

resistance of drums are compared, and the results of tempering them with high-frequency currents and of testing the drums under service conditions are presented. (Translation of Author's Abstract S. C. G.), —O. L. Vakhrameev, *Tekh. Kino i Televideniya*, pp. 44-51, May 1959.

**SOUND: Recording and Reproduction**

**A Single Technology of Magnetic Sound Recording and Editing of Magnetic Soundtracks in the Motion-Picture Industry**

One of the main obstacles to the introduction of magnetic soundtracks into the Soviet film industry has been the difficulty of editing. Many studios have adopted

the practice of making a visual, direct-positive intermediate soundtrack from the magnetic track, for editing purposes. Another method, which the authors prefer, is to use as the working soundtrack, a magnetic track carrying a curve showing the sound level at any point, or marked with the beginnings and endings of phrases and even single words. The subject of the most suitable sound-carrier for recording is discussed, the preference being given to 17.5mm film perforated on one edge only. Finally, a scheme for the production of soundtracks, with flow-diagram, is presented. (S. C. G.)—V. L. Trus'ko, M. F. Ottochek, and A. V. Chernochenko, *Tekh. Kino i Televideniya*, pp. 29-35, May 1959.

**The Technology of Magnetic Sound Recording for Motion-Picture Films and the Choice of Dimensions of the Sound-Carrier.**

P. Veselkov, *Tekh. Kino i Televideniya*, pp. 25-26, Apr. 1959.

**Choice of a Rational Technology for Magnetic Sound Recording and Editing of Art Motion-Picture Films**

The procedures involved in the preparation of magnetic soundtracks at the Lenfilm studios are described, and points where improvements might be effected are discussed. (S. C. G.)—I. N. Aleksander, *Tekh. Kino i Televideniya*, pp. 20-44, Apr. 1959.

**Stability of the Physicomechanical Properties of Ferromagnetic Films**

It is shown that the most important factor influencing the keeping properties of ferromagnetic film is atmospheric humidity. (Adapted from *Tekh. Kino i Televideniya* S. C. G.),—F. S. Sherman and F. B. Aronova, *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 53-63, No. 3 (26), 1958.



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**books reviewed**

**Screen Writing and Production Techniques**

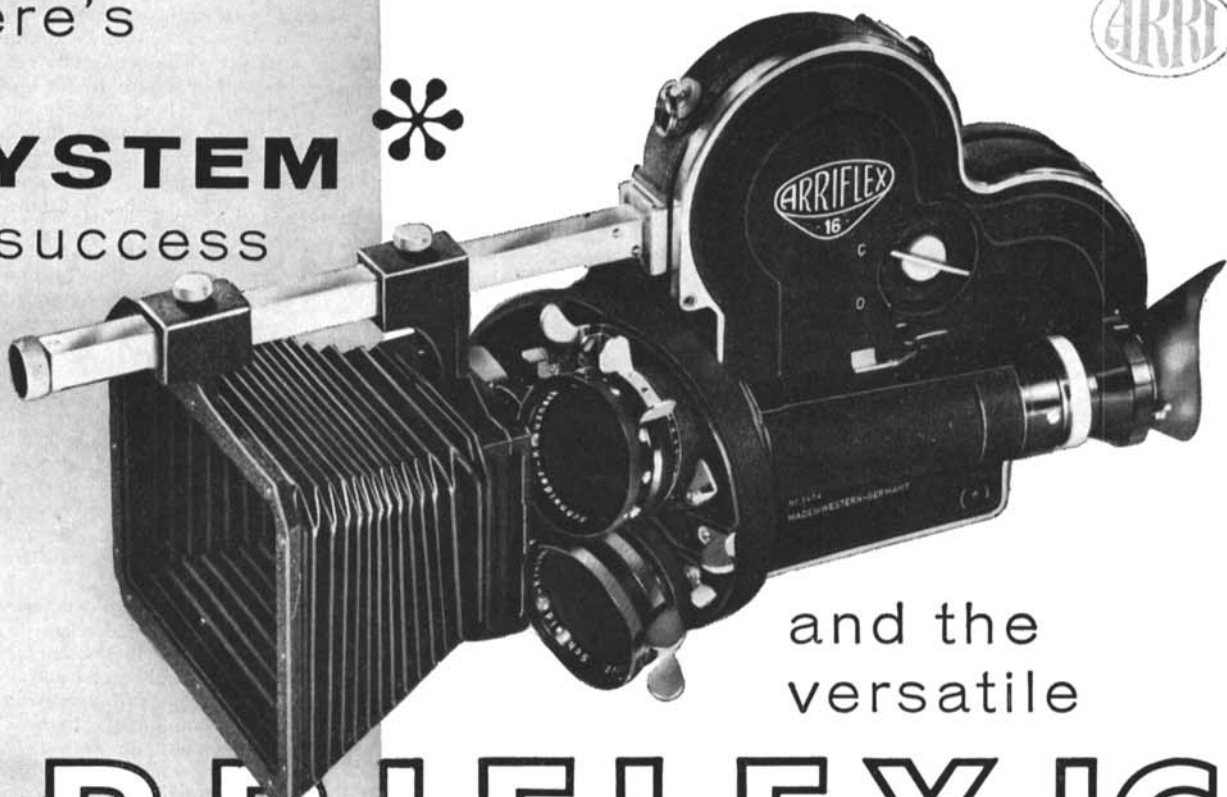
By Charles W. Curran. Published (1958) by Hastings House Publishers, Inc., 151 E. 50 St., New York 22. 242 pp. including index. Illus. 8½ by 5½ in. Price \$4.95.

The purpose of this book as set forth in the Introduction is to "outline briefly but thoroughly and in everyday nontechnical language, the basic facts about an extremely complicated and technical business — that of producing motion pictures, television programs (filmed, taped or live) and television commercials," and it admirably fulfills its purpose.

Directed particularly to beginning scriptwriters and producers, it contains much of general interest for average readers. The book is divided into three main sections, the Pre-Production Phase, in which the "how-to" of scriptwriting is thoroughly explored; Putting the Subject Into Production; and Screen Production Costs. An especially interesting chapter in the second section is "Recording Sound Pictures on Tape."

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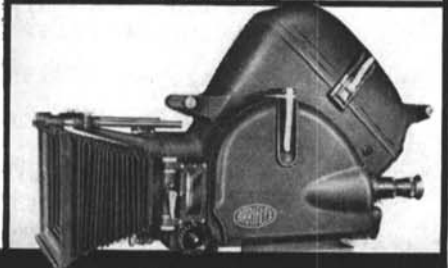
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The book also contains a Glossary of Screen Production Nomenclature, especially useful to readers unfamiliar with the special vocabulary of the profession. A Directory of Craft Unions and Guilds is included.

In addition to a number of illustrations, book contains charts which graphically illustrate certain points made by the writer. One chart which should be useful in non-theatrical production is a conversion table showing time periods, footage in 16mm and 35mm film and a word count. For example, 130 words would be equivalent to one minute of time and 36 ft of 16mm film and 90 ft of 35mm film. Conversion figures are given for one to 3900 words.

**Writing and Publishing Your Technical Book** is a 50-page manual planned as a guide for the writer on technical subjects. The book discusses preparation of manuscripts and offers helpful hints on making arrangements for publication. It is available without charge from Dodge Books, F. W. Dodge Corp., 119 W. 40 St., New York 18.

### The Technique of Film Animation

By John Halas and Roger Manvell. Published (1959) by Focal Press Ltd., England; in the United States, Hastings House Publishers, Inc., 151 E. 50 St., New York 22. 348 pp. Profusely illustrated. 5½ by 8½ in. Price \$10.00.

To the professional, this volume will be a worthwhile addition to the studio library because of the many still blowup reproductions from films of many countries. To the student or amateur, this book gives an interesting history, description and perspective of the animation process, but primarily, the whole subject is treated with more emphasis on the aesthetic aspects, than on specific techniques and how they are produced.

The early chapters touch upon the history of the art, the chronology of various techniques from the beginning until now, and some fundamental principles of the drawing technique. Aesthetics are discussed, followed by the relationship of the soundtrack, tonal scale and color to the effectiveness of the finished cartoon. The authors follow their approach with discussions of television cartoons, public relations, propaganda instructional educational, experimental, avant-garde, art and theatrical films, all with an eye to the psychological factors and effects underlying their production.

Section Three gets down to the business of analyzing the cartoon process from the technical standpoint, explaining the technique from the mechanical and drawing standpoint, as well as explaining the function of each type of worker in the scheme of things in a typical animation studio. Some of the terminology is British, differing in detail from time to time, from our methods in the States, but this does not impair the value of the book because the authors have either added the American words, or the explanation is so self-evident that the reader can easily follow the text. The text pertaining to the actual production technique is well done as far as it goes, but this reviewer would have preferred to dispense with much of the editorial opinion expounded in the first two sections of the book, utilizing this space for a more detailed technical text.

The latter part of the book covers, in a very brief way, other techniques such as stop-motion puppets, special techniques, some predictions about the industry, some useful tables and calculations, and a glossary of terms used in the trade.

The many illustrations and photographs in the book form an excellent reference file for anyone interested in the field of animation, in the same manner that a swipe-file or morgue is of use to a commercial artist. It is also a treasure trove of pictures for anyone interested in the film as an art form or as an historic record of films that have been made.

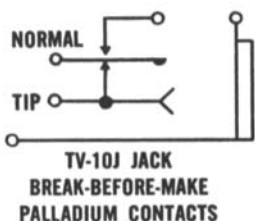
*The Technique of Film Animation* gives the effect of taking two books, one on aesthetics of the film and the other on the technical aspects of production, and shuffling the chapters like so many cards, causing the reader to jump back and forth from one aspect to another.

Despite this awesome buffeting that the reader gets, the book is unquestionably a valuable one, and should be in the library of everyone concerned with the animated film, whether student or professional. The pages devoted to technical matters leave the reader with the feeling that there should be much more. Whatever deficiency does exist in the book can be attributed more to the editors, than to the authors.



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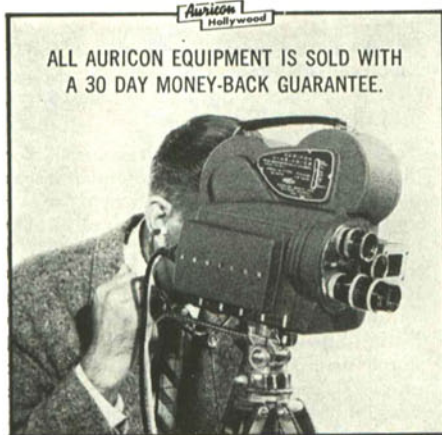


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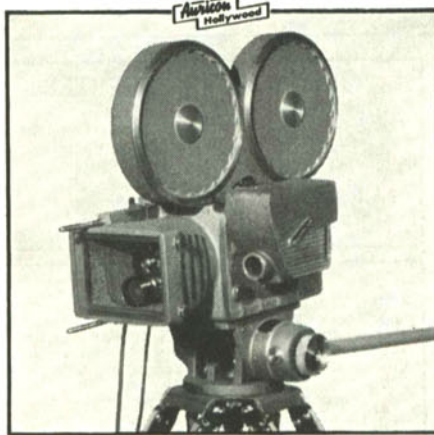
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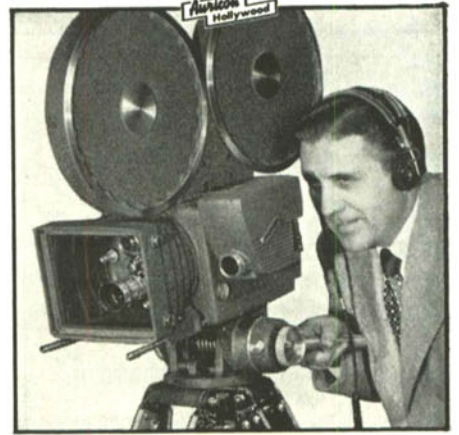


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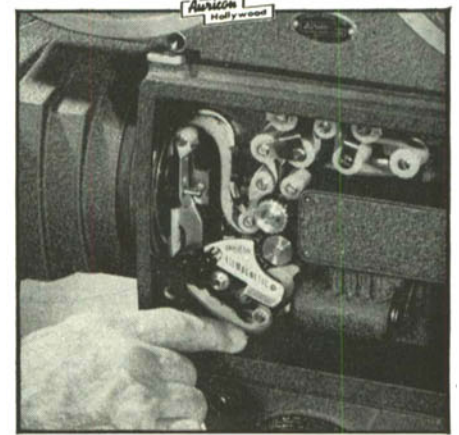
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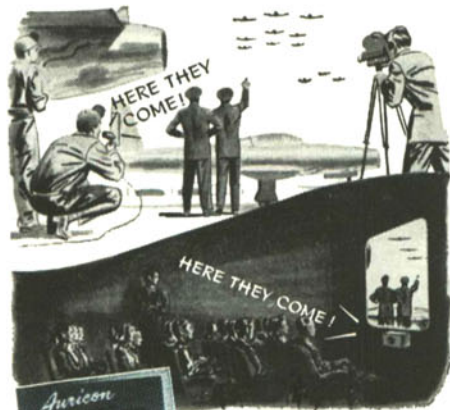
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## Basic Electronics

By Bernard Grob. Published (1959) by McGraw-Hill Book Co., 330 W. 42 St., New York 36. 524 pp. Illus. Tables. 6 by 9 in. Price \$9.25.

*Basic Electronics* is the first volume of a planned two-volume text intended as an introduction to the electronics field for persons with no previous background in electricity. It is based on the presentation of the subject in the technicians' course at RCA Institute, where the author has been an instructor for the past twelve years. Little knowledge of mathematics, beyond simple arithmetic and the ability to read a graph, is assumed. Some algebraic expressions and such trigonometry as necessary to explain phase angles are used; an appendix is included explaining the basic definitions and simple manipulations employed. Similarly when exponents are used in conversions between units, an appendix with a detailed explanation of their use is provided.

The first nine chapters, approximately one-third of the total text, is concerned with fundamentals of direct-current circuits and the components associated therewith. Another third is devoted to the fundamentals of alternating-current circuits and components. The remaining third is divided between magnetism, electron tubes, transistors, and radio-frequency losses. Following the text is a group of appendices covering: subdivisions of the electromagnetic spectrum, FCC frequency allocations, tools and soldering, mathematics, resistor and capacitor color codes, abbreviations and symbols, and a curve for computation of exponential rise and decay in terms of RC or RL time constants.

Each chapter is followed by a summary, examination questions, and problems. Also, following a group of chapters on a single subject, e.g., direct-current circuits, there is an additional summary, examination questions, and a list of references.

The presentation of the fundamentals of direct current, alternating current, and magnetic circuits is made in a clear, simple and logical manner. It is as thorough as could be expected of a nonmathematical treatment and is certainly very adequate for the reader group for which it is intended. The electrical units are defined clearly, relating them to such fundamentals as force, work and energy. Throughout the text considerable attention is paid to the practical physical aspects of the components involved, as for example the likely causes of component failures and methods of determining them. Also such practical and necessary technical aids as the reading of resistor and condenser color codes are explained.

The chapter on electron tubes treats the operation of the tube as a unit only, without going into vacuum-tube circuits. This is apparently to be covered in the second volume. Very nearly the same thing is true of the chapter on transistors; while some discussion of the three types of amplifier circuits is included, one feels that the sub-

ject of transistor circuits will be treated in greater detail in the next volume.—G. W. Read, Westrex Corp., Hollywood Div., 6601 Romaine St., Hollywood 38.

### Exposure Manual

By J. F. Dunn. Published (1959) John Wiley & Sons, Inc., 440 Fourth Ave., New York 16. (2d ed.; 1st ed. published 1952) Published in 1958 in England by the Fountain Press. 268 pp. illus. 6½ by 8½ in. Price \$7.50.

The subject of best photographic exposure has become of increasing interest in recent years, and Mr. Dunn presents a very extensive and informative treatment. He is not daunted by problems of extreme conditions, a few of which he illustrates. These include a variety of night scenes, "tunnel" effect scenes with dark foreground and bright distance, interiors with sunlit windows or spot-lighted figures, etc.

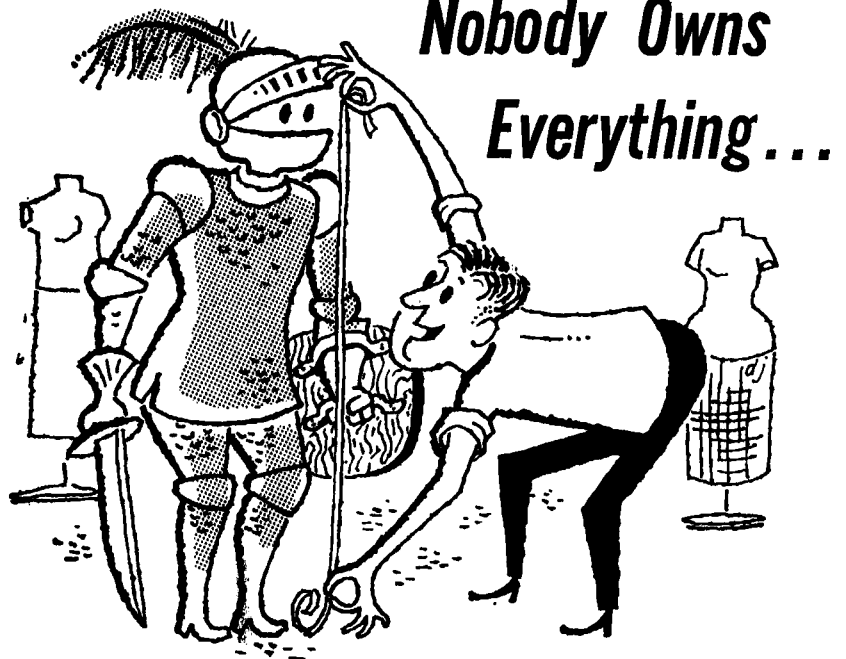
The plan of the book starts with fundamental theory, which includes a brief historical note leading up to the ASA and BS (British Standard) indices. The BS index expresses the same information as the ASA index but on a logarithmic rather than arithmetical scale. The author distinguishes between monochrome still exposure, based primarily on shadow rendering; and motion pictures and color stills, based primarily on bright tone rendering. A brief discussion is given of the new exposure value scale with interlocking shutter time and lens stop.

The plan of the book continues with an analysis of exposure tables and calculators, "integrating" or reflected light photoelectric meters, incident-light meters, and exposure photometers. It concludes with appendices that give film exposure indices (generally complete but not including Polaroid material), light conversion tables, and a bibliography of 62 items. Throughout the book, incidentally, considerable tribute is paid to the fundamental work of Loyd A. Jones.

The book was written before the recent critical re-analysis of the ASA indices had well started. The high-speed films (tri-X, Royal-X, etc.) which initiated the occasion for the re-analysis are listed, and a notice of the "safety factor" included in the ASA rating appears, but there is no inkling of the earnest and forceful discussion which has been going on in this country over the ASA indices. One would not realize that revision was again under consideration by the ASA committee. (Incidentally it appears that just lately a provisional decision has been reached to about halve the safety factor.)

The author has participated in the design of some of the meters described. In particular he prefers the incident light procedure and has devised an incident light meter to include back lighting conditions with the same single reading as for front lighting. The meter is always directed towards the camera from the subject position. It is provided with a diffuser which "back-leaks" the side and back light in just the same proportion that these affect the exposure.

One might close appropriately with a quotation from the preface of Percy W. Harris, "Is it necessary to learn all this in order to take a good photograph? The



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answer is 'No', but having read every word of it I can assure (you) that the knowledge imparted by its study will add immensely to the pleasure of those who take photography seriously, and . . . thereby cut down wastage due to faulty exposures." *Pierre Mertz, Lido Beach, L. I., N. Y.*

### Radioisotopes in the Service of Man

By Fernand Lot. Published by United Nations Educational, Scientific and Cultural Organization, Paris, 1959 (copyright 1958). 84 pp., 5 1/8 by 8 1/2 in., paperbound, illus. with charts and photographs. Price: \$1.00; 5/ (stg); 300 fr.

Radioactivity was first discovered

through an accident to a photographic plate, and photography is still handmaiden to the study of radioactivity. Conversely, radioactivity is a valuable tool in the study of photographic science.

UNESCO convened an International Conference on Radioisotopes in Scientific Research attended by about a thousand scientists in Paris in September 1957. Brought together were representatives of chemistry, physics, and nucleonics to discuss the scientific aspects of radioisotopes. But radioisotopes are primarily a research tool, and this succinct pamphlet presents not only the implications of that Conference but also many detailed descriptions of technological applications.

Though the book may be understood by

the layman, the applications of radioisotopes cut across so many fields that the specialist may find himself informed. The book touches on: the discovery of natural radioactivity and the development of artificial radioactivity; the production of radioactive isotopes; the detection of radiation; the use of isotopes by physicists, chemists, biologists, and agronomists; therapeutical applications; industrial applications; a great variety of other applications, from insect control to analysis of meteorites; and the effect of radiations on living matter.

A three-page glossary defines 55 terms. Excellent news photographs printed on glossy paper are tipped in and clear charts illustrate the technical writing about atoms and the production of radioisotopes.

### How Photography Works

By H. J. Walls, The Macmillan Company, New York, 1959. 352 pp., 5 1/2 by 8 1/2 in., \$8.50.

H. J. Walls, a physical chemist now Director of the Forensic Science Laboratory in Newcastle, England, addresses himself to the intelligent layman. His main objective is to arm the skillful photographer with some understanding of the scientific basis of his tool. Dr. Walls assumes a familiarity on the part of his reader with photographic materials but not with science and technology. If he is willing to accept students without acquaintanceship with physics or chemistry (or those who have met the subjects in school but can no longer place the face), he is hopeful that they will go further and deeper. To this end, his bibliographical notes range from "Teach Yourself Chemistry" to papers in such learned journals as *Transactions of the Faraday Society*.

Exceptionally well-executed charts (drawn by the author) illustrate the sixteen chapters on: "How an Image is Formed," "Light and Matter," "The Power of Silver," "Light and the Emulsion," "Development," "The Rest of Processing," "From Subject to Picture," three lessons in chemistry, two chapters on color, and a final discussion of the subjective aspects of photography, "Looking at the Photograph." An unusual eleven-page index incorporates a not-exhaustive glossary, but useful nevertheless. The author writes with great charm and grace.

Obviously not a book for the professional photographic scientist, "How Photography Works" is one for him to recommend to students, non-technical administrators, and others who come to him with questions.

The **Optical Industry Directory** for 1959 lists 1200 American firms supplying optical instruments, components, raw materials and services. Products of all types used for optical purposes are listed alphabetically together with the names of companies supplying the specific item. The Directory also contains a catalog of corrected lenses both domestic and foreign. The 254-page lists, in all, about 400 items including special services. This edition (the fifth) has been completely revised and includes changes in products and company organizations that have occurred since the 1958 Directory was issued. It is priced at \$5.00.

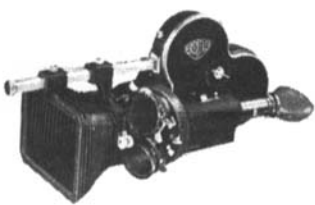
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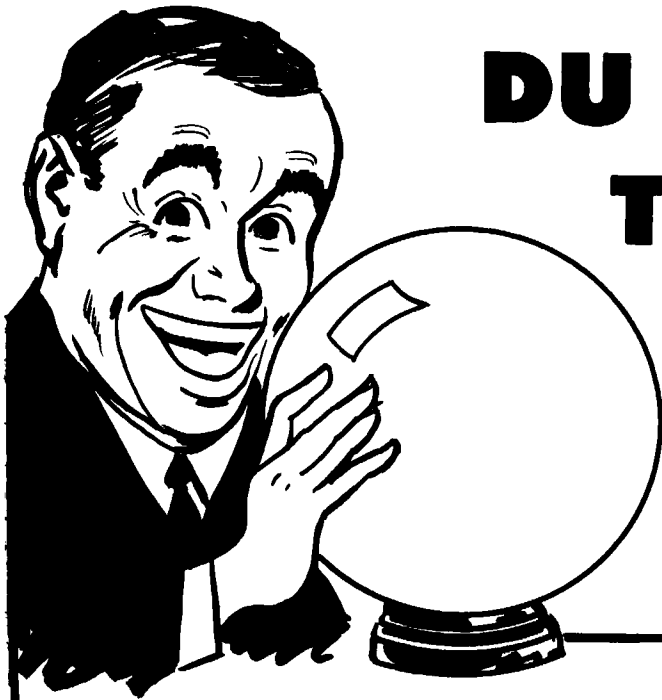
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**Perspective:** *Quarterly Review of Progress in Photography, Cinematography, Sound and Image Recording* is published by Focal Press, 31 Fitzroy Square, London, W. 1. The review in the July issue of the *Journal* (p. 505) erroneously reported the publisher as Fountain Press. The *Journal* regrets the error.

**Camera News of West Germany** is a new publication for "bringing the latest and advance news of West German photo industry developments" to readers in the United States. It is published at 17 E. 45 St., New York 17. The publisher is Norman C. Lipton; the Editor is George Berkowitz. In the first (July) issue the emphasis is on still photography. The 12-page magazine contains articles describing and evaluating photographic products manufactured in West Germany and a listing of new products.

## current literature



.....  
The Editors present for convenient reference a list of articles dealing with subjects cognate to motion-picture engineering published in a number of selected journals. Photostatic or microfilm copies of articles in magazines that are available may be obtained from The Library of Congress, Washington, D.C., or from the New York Public Library, New York, N.Y., at prevailing rates.

**American Cinematographer** vol. 40, June 1959  
Choosing and Using Lenses (p. 350) *J. V. Mascelli*

Spin Your Own Cobwebs (p. 352) *J. Henry*  
Filming "The Diary of Anne Frank" (p. 360) *H. A. Lightman*  
Versatile Tripod-Dolly (p. 363)  
A Faster Color Negative (p. 364) *F. Foster*

vol. 40, July 1959  
The Ultimate in TV News Camera Portability (p. 420) *B. Palmer*  
The Arriflex 35 (p. 426)  
Instantaneous Film Processor (p. 429) *J. Henry*  
Aerial Image and Animation (p. 430) *V. W. Palen*  
How to Dupe 16mm Sound Films with a Projector (p. 432) *J. A. Oswald*

**British Kinematography** vol. 34, April 1959  
Technirama (p. 94) *F. G. Gunn*  
Centre Splitting of 35mm Release Prints (p. 105) *L. F. Rider*  
vol. 34, May 1959  
The Problems of Telecine (p. 122) *R. W. Whatley*  
High Speed Cinematography (p. 132) *J. Hadland*  
An Ektachrome Processing Plant (p. 137) *W. M. Harcourt*

**Electronics World** vol. 61, June 1959  
Those Marginal TV Defects (p. 42) *W. H. Buchsbaum*

**International Projectionist** vol. 34, May 1959  
Focus- and Field Depths of 35-mm Projection Lenses (p. 5) *R. A. Mitchell*  
The Videotape Recorder (p. 11) *G. Goodall*

vol. 34, June 1959  
Screen Light Requirements in Modern Projection (p. 5) *R. A. Mitchell*  
The Videotape Recorder (p. 10) *G. B. Goodall*  
New Strong Electric Corp. 35/70-mm Arclamp (p. 13)  
Viewing the Projector as an Integral Optical-Mechanical System (p. 14) *H. E. Rosenberger*

**Kino-Technik** vol. 13, May 1959  
Technischer Fortschritt im modernen Bildwerferraum (p. 104) *G. E. Wegner*  
Normalfilm-Projektoren europäischer Produktion (p. 108)  
Transistorverstärker auch im Lichtspieltheater (p. 110) *H. Thiels*  
Die Stromversorgung durch Trockengleichrichter (p. 112) *O. Fritz*  
Gleichrichter für Kino-Bogenlampen (p. 115)  
Grundsätzliches zur Automation der Filmvorführung (p. 120) *H. Tümmel*  
Vergleich der Güte von Fernsehbildern (p. F33) *E. Fendler*  
Zur Anwendung des Fernsehens im klinischen Betrieb (p. F35) *P. P. Segschneider*  
DIN 15741 Kinoprojektionsobjektive (p. 130)  
Proposal May 1959, and discussion  
Die Cinemiracle-Anlage im Sportpalast Berlin (p. 142) *H. P. Zoller*  
Gelungene Illusion des Miterlebens beim Cinemiracle-Film (p. 145)

**Motion Picture Herald** vol. 215, June 13, 1959  
Screen Standards for Today's Projection (p. 34) *M. Hurley*  
New Strong Lamp for 70mm Projection (p. 36)

**RCA Review** vol. 20, June 1959  
Quality-Control Determinations of the Screen Persistence of Color Picture Tubes (p. 293) *J. M. Forman and G. P. Kirkpatrick*



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