianapolis, Ind. 46206, 112 pp., 8½ by 11 in., price \$3.95) is intended to provide the television service technician with an effective guide to en-

able him to diagnose "trouble" in color television sets. The book uses a picture-and-trouble-symptom format for easy comprehension. The final chapter of the book explains in detail how to test and trouble-shoot with color bar generators.

Voice Sound Recognition is a 132 page report prepared by Philco Advanced Communication Laboratory, Blue Bell, Pa., for the Air Force which describes a new speech perception theory called the Single Equivalent Formant developed by Philco to provide a sound economical basis for a speech recognition system. A Single Equivalent Formant Audio Recognizer developed by the researchers was tested on a small vocabulary of randomly chosen words with 98% recognition. In addition to computer-oriented uses, the speech recognizer may eventually be useful in controlling machines by voice commands, the researchers believe. The report (AD-619 964) is available from Clearinghouse, U.S. Department of Commerce, Springfield Va. 22151, at a price of \$4.00.

The 1965-66 professional issue of The Bolex Reporter contains articles by 23 specialists who either produce or use motion pictures for industry, medicine, law enforcement, television and lecture circuits. Suggestions are offered for the amateur moviemaker as well as for the professional. The articles are illustrated with photographs in both color and black-and-white. An especially interesting article by Ely I. Bergmann on "Forensic Pathology"

describes the filming of an autopsy. Price of this issue of *The Bolex Reporter* is 50 cents. It is available from Paillard Inc., 1900 Lower Road, Linden, N.J. 07036.

The Tenth Annual Survey of Audio-Visual Materials, published by the Classical Association of the Atlantic States, Rutgers, The State University, Newark, N.J. 07102, will be available in April. A few copies of the Ninth Annual Survey are still available as part of the April 1965 issue of *The Classical World*, a periodical published by the Classical Association. The annual surveys list all available sources of audio-visual materials applicable to the teaching of the classics, such as slides, filmstrips, motion pictures, etc., dealing with the history, art and archeology of ancient Greece and Rome. Audio-Visual Editor is Elizabeth E. Scitteman whose address is J.H.S. 104 Manhattan, 330 E. 21 St., New York, N.Y. 10010.

Current Papers in Physics (CPP) published semimonthly by the Institution of Electrical Engineers, Savoy Place, London W.C. 2, England, with the cooperation of the American Institute of Physics lists in each issue more than 1,300 titles of physics research papers from nearly 1,000 journals regularly scanned. CPP contents are grouped by the major field of physics and further arranged by the title and issue of the journal in which it appears. Title of the article, the author and page numbers are also listed. Subscription rates are \$8.50 by surface mail and \$14.50 for air

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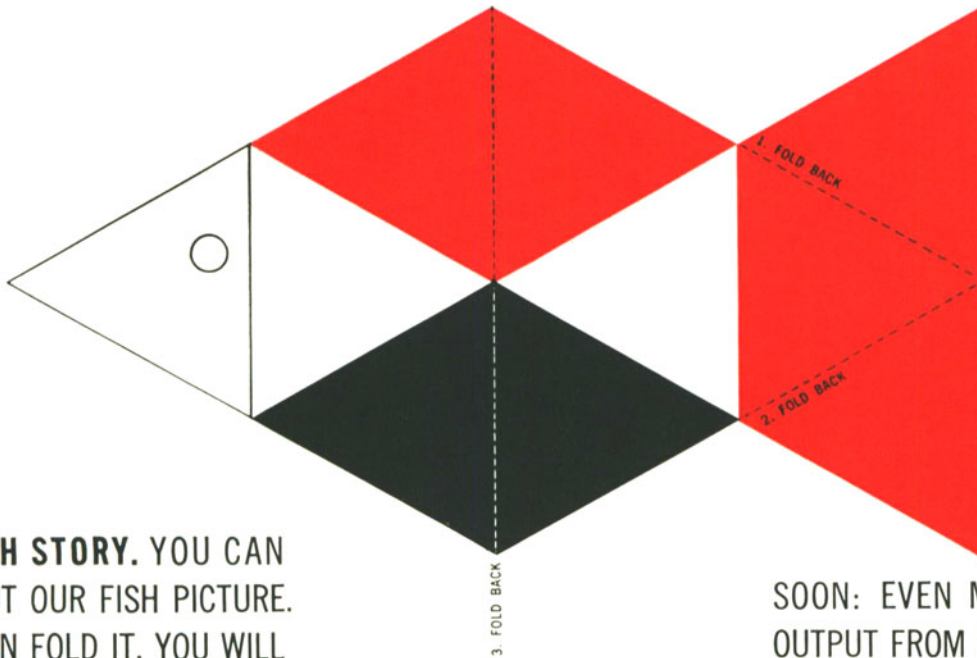
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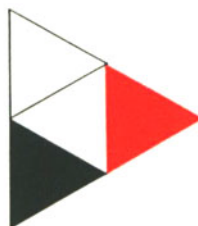
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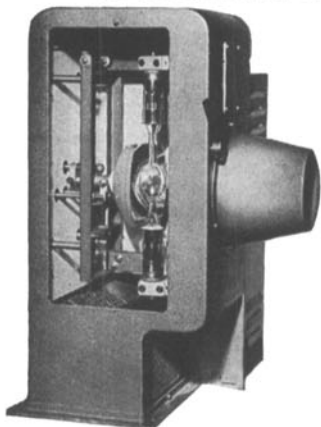
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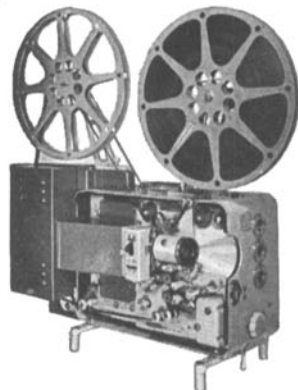
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mail. Rates for members of an AIP member society are \$5.00 (surface) and \$11.00 (air).

ETV Across Canada—1964-65 is a 44-page report published by the metropolitan Educational Television Association of Toronto, 84 Queen's Park Crescent, Toronto 5, Canada (Price, \$1.00). The report is based on reports received from about 20 Boards of Education in the larger cities of Canada and answers to a revised questionnaire on educational television received from more than 40 television stations. The report is intended to supply an insight into the state of ETV, both quantitatively and qualitatively, throughout Canada.

A Title Guide to the Talkies, by Richard Bertrand Dimmitt, is a two-volume bibliography which, in 2,133 pages, lists 16,000 titles of feature length films from October 1927 through December 1963. The listings include such information as from what book the film was adapted, or if it was an original script, when and by whom it was produced, and other information helpful to researchers and librarians. It is available from The Scarecrow Press, Inc., 257 Park Ave. South, New York, N.Y. 10010. It is priced at \$47.50.

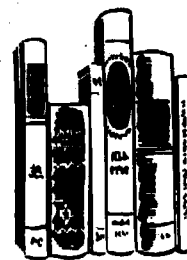
The ColorTran 1966 General Catalog is available from ColorTran Industries, 1015 Chestnut St., Burbank, Calif. The loose-leaf catalog contains illustrations, descriptions, specifications and price list for the firm's quartz-iodine lights, dimming systems, and accessories. Systems for motion-picture, television and still photography are described.

The Ampex VR-7000 portable videotape recorder and Videotrainer system are described and illustrated in brochure VO22 and data sheet VO23 available from Ampex Corp., Mail Stop 7-14, 401 Broadway, Redwood City, Calif. Also available is Bulletin V-015 which describes the CC-323 vidicon camera for closed-circuit applications.

Test Data Booklet #110565, an 8-page booklet presenting data derived from tests on Type CY glass capacitors, is available from Westinghouse Electronic Capacitor Dept., Box 130, Irwin, Pa. Tests include shock, high-frequency vibration, temperature cycling, immersion, moisture resistance, solderability, temperature coefficient of capacitance, lead strength, capacitance drift, and length of life.

How to Succeed in the Business of Showing (VI-10), a brochure describing the Kodak Carousel Projection System, is available from Motion Picture and Education Markets Div., Eastman Kodak Co., 14650. In its simplest form, a Kodak Carousel AV-900 Projector can be used for silent showing of as many as 80 slides without interruption. By using two projectors linked by a Kodak Carousel Dissolve Control, special effects can be achieved, including lap dissolves from slide to slide.

books reviewed



Video Tape Recording: New Products and Markets

By Cris H. Schaefer, Cedric L. Suzman & Associates. Published (1965) by Hobbs, Dorman & Co., 441 Lexington Ave., New York, N.Y. 10017. 104 pp. Illus. Diagrams. 10 by 7½ in. Price \$12.00.

This volume amounts to much less than is claimed for it on the dustcover: "A Comprehensive and Carefully Documented Report on Video Tape Recording..." Indeed, it is no more than is stated in the publisher's note on the copyright page: "This research report is the work of a group of students and was submitted in partial fulfillment of the requirements of the course in Manufacturing... of the Harvard Graduate School of Business Administration."

In the preface the authors disclaim any attempt to make the volume a technical treatise. They then proceed, in the second chapter, to present an error-filled, oversimplified exposition of "The Technology of Video Tape Recording." This is quite unfortunate, since the text shows very little real understanding of the mechanism of magnetic recording, of the signal processes of television systems or of the mode of operation of magnetic recorders themselves, either audio or video. For example, magnetic recording systems are analyzed from the point of view of frequency response rather than recorded signal wavelength, and a degree of confusion seems to exist in the minds of the authors concerning the characteristics of linear, fixed-head video recorders.

In analyzing the market aspects of the video magnetic recording industry, the authors do a creditable job of summarizing present and potential uses of the various types of recorders. However, they are faced with the problem that faces anyone attempting to keep abreast of the rapid technological advances made in the field, that of keeping current with the latest offerings of the various manufacturers. As a result, the tabulations of recorder availability and characteristics are badly outdated, since the data published here were obtained in 1964. It is apparent that the authors found the lack of standardization of specification terminology, especially among the manufacturers of helical scan recorders, quite frustrating and have seemingly discovered that it is often more important to find out what is *not* specified rather than to devote one's time solely to analysis of what is specified.

When examining the potential educational market for video magnetic recorders the authors seem not to appreciate fully the