

are not yet operational, and for some, contracts to deliver equipment were subsequently cancelled because of growing complexity in development.

The general principles of retrieval start simply enough, but lead to a disappointing uncertainty in completeness of finding, on specific items — despite much mechanical assistance. The first essential is then an appraisal of "reasonable" objectives.

The book will be of interest to all who are involved in the processes of recording the progress of an art. It could be recommended reading to the author who is tempted to skimp effort in preparation of an abstract or choice of a title for his paper, or to use jargon.—*Pierre Mertz*, Consultant, 66 Leamington St., Lido Beach, L.I., N.Y.

## Books, Booklets and Brochures

A color standardization and numeration system called DIN 6164 has been produced by the Deutscher Normenausschuss (DNA) and published by Muster-Schmidt KG, 7 Turmstrasse, Gottingen, Germany. It is distributed in Europe through Beuth-Vertrieb GmbH, 175 Uhlandstrasse, Berlin W 15, Germany (a nonprofit foundation of Normenausschuss).

The system was devised, according to the announcement "to bring a systematic order into the realm of color." In order to illustrate the fixed colors in the standard,

25 color charts (supplement to DIN 6164) have been devised with a total of about 600 colors. The system "is connected with the established standard valence system of CIE 1931." The basis of this color system was developed at the suggestion of the DNA, with developmental work beginning in 1941 in the Bundesanstalt für Materialprüfung (BAM) Berlin-Lichterfelde, under Prof. Dr. M. Richter. The Fachnormenausschuss Farbe (FNA) in DNA has, on this basis, completed the standard DIN 6164 and also the plans for production of color charts in cooperation with BAM.

DIN 6164 includes 25 supplements, with 24 of them showing one shade of a color circle in regular intervals sectioned according to saturation and degrees of darkness. The 25th supplement displays a scale of gray in 16 stages.

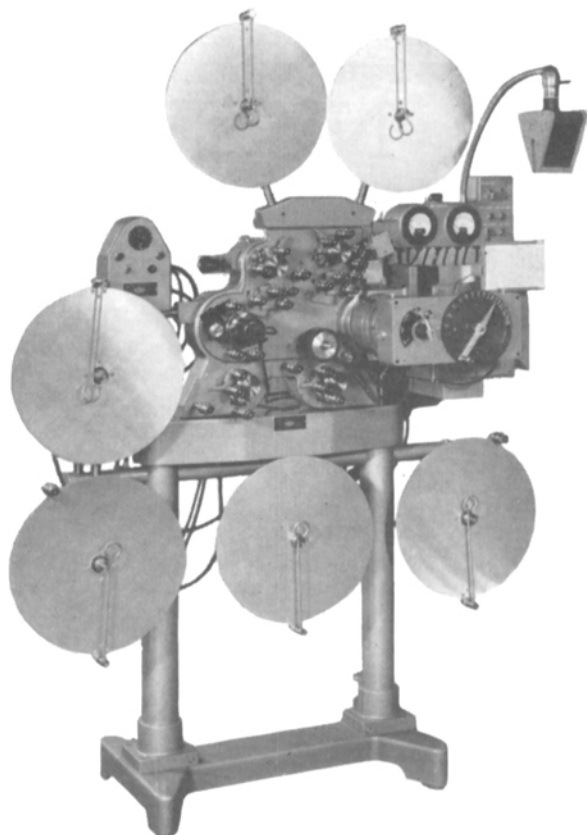
Each color is distinguished by three numbers united into one "color sign." The first number of the sign is the scale number of shade T (1 = yellow, 4 = orange, 7 = red, 13 = violet, 17 = blue, 22 = green). The second is that of the saturation point S (1 = pale, unsatiable, 3 = medium saturation, 6 = stronger saturation, often, technically, the highest saturation attainable). The third number is the measuring number of the degree of darkness D (1 = light, 4 = medium light, 6 = dark — everything relative according to the character of the given kind of color through shade and saturation). For example, the color sign 4:3:6 means "a dark orange of medium saturation point (dark brown)." Colors with full count color signs are presented in supplements by color samples 21 by 28 mm. Price is DM 965.

**The Selective Bibliography for Audio-Visual Teaching of Modern Foreign Languages**, prepared by J. Collins Orr, Director of Language Laboratories, Purdue University, Lafayette, Ind., for the Division of Audiovisual Instructional Service of the National Education Association, has 88 entries in five main categories: Bibliographies; Linguistics and Language Teaching; Language Laboratories and Language Teaching; Language Teaching Methodology; and Language Teaching Materials. The 8-page bibliography is available without charge from the Department of Audiovisual Instruction (DAVI), National Education Association, 1201 16th St., N.W., Washington 6, D.C.

**North American Radio-TV Station Guide, 1963 ed.**, (128 pp., 5½ by 8½ in.) has been announced by Howard W. Sams & Co., 4300 W. 62 St., Indianapolis 6. The Guide lists the call letters, frequency, power and network affiliation for all stations now operating, those which are scheduled to begin operation within the year, and those which are temporarily off the air in the United States and its possessions, and in Canada, Cuba, Mexico and the West Indies. The Guide, prepared by Vane A. Jones, contains more than 7,500 broadcast station listings, including 5,000 AM and 1,500 FM radio stations by city, state and frequency; and about 1,000 TV stations, both UHF and VHF. The book is priced at \$1.95.



## Model 16-C-60 Double Head Contact Printer



- \* Prints picture and sound in one operation.
- \* Available in 16MM and 35MM.
- \* Comes equipped with built-in Automatic Fade Unit, and Semi-Automatic Light Control.
- \* Flanges will hold 2000 foot film rolls.
- \* Prints at speed of 60 or 120 feet per minute.
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Mfrs. of Optical and Continuous Printers and Accessories.

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# **“GRAND PRIX” FOR SOUND RECORDING AT CANNES** **awarded to the Greek film “ELEKTRA” and GEVASONOR SHARES THE HONOURS**

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Irène Papas in “ELEKTRA” of Michael Cacoyannis (photo United Artists).

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At the Cannes 1962 filmfestival the “Commission Supérieure Technique du Centre National de la Cinématographie” awarded a “Grand Prix” to the Greek film “Elektra” for the best sound recording. The Athens firm “Finos Film” chose polished Gevasonor film, Type 201 for the sound recording, which was then transferred to an optical sound track on ST 6, Type 2.56.

Write for further information on the different types of professional Gevasonor Magnetic Films to :



GEVAERT PHOTO-PRODUCTEN N.V., 27, Septestraat, Mortsel (Antwerp) Belgium  
In the U.S.: THE GEVAERT COMPANY OF AMERICA, INC., 321 West 54 Street, New York 19  
In Canada: PHOTO IMPORTING AGENCIES LTD., 29 Gurney, Toronto, Ontario

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2682 Publicem

**Higher Education in Engineering and Science**, edited by Herman A. Estrin, is published by McGraw-Hill Book Co., 330 W. 42 St., New York 36. Dr. Estrin is Professor and Associate Chairman of the Department of English, Newark College of Engineering, Newark, N.J. The book, planned as a "useful and practical anthology" for engineering and science instructors, contains about 90 essays by 70 authors, all "prominent persons in education," the announcement stated.

**Handbook of Voltage Control With the Variac Autotransformer** (40 pp.) is available without charge from General Radio Co., West Concord, Mass. Descrip-

tions of autotransformers and Variac circuits are given. Illustrations include circuit diagrams, charts and photographs.

**An extraordinarily pleasing example of the modern approach to style and design in informational brochures is the color-illustrated booklet published by Eastman Kodak Co. in commemoration of the 50th anniversary of the establishing of Kodak Research Laboratories. A vast amount of information is presented in a condensed but highly readable style as text accompanying superb color photographs.**

The booklet is divided into five sections: Research Organization; Chemistry; Physics; Photographic Science and Technology;

and Services. Each section repays study for the basic information presented in a clear and uncluttered style as well as for the visual experience gleaned from observation of the color and design of the photographs. The text is skillfully arranged in half pages to combine with the illustrations. Of the 50 or so photographs about 40 are in color. A layman's choice of the "best" of these would, of course, depend upon subjective values. To some observers, possibly the lower photograph on p. 11, "A Study of Dye-Fading Reactions," would seem the most interesting because of its unusual lighting and strangely beautiful design. In its entirety the booklet has considerably more than immediate value.

Editor-in-Chief of the Anniversary Booklet was Glenn E. Matthews, recently retired as the Research Laboratories' Technical Editor.

**From Dry Plates to Ektachrome Film** by C. E. Kenneth Mees (published in 1961 by Ziff-Davis Publishing Co., 1 Park Ave., New York) tells the story of almost a half-century of photographic research and discovery. Dr. Mees founded the Kodak Research Laboratories in 1912. Before joining Eastman Kodak he was a partner in the British firm of Wratten and Wainwright, Ltd. According to a well-authenticated anecdote, George Eastman bought the Wratten firm for the purpose of obtaining the services of Dr. Mees with whose work he had been greatly impressed.

The book, completed shortly before the death of Dr. Mees in 1960, surveys the advancement of photography through research and development in which he was both participant and observer during the years from his initial venture with Eastman Kodak until his retirement in 1955.

The book is a handsomely bound volume of 312 pages. It contains more than 150 illustrations and notes such milestones of research as the long search that led to the use of cellulose-acetate for safety-base film; sound recording on film; x-ray research and color photography. The book is priced at \$5.95.

**Teaching Machines and Programed Learning: A Survey of the Industry—1962**, is a report prepared by James D. Finn and Donald G. Perrin for the Technological Development Project of the National Education Association of the United States. It is published by the U.S. Department of Health, Education and Welfare, and is available from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. It is priced at 55 cents. The 96-page report sets forth the findings of the survey in a tightly condensed but clear and understandable form. There were four main goals, as explained in Section II of the report (Methodology): (1) to locate as many as possible of the companies and organizations in the United States preparing programs and manufacturing teaching machines for commercial distribution; (2) to obtain, insofar as possible, of the types, variety and capabilities of equipment being manufactured and the type and content of programs being prepared; (3) to ascertain short-term trends in plans, design and development for both equipment and materials; and (4) to analyze these data for

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Designed and developed by Florman & Babb's Chief Engineer, Ray Emeritz, after extensive testing in the field by several of New York's top-notch cameramen, F & B has finally achieved maximum efficiency and absolutely silent operation in a new 400 ft. Cine Voice Conversion.



- A true torque motor — Idles at 1/3 power, when camera is turned on. Assumes full power. This system prevents excessive heating.
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- Torque motor provides sufficient power to take either 400 ft. or 1200 ft. Mitchell magazines.
- Neon camera running light.

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CAMERA CONVERSION

including torque motor and belt **\$44500**

(price does not include Mitchell magazines)  
At present we can promise delivery within 15 days.



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(price does not include Mitchell magazines)  
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John Fletcher, ABC cameraman, with Ray Emeritz, F & B's Chief Engineer, who developed the new Cine Voice Conversion.

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NEW ANGENIUX 12mm — 120mm ZOOM LENS "C" MOUNT WITH SIDE-VIEW FINDER IN STOCK! **\$895.00**

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March 1963 Journal of the SMPTE Volume 72



The Marconi equipped B.B.C. London Transmitting Station at Crystal Palace.



A Marconi equipped studio at the B.B.C.'s new television centre White City.



Packaged television station designed for minimum staffing.

# MARCONI

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**SURVEYED  
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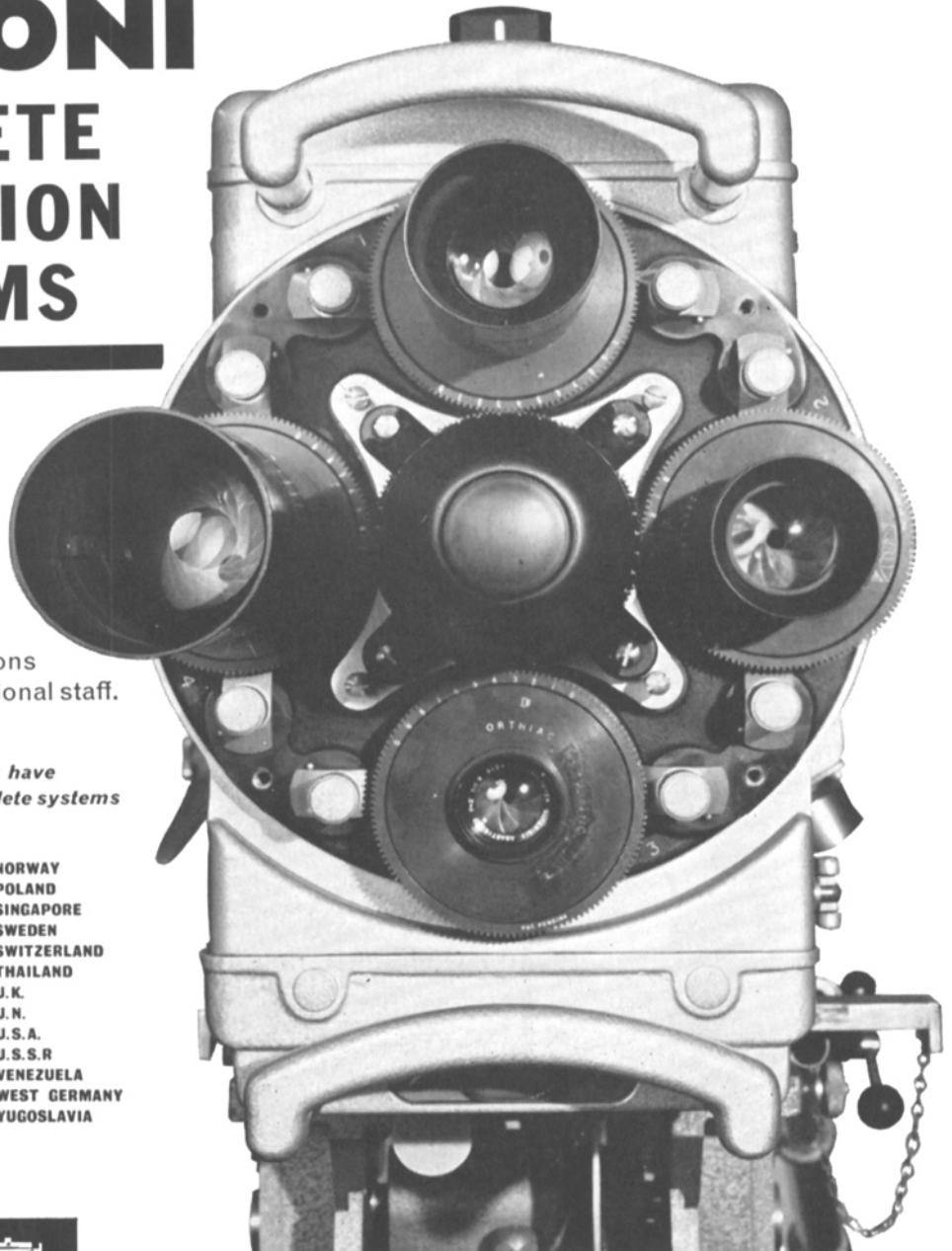
Marconi's have designed and installed systems from large television centres to small stations requiring the minimum of operational staff.

*Marconi's world wide system services have provided television equipment or complete systems to 41 countries.*

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ITALY  
JAPAN  
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MARCONI'S WIRELESS TELEGRAPH COMPANY LIMITED, CHELMSFORD, ESSEX, ENGLAND

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# power rewinders

Automatic & Conventional Models for 16mm, 35mm, 70mm films or Video Tape

An entirely new concept in power rewinding is represented by Moviola's precision-built APR series Automatic Power Rewinders.

## safety

Automatic sensing device and electric brake prevent film damage by "runaway" supply reels. Built-in tension control prevents center "drop-out" of cored film caused by loose, uneven winds.

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Up to 3000 feet of 35mm film in 1½ minutes.

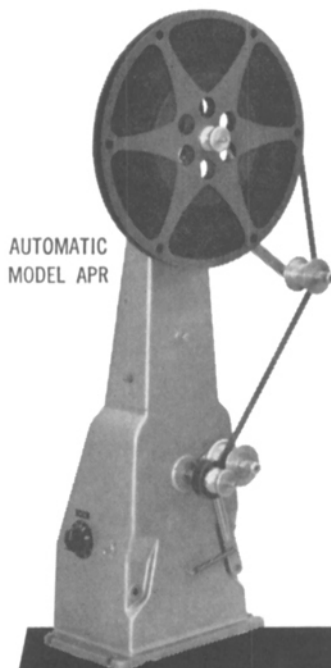
## versatility

Rewinds from or to any combination of cores and reels. May be used in conventional manner if required.

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comparative information. Illustrations include drawings and photographs of various types of teaching machines as well as charts, graphs and drawings. Section VII of the report is a directory of manufacturers and publishers of programs and instructional devices. The report includes a Prologue, Foreword, Table of Contents, and Bibliography.

**The Function of the Engineer & the Scientist** is a booklet prepared by the National Society of Professional Engineers, 2029 K St., N.W., Washington 6, D.C., with the purpose of arriving at definitions and contributing to "a more accurate understanding of the function of the engineer and the function of the scientist." Statements, solicited from eminent scientists, engineers, educators and officials of engineering associations, are quoted in the booklet. From these statements were distilled brief tentative definitions adopted by the NPSE:

*Engineers* are primarily creators of technical things and services useful to man.

*Scientists* are primarily discoverers and interpreters of information about nature.

Among other illuminating statements throughout the book, a statement by Dr. Theodore Von Karman appears on the front cover: "The scientist explores what is. The engineer creates what has not been." A statement by Lawrence R. Hafstad, Vice President and Director of Research, General Motors Co., says, in part, "The scientist's work as a scientist is completed when a new item of information is established and recorded. It is no concern of the scientist whether the information is useful or not. It is society itself which chooses to create a technology based on the information which the scientist has uncovered. . . ."

**The Pocket Dictionary of Computer Terms**, a glossary compiled by the Howard W. Sams Technical Staff, contains more than 1,000 definitions of words, terms, abbreviations, acronyms and phrases related to computer technology for all types of general and special purpose computers, analog, digital and hybrid. Many of the terms are ordinary words or phrases used in special senses. For example, "card reader — A device used to translate the holes in a punched card back into signals that represent characters;" "illegal operation — An operation which a computer cannot perform, due to built-in limitations, or which results in inconsistent results;" "hueristic program — A set of computer instructions that simulate the behavior of human operators in approaching similar problems."

A Foreword to the Pocket Dictionary notes that: "As with any technical area, a specialized vocabulary has developed in the computer field. This vocabulary may differ within the industry, from manufacturer to manufacturer, user to user, one section of the country to another, and one nation to another. If progress in the data-processing field is not to be hampered by lack of communications, some standard must be established to aid in promoting better understanding."

The 4½ by 6½ in. paperbound glossary contains 96 pp. It is published by Howard W. Sams & Co., 1720 E. 38 St., Indianapolis 6, Ind.

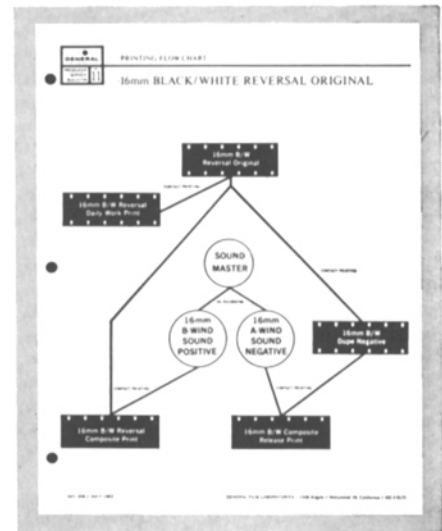
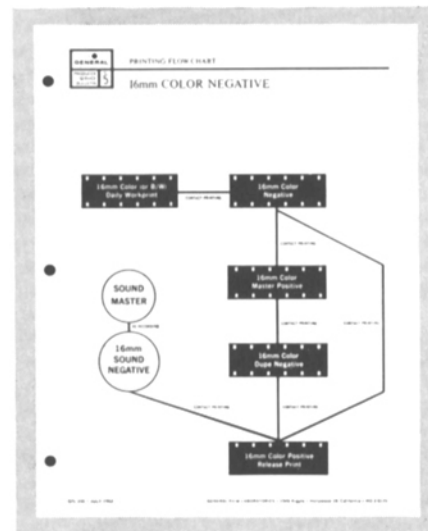
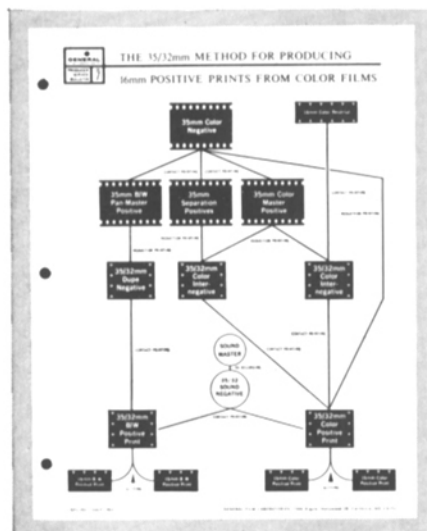
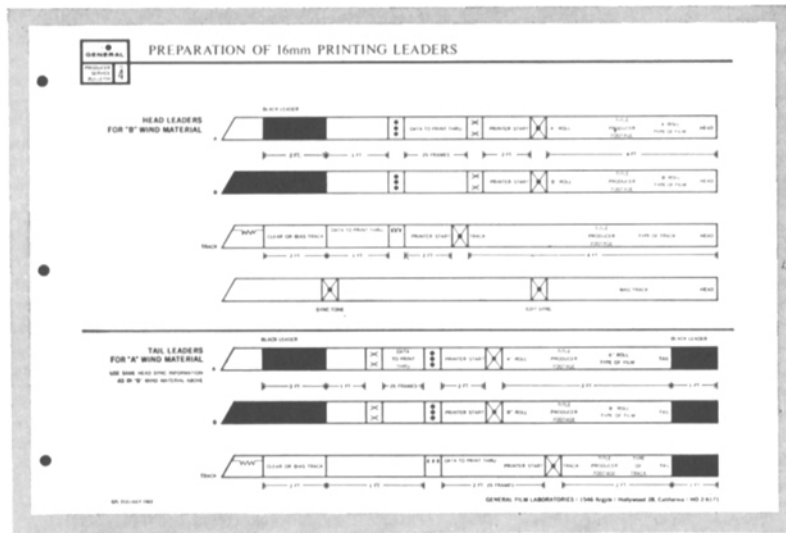
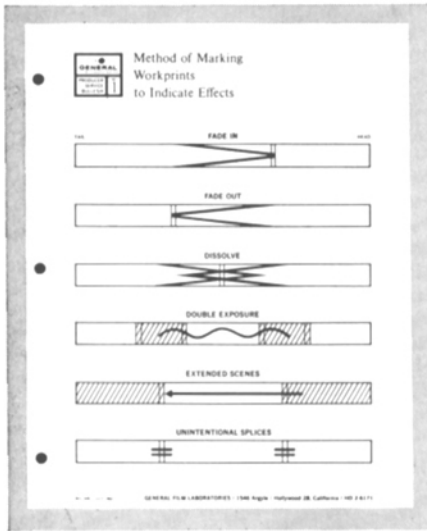
**BBC Engineering Division Monograph No. 42**, July 1962, is entitled *Apparatus for Television and Sound Relay Stations: Translators, Receivers and Drive Equipment*. Authors are F. A. Peachey, R. Toombs and D. L. Smart. The monograph describes new equipment for rebroadcasting stations, developed to meet new requirements brought about by expansion of television and sound coverage. The monograph is priced at 5 shillings and is available from BBC Publications, 35 Marylebone High St., London, W.1. BBC publishes about six engineering monographs each year, each dealing with a technical subject within the field of television and sound engineering.

**Suggestions on How To Organize, Present, and Illustrate a Technical Paper**, Bulletin 8, is available from the American Chemical Society, 1155 16th St., N.W., Washington 6, D.C., at a price of \$1.00. The Bulletin (formerly entitled *Hints to Authors*) discusses organization and delivery and planning and preparation of slides and other visual aids. Also included is a list of references. The Bulletin points out that: "A successful oral presentation before any technical group contains three primary elements. It is based upon a technically sound paper oriented and organized for the audience. It is delivered concisely and clearly, with emphasis on significance. . . (and) is illustrated with effective slides or other visuals to aid understanding."

**Video Tape Playback**, the second issue of the 3M Company's new quarterly informational bulletin contains "how-to-do-it" articles on the use of splicing tape and marking pens in video-tape editing. The bulletin is intended for video-tape engineers, operating personnel and sales and administrative personnel. The bulletin is available upon request from Dept. E2-540, Minnesota Mining and Manufacturing Co., 2501 Hudson Rd., St. Paul 19, Minn.

**An English-Russian, Russian-English Electronics Dictionary** published in 1956 is available from the Superintendent of Documents, Government Printing Office, Washington 25, D.C., at a price of \$3.50. The 944-page dictionary contains an overall collection of about 22,000 Russian terms and abbreviations in the various fields of electronics. It also includes explanations of terms and concepts peculiar to the U.S.S.R. which, strictly speaking, have no equivalent in Western terminology.

**A 128-page (including a 4-page index) illustrated catalog** of motion-picture and photoinstrumentation equipment available for purchase or rental has been issued by Gordon Enterprises, 5362 Cahuenga Blvd., North Hollywood. The catalog contains more than 3,000 product listings and more than 400 illustrations. Included among a number of charts are lens lists with comparisons of 300 lenses as related to 24 popular mountings. A comprehensive index includes many unusual and hard-to-locate items. The catalog also lists manufacturers of photographic or photoinstrumentation equipments upon whose products Gordon Enterprises maintains dealerships, dis-



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Who knows when somebody might ask you a question like "What's the minimum overlap on a zero cut?" Or, "How many generations will we have in those prints?"

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Four of the twelve are editing charts. They show how to mark workprints to indicate effects, how to prepare 16-mm and 35-mm film for A & B Roll printing, and

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We'll be glad to send you a set of these charts, as long as we have them in supply. Let us know. If you feel inclined to tell us, we'd like to know what you do in your job. It helps us plan advertising.



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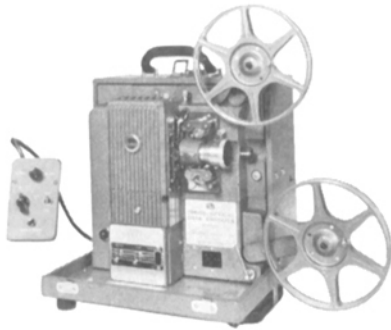
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**PHOTO-OPTICAL  
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Designed for the analysis of 16mm motion picture films, the L-W Photo-Optical Data Analyzer offers an unparalleled degree of control and convenience. Complete elimination of flicker enables the viewer to see more, easier, and prevents eye strain, fatigue and tension. This is the finest **completely flickerless** projector of its type available today, and is based on a new electro-optical principle developed by L-W Photo. It permits gathering of data from films that has never before been obtainable.

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- Still projection with absolutely no loss of brightness or film damage.
- Single frame projection. Open shutter to open shutter registration.
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- Full remote control. Integral frame counter.



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tributorships or service. Queries about or requests for the catalog should be on the inquirer's business letterhead.

**The 1963 Audio-Visual Equipment Directory**, 9th ed., published by National Audio-Visual Association, Inc. (NAVA), 1201 Spring St., Fairfax, Va., is now available. It is priced at \$5.00 or \$4.50 if payment accompanies the order. The 350-page directory, revised and brought up to date, lists and describes more than 1,700 models of all types of audio-visual equipment. Included are more than 900 photographs of equipments. New source listings added to the 1963 directory include Electronics Training Aids; Film Inspection Machines; and Test Scoring Machines. Product descriptions include an illustration, price and brief specifications. Included in the Appendixes are 16mm Projectors Index; Projection and Exciter Lamp Tables; Conversion Chart for Lamp Order Information; Lamp Nomenclature; various other tables and charts; and a list of trade names.

**The Audio-Visual Speakers Guide**, prepared by the Industry & Business Council of the National Audio-Visual Association, Inc. (NAVA) lists persons qualified to deliver lectures on audio-visual subjects. Almost a hundred volunteer speakers are listed in the 32-page booklet. In addition to the name, title, organization and address of each speaker, the listings show the geographic area within which each speaker is willing to address audiences, and the particular type of audiences the speaker feels best suited to appear before, such as Service Clubs, Professional and Business, Education, Religious, etc. A series of annual editions of speakers lists are planned, of which this booklet is the first. The booklet is available to any interested group upon request to NAVA, 1201 Spring St., Fairfax, Va.

**Flutter: Its Nature, Cause and Avoidance** is a 12-page illustrated booklet available upon request from Amplifier Corp. of America, 398 Broadway, New York 13, which presents a study of the phenomenon of flutter and its associated disturbances, wow and drift. Basic theory is followed by a discussion of flutter measurement and the causes and avoidance of flutter, including a discussion of antiflutter maintenance. This study is expected to be of interest to students as well as to engineers, technicians and manufacturers.

**The Pic Rental Schedule**, available from Photo Instrumentation Corp., 630 Ninth Ave., New York 36, N.Y., lists rental equipment, with the listings arranged according to applications of equipment. Equipments are listed under the headings of Time Lapse and Pulse Cameras; Sequence Cameras; Normal Speed Cameras; High-Speed Cameras (including General, Intermittent, and Rotating Prism); Underwater Cameras and Miscellaneous Equipment. Specialized equipment noted in the Rental Schedule includes motion analyzers, portable processors, oscilloscope recorders, lighting equipment, helicopter camera vibration mounts, specialized lens mountings and other equipment for unusual or specialized applications.

**The RCA Transmitting-Tube Manual** is a 320-page manual giving up-to-date information on power tubes and their applications, including the new family of ceramic-metal types. More than 180 types of transmitting and related rectifier tubes are treated in the technical data section, which gives maximum ratings, typical operating values, curves and characteristics. Also included are single-sideband ratings, a discussion of linear r-f amplifiers, and calculation of operating conditions for 2-tone modulation. The manual is priced at \$1.00 and is available from Commercial Engineering, RCA Electron Tube Division, Harrison, N.J.

**More than 200 models of Variac auto-transformers** are described in Bulletin P, a 28-page illustrated brochure available from General Radio Co., West Concord, Mass. Also listed are motor speed controls, voltage regulators and motor-driven autotransformers.

**The Spring-Summer 1962 catalog of Rider books** is available from John F. Rider Publisher, Inc., a division of Hayden Publishing Co., 116 W. 14 St., New York 11. Listed and briefly described are books on various subjects grouped under Technology; Engineering; Mathematics; Physics; Industrial Management; and Juvenile Technical.

**The General Radio Experimenter** is a monthly publication of General Radio Company, West Concord, Mass. It is available without charge to engineers, scientists, technicians and others interested in electronic techniques in measurement. Subscription requests should include information on company affiliation. The October, 1962, issue contains illustrated descriptions including specifications of a new octave-band analyzer, and of an improved unit oscillator. Also included are brief items illustrated with photographs.

**A catalog listing instruments** used in sound and vibration research, and an 8-page technical brochure on the Model 1402 random-noise generator are both available from B & K Instruments, Inc., 3044 W. 106 St., Cleveland 11, Ohio. Instruments used for a variety of purposes, including specialized research projects, testing of hearing aids, pushbutton production inspection of motors, and others, are illustrated and described in Catalog ES-11. The random-noise generator, illustrated and described in the technical brochure, is designed to combine with appropriate Bruel & Kjaer instrumentation to form complete integrated measuring systems for calibration and frequency response, environmental testing, reverberation and acoustic transmission measurements.

**The Fairchild Sound Movie Maker** is a 4-page newspaper issued quarterly to owners of Fairchild 8mm home sound movie equipment and available upon request to the Industrial Products Division of Fairchild Camera and Instrument Corp., 580 Midland Ave., Yonkers, N.Y. The newspaper is directed to home movie makers and enthusiasts.

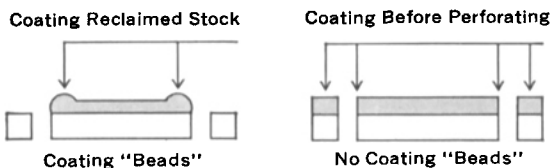


## Guilty of stealing magnetic sound quality: Old Film backing!

### SCOTCH® Brand Magnetic Film uses fresh stock only, features unmatched coating uniformity

When you buy magnetic film at a "bargain" price you may be getting something you didn't bargain for: reclaimed film stock for backing. It's no Keystone comedy when the stock is dried out, shrunken, has lost its flexibility with age, or has been weakened by countless passes through less-than-perfect projectors.

"SCOTCH" Magnetic Film, on the other hand, is backed by fresh cellulose acetate stock of photographic quality: Strong, conformable, long-lasting. And, because this fresh stock is used the perforation pitch is accurate (conforming to ASA specifications); assuring a more constant film speed without flutter.



*See the difference!* Magnetic coating tends to "bead" at the edges and cannot be cut away from reclaimed stock. This prevents film from conforming to the head, impairs high frequency response, and causes level variations. "SCOTCH" Magnetic Film, perforated after precision coating and slitting from wide rolls, eliminates beading by allowing edge ridges to be cut away! The result: consistent uniformity across the entire coated surface to assure uni-

form output, excellent head to film contact for optimum frequency response, lower noise level and greater freedom from dropouts. Another feature of "SCOTCH" films: Exclusive built-in Silicone lubrication that protects sensitive recording heads and increases film life.

**No. 316** . . . a Standard Oxide film. The pick of professionals the world over for 16 mm sound excellence. Its uniformity, dynamic range, freedom from distortion, provide top quality for original recordings and re-recordings.

**No. 326** . . . a High Output Oxide 16 mm film, offers the same quality recording advantages as No. 316, with greater output and increased signal-to-noise ratio.

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siasts and contains many helpful hints and detailed suggestions on making the best use of available equipment.

**Understanding Transistors and How to Use Them** is a 96-page handbook of transistor fundamentals available from Allied Radio Corp., 100 N. Western Ave., Chicago 80. It is priced at 50 cents. The manual was prepared as an introduction to the subject of semiconductors for hobbyists and experimenters and as a guide for home study and classroom use. The book is paperbound. It contains a number of illustrations including transistor symbols and circuit diagrams.

The 83d edition of the **Statistical Abstract of the United States**, compiled by the Bureau of the Census is available from the Superintendent of Documents, Government Printing Office, Washington 25, D.C., at a price of \$3.50. The Abstract provides the latest data in compact summary form, plus historical trends, in 32 major subject areas, including Communications, Education, Foreign Aid, Health, Housing, Population, Science, and World Economy. A folder, showing availability and giving brief descriptions of this and other volumes on statistics is available upon request from the Superintendent of Documents.

An **illustrated folder** available from OPTOMECHANISMS Inc., Engineers Hill, Plainview, L.I., N.Y., presents brief descriptions of the firm's products for use in such scientific fields as photographic interpretation, photographic data display and photographic recording. Other of the firm's equipments include an image enhancer for fiber-optics applications, and instruments used in metrology, velocity data recording, photometric detection, and similar fields.

A **folder describing Cinemoid color filters** is available from Kliegl Bros. Universal Stage Lighting Co., 321 W. 50 St., New York 19. The filters, said to be heat resistant and waterproof and suitable for indoor as well as outdoor use, are available in 60 different colors. Individual charts for each color showing percentage of transmittance are included in the folder.

The **Model V 70mm Multidata Camera** is illustrated and described in a leaflet available upon request from Flight Research, Inc., P.O. Box 1-F, Richmond 1, Va. Intended originally for use with extremely long focal length lens system used in missile tracking, the camera is designed for use under range conditions. Other possible applications include aircraft, rocket sled, and static rocket engine testing, ordnance drop recording, and cine spectrograph re-entry studies.

**Photographic data sheets** available from Ansco, Binghamton, N.Y., include descriptions of Anscochrome film 16, 35, and 70mm in daylight and tungsten types and Super Anscochrome PNI 16, 35 and 70mm. The daylight and tungsten type Anscochrome films have a film speed of 32/3.5° for direct-projection motion pictures of general purpose, industrial and scientific subjects. The films can also be used for data recording and for time and motion studies.

The Super Anscochrome films have a speed of 100. Professional applications include high-speed motion analysis, data recording, stress studies, etc.

An **illustrated folder** available from Traid Corp., 17136 Ventura Blvd., Encino, Calif. (P.O. Box 648) describes the G-1 and G-2 Automax cameras and a special modification of the Automax made for Hallamore Electronics. Specifications are given and a general outline of the cameras is shown.

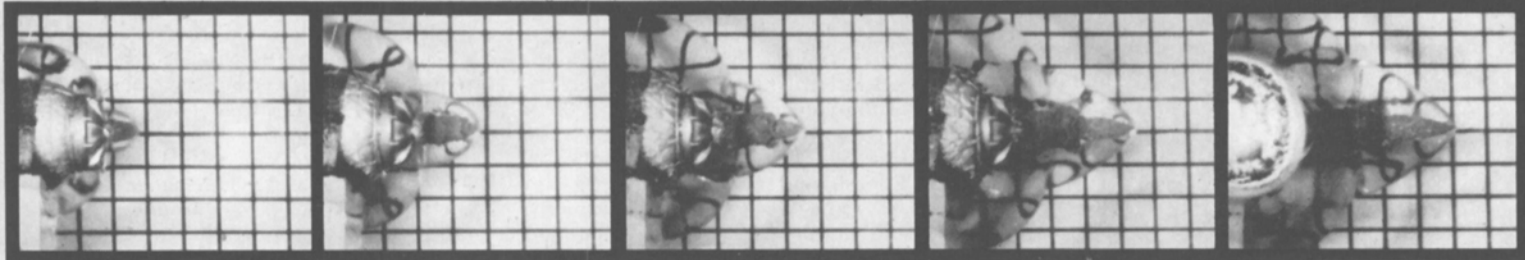
**Phirex projection and sound equipments** produced by Nichion Co., Ltd., Sennariya Bldg., 1-3 Ginza Chuo-ku, Tokyo, Japan, are described in an illustrated brochure giving descriptions, photographs, diagrams and specifications. Descriptions include the Super Phirex 35mm Projector Mechanism; Phirex Theatre Sound Reproducing System; optical and magnetic soundheads; lamps; lenses; and other equipments.

**Miniature Machining Techniques** is a 40-page illustrated handbook available from American Edelstaal, Inc., 350 Broadway, New York 13, at a price of \$1.00. Designed as an operator's manual on the use of the Unimat multifunctional machine tool it also contains information on miniature machining of a variety of materials. The handbook gives detailed instructions on the use of the basic Unimat as a lathe, drill press, milling machine, and bench grinder as well as application with a variety of accessories.

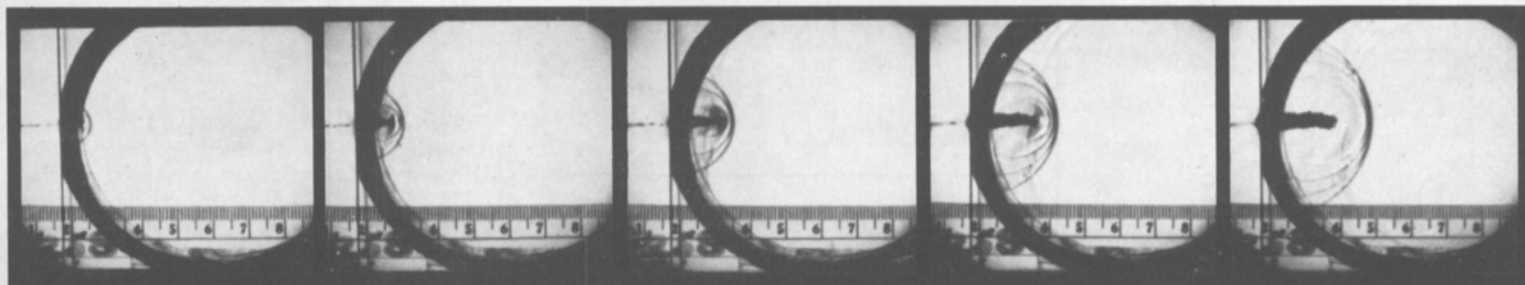
A **four-page illustrated brochure** available upon request from Magnasync Corp., 5546 Satsuma Ave., North Hollywood, Calif., describes and gives specifications for the Magnasync Model TR-1510, a multi-channel communications recording/reproducing system for audio monitoring. The system is said to record up to ten simultaneous audio transmissions with continuous operation.

A **precision sound level meter**, Model 2203, and an octave filter set, Model 1613, are described in an 8-page illustrated brochure available from B & K Instruments, Inc., 3044 W. 106 St., Cleveland 11, Ohio. The Model 2203 is said to provide accuracy of  $\pm 1$  db from 20 cps to 15 ks/sec over the range of 31 to 134 db. The illustrated brochure describes the unit, its applications, an extremely wide range of accessory equipment, and gives specifications.

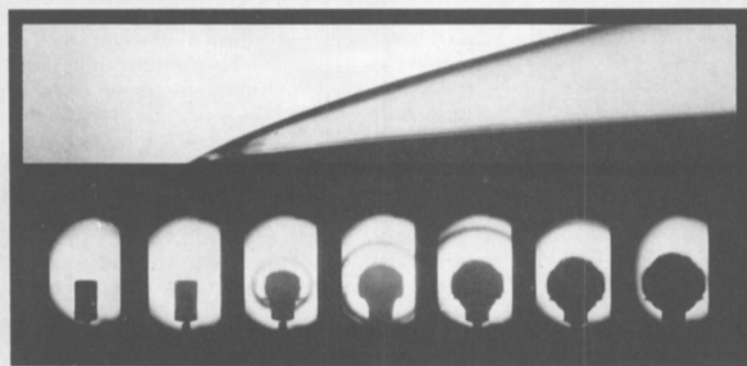
**Color Engineering** is a new monthly publication (first issue January 1963) which has been planned to cover the entire field of industrial color. It is published by Kinelow Publishing Co., Wilton, Conn. The Editor is Bernard W. Powell. Articles are planned to cover all types of color problems. For example, an article planned for an early issue is on the subject of the unusual spectral-energy distributions called metamers. Another planned article will discuss Maya Blue, an ancient ceramic pigment of the Maya Indians of Mexico which, so far, has remained unidentified in spite of studies by color pigment researchers and technicians. It is still unresolved whether the pigment is organic or inorganic.



1



2



3

1 Here's how Beckman & Whitley framing cameras slice time into hyper-thin wafers, each a progress report on a high-speed event. Subject: Cone-shaped charge detonated under water. Camera: Model 189. Original 25 frame sequence recorded at 600,000 frames per sec., 5 frames shown.

2 Hypervelocity particles impacting and penetrating a liquid explosive causing redundant detonations followed by subsequent failures. Camera: Model 189. Original 25 frame sequence recorded at 600,000 frames per sec., 5 frames shown.

3 The streak and framing records at left are of the same event recorded simultaneously from the same point of view, through the same objective lens, on the same time base. Subject: Explosive charge detonated under water. Camera: Model 200 Simultaneous Streak and Framing Camera. Recording rate: framing record at 550,000 frames per second; streak record at 6mm per microsecond.

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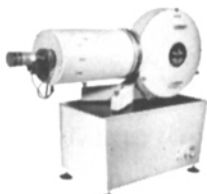
Typical applications include: study of plasma jets, explosive detonations, shock and vibration effects, hypervelocity impacts, cavitation, chemical reaction, nucleation, time/position relationships, stress analysis and ultra-rapid mechanical motion.



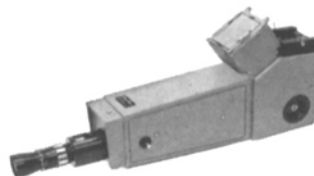
Model 189A Synchronized Framing Camera



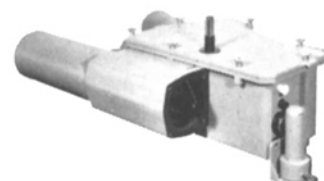
Model 192 Continuous Writing Framing Camera



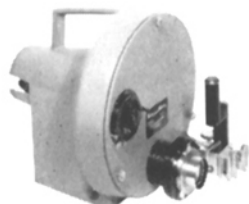
Model 339 Continuous Writing Streak Camera



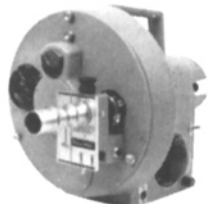
Model 200 Simultaneous Streak & Framing Camera



Model 1500 Spectrograph



Model 364 Random-Event Oscilloscope Camera



Dynafax, Portable Continuous Writing Framing Camera

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