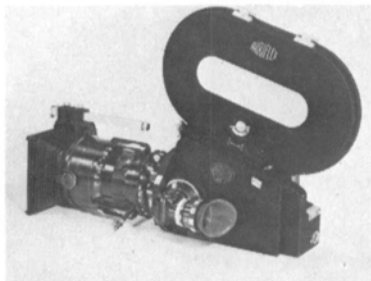
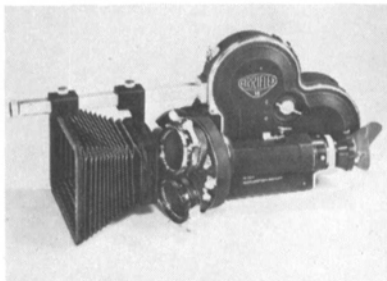


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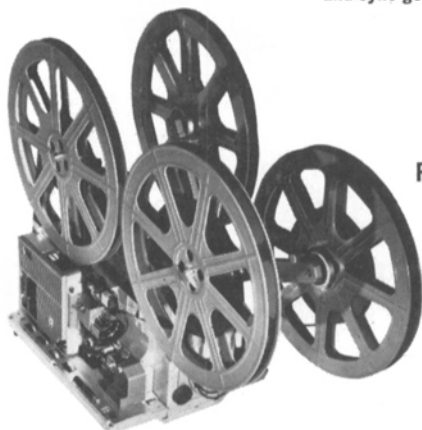
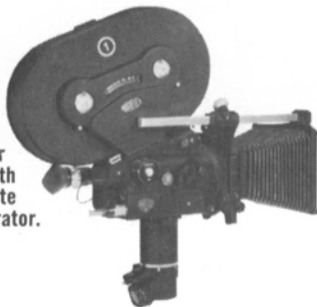
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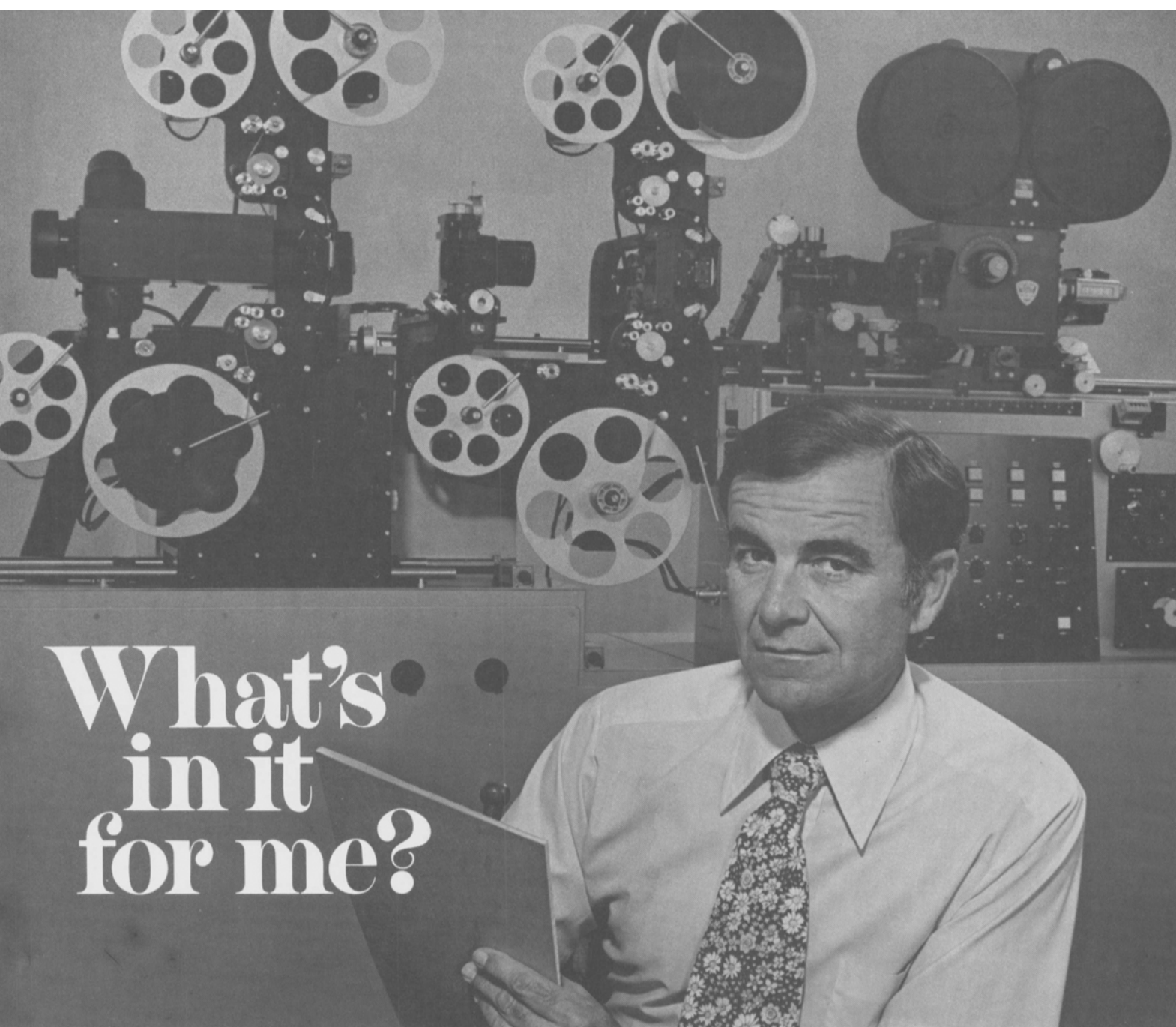
BBC Engineering 1922-1972

By Edward Pawley. Published (1972) by British Broadcasting Corp., 35 Marlebone High St., London W1M 4AA, England. 570 + xiv pp. Illus. 6½ by 9½ in. Price £7.00.

This book surveys the development of BBC Engineering during the first 50 years of broadcasting. From three small radio stations in 1922 — 2LO in London, 2ZY in Manchester and 5IT in Birmingham — BBC now has nearly 600 transmitters for its two television channels, five domestic radio programs and broadcasts in 40 languages for overseas listeners. The author worked for BBC for 40 years until his retirement in 1971 as chief engineer, external relations. He has given us in this book an intimate story of the men behind the scenes who made radio and television possible during these 50 years of peace and war. This is a fascinating tale, full of humorous, occasionally embarrassing, and sometimes tragic incidents. For those who have had the unique experience of adjusting the cat's whisker in a crystal receiver, this story of the early days of radio broadcasting should hold a special interest. In Chap. 4, *The War Years: 1939-45*, the author describes the events of those momentous times beginning with the evacuation of the London headquarters ten days before war was declared. He tells how the director of office administration, after making arrangements for buses for the staff, set off in his own car with a secretary, typist and some £100 notes in case of need; this gave rise to the legend that Mr. Wade started out with £100 and two girls and arrived at his destination with £2 and 100 girls! But then during the Blitz a 500-lb bomb exploded inside Broadcasting House in London killing 7 people, and a little later a land mine came down in Portland Place setting fire to the building. On that occasion the canteen staff continued to serve tea, albeit diluted somewhat with water dripping from the rafters.

The story of the development of television is divided into two parts — the early experimental 30-line transmissions by Baird with his mechanical scanning system beginning in 1926, and the start of a broadcasting service in 1937 with the 405-line all-electronic scanning system of EMI; then a lapse of nearly six years of war, until in June 1946 the television service was resumed.

In Chap. 3 the section on television gives a comprehensive outline of the pre-war experimental period when Baird was first demonstrating television pictures with



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movement and gradations in light intensity. Then in 1934 EMI demonstrated their all-electronic system, and a competition was arranged to take place at Alexandra Palace where the two systems could be compared. The camera developed by EMI was the Emitron, a device similar to Zworykin's iconoscope in the USA, and the system proved to be so much superior that further experiments with Baird's equipment were abandoned.

As early as 1943 a committee was set up to decide what should be done about resuming television broadcasting after the war. This committee decided that the 405-line scanning standard in use in 1939 should be resumed. The author comments that this decision has been criticized on

the grounds that if the service had been re-started on 625 lines a great deal of trouble later on could have been avoided. He points out, however, that the 625-line system was not adopted in Europe until 1950, at a meeting of CCIR Study Group XI in Geneva.

These events are chronicled in Chap. 5, Post-War Reconstruction. From 1925 the International Broadcasting Union provided a forum for broadcasting authorities. After the war the political climate in Europe led to the formation of the European Broadcasting Union (EBU) with the director-general of BBC as the first president, and a technical centre in Brussels. A similar organization was set up for Eastern Europe in Prague, to be known as OIRT.

A Commonwealth Broadcasting Conference was held in London in 1945, where plans were made to provide assistance for developing countries, mainly training for engineers from abroad. From 1945 to 1955 BBC accepted 14 engineers each year, from a total of 27 countries.

In 1948 the BBC research dept. moved to Kingswood Warren south of London, in the Green Belt. This Tudor-style house in 30 acres of grounds was built in 1835 and previous owners included Sir Cosmo Bon-sor, the railway magnate, and Joseph Rank.

The Pilkington Committee in 1962 decided that there should be a second BBC program service in color on the 625-line standard, to be broadcast in the UHF band. Because programs on the old 405-line standard would have to be duplicated on 625-lines to facilitate the transition, a concerted effort had to be made to develop a standards converter. Two all-electronic line standards converters were constructed to solve this most urgent problem. Then work proceeded on the development of equipment for handling different field standards as well. Peter Rainger's team in the designs dept. solved the problem in 1967 with the first all-electronic field-store converter. A more advanced converter was produced by a team headed by E. R. Rout in the research dept. and it was used for the first time for the Olympic Games in Mexico, in 1968. Two models of this converter have been built, working in both directions.

In Chap. 6, The Years of Expansion, sec. 13 gives the background for the choice of the PAL system of color television by the BBC. At first BBC favored the American NTSC system, but at a meeting of CCIR in Oslo in 1966, adoption of the PAL system was put forward as a compromise. By 1972 most of the western European countries as well as Turkey, Iran, Australia, Brazil, and some Asian countries had adopted the PAL system.

In 1952 BBC demonstrated a videotape recorder known as VERA, short for Vision Electronic Apparatus. With this machine three tracks were recorded on 1/2-in magnetic tape, one for sound and the other two for video, split into two frequency bands. Tape speed was 200 in/s. Performance was not outstanding and VERA was superseded by the Ampex recorder.

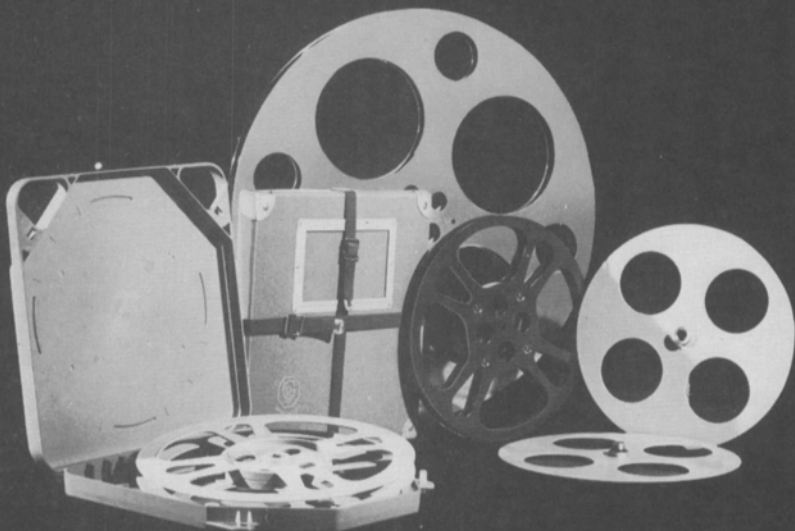
The importance of recording was not properly appreciated before the war, the author says, mainly because the idea persisted that recordings had less validity than live transmissions. Experience during the war proved otherwise — that recordings made at the scene of action could have far greater impact. In those years disc recording increased spectacularly, and a factory was started to make discs with a standing order of 80,000 a year. BBC developed a midget disc recorder for use in the field, the turntable being driven by a phonograph motor, spring wound. By 1972 BBC had 53 videotape recorders, and 12,000 tapes were being held in storage.

An attempt has been made in this book to give a definition of a broadcasting service. Broadcasting might be said to be a service using electromagnetic waves propagated in space for transmitting sound, television or other types of transmission intended for direct reception by the general public. The author contends that al-

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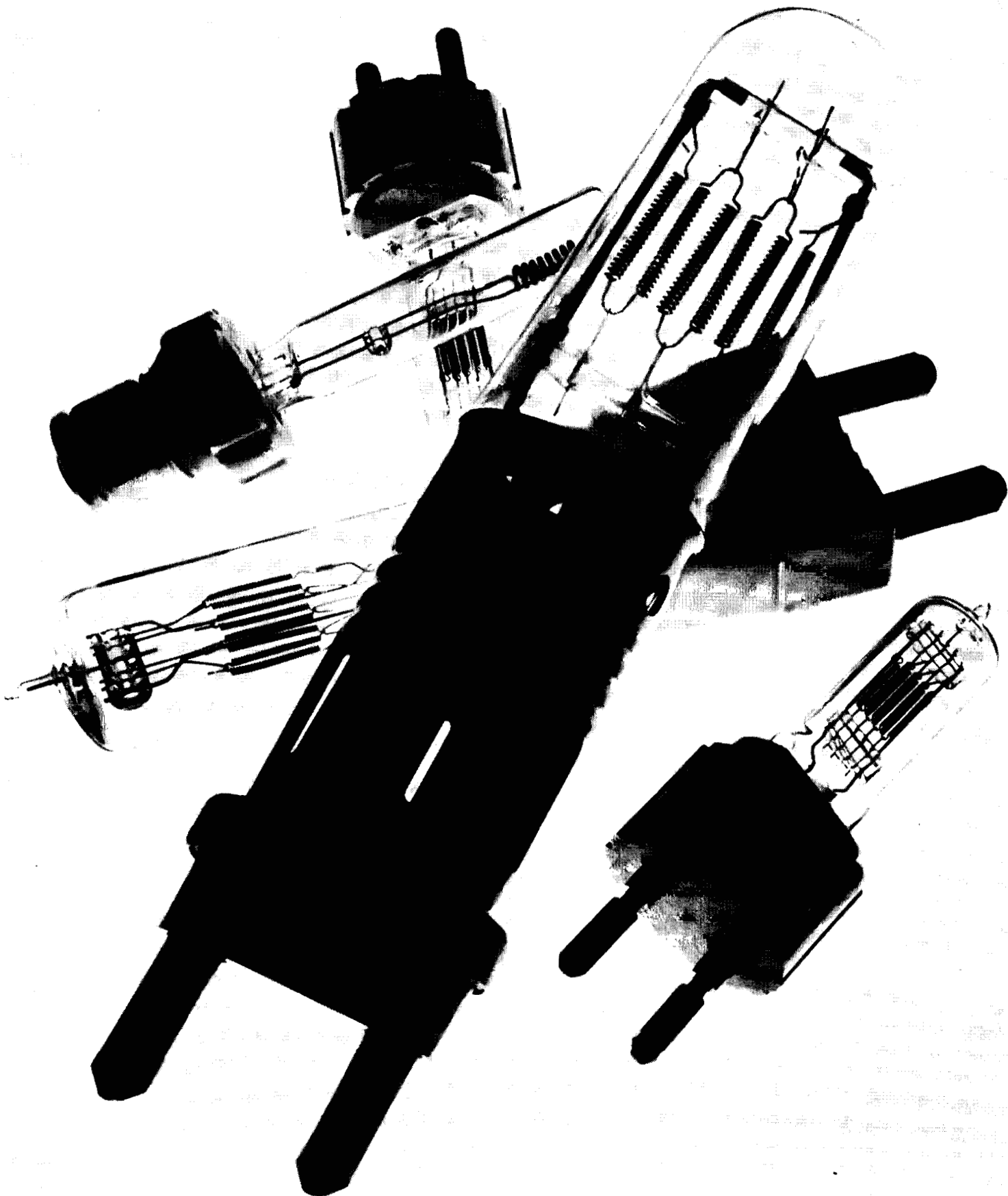
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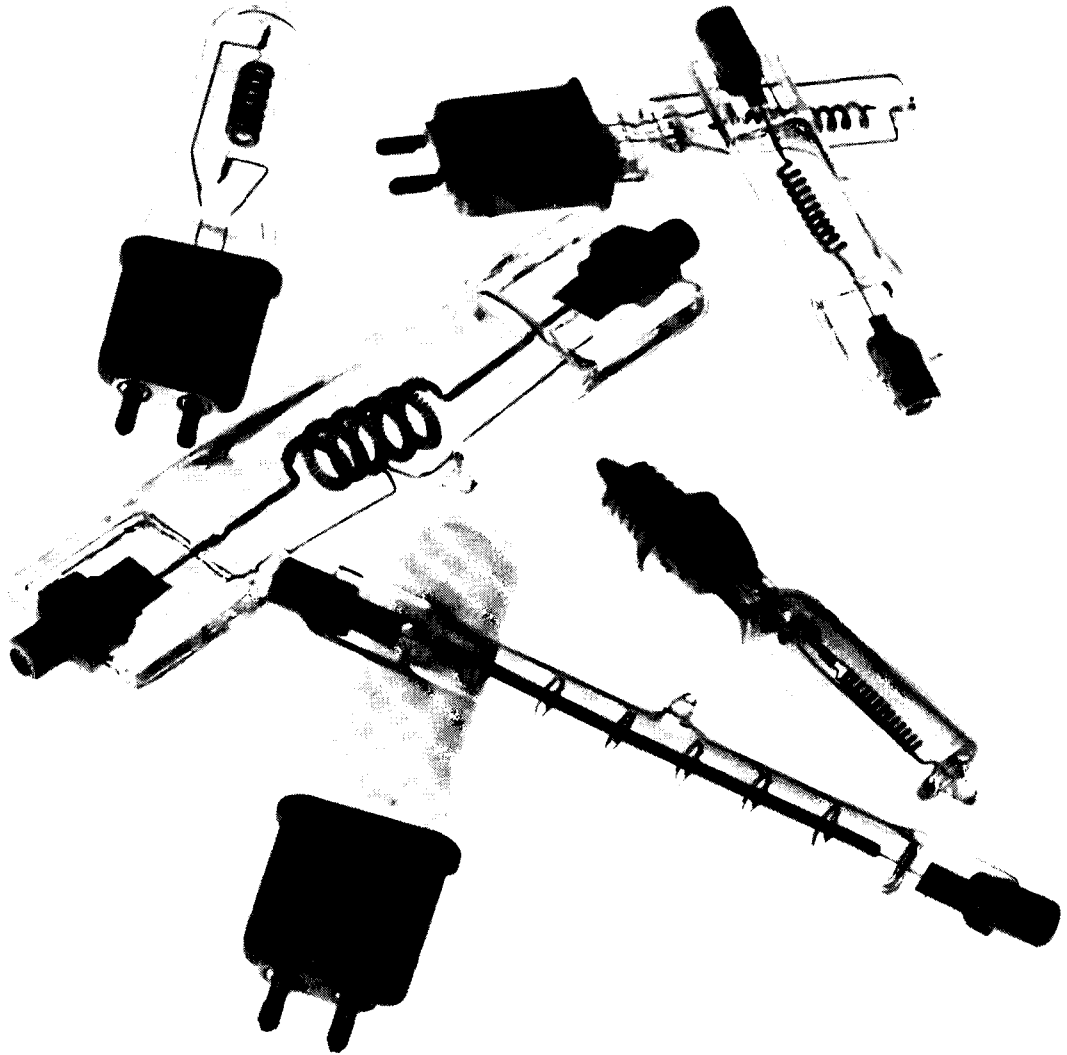
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though this definition gives a fair picture of the mechanism of broadcasting, it is in fact a means of publication, and BBC has always regarded itself as a source of entertainment, information and enlightenment available to all. Furthermore, the technical means of originating the programs are at least as important as the means of transmitting and receiving them; they are also more diverse and in some ways more complicated.

In view of these remarks it is surprising, to say the least, that so little attention is given in the book to the role of film in BBC programming for television. There are three paragraphs about film on page 464, and a short item on telerecording on page 492. Mention is made also of a method for improving the color rendering of film on page 523 — a method known as TARIF, short for Television Apparatus for Rectifying Inferior Film.

Understandably, in a book of this kind, attention is directed primarily towards transmitters and transmission, and a wealth of detailed information is given on these subjects. A minor weakness is the failure to clearly identify the source of many new developments mentioned in the text — an example is the section on automatic monitoring on page 437. It is difficult for the reader to determine from the text whether these developments originated with the BBC or were adapted from the work of others. The references given in the text might provide the missing information, if accessible to readers — in this case a BBC engineering monograph published in 1966.

This is a large book, but it is written in a light, breezy and easy-to-follow style. Although the book is intended primarily for professional engineers, it should have an appeal for many others also, with only a general interest in the technical side of broadcasting. Included are 32 illustrations, many of historical interest — Plate VI, for example, shows the famous 2LO transmitter at Marconi House in 1922. Typical of the light-hearted treatment that this author has given the subject is the cartoon opposite page 379, entitled "The Mad House" purporting to show what went on among the engineers at Alexandra Palace in wartime.—*Rodger J. Ross*, TV Film Consultant, 3 Orchard Ave., Cobourg, Ont., Canada

Surface Color Perception

By Jacob Beck
Published (1972) by Cornell University Press, 124 Roberts Pl., Ithaca, NY 14850. 206 + x pp. Illus. Diagrams. 5¼ by 8 in. Price \$13.50.

Since the advent of color films and color television a good deal of attention has been given to the requirements for a satisfactory work of color reproduction. For this, one needs to know the characteristics of color perception on the part of the ultimate viewer. A good deal of work has been done lately on the subject, particularly in straightening out, or attempting to straighten out, puzzling points in prior concepts.

The book places special stress on the recent studies. It covers particularly the study of object surfaces that are already colored, and that are illuminated by white or colored light. In the case of color projection or television all of the color is, of course, provided by the light, but the treatment is still closely relevant to the problems encountered.

Much of the discussion in the book relates to the phenomenon of "color constancy," that is, that the color of a surface is correctly perceived as the color and other natures of the illumination and viewing conditions are changed. Some of this capacity comes from separate clues on the color of the illumination, and some from more esoteric clues. The studies show that the phenomenon is much more complicated than previously conceived, and it is suggested that the explanation is not yet fully achieved.

The author also studies other problems of surface color perception, such as contrast, assimilation (or taking on some adjacent colors), and adaptation. He finds it necessary to invent new terms in addition to, and partially replacing, the CIE terms. To systematize the point, he includes a fairly extensive glossary as he uses the terms. He also lists an extensive bibliography of some 150 items, most of them fairly recent.

The purport of much of this work is to examine in more detail just what the phenomena really show over the earlier more simplistic notions. It must be said that as they are examined in greater detail the phenomena rapidly become more complicated, and tend to get rather out of hand for the one who tries to systematize and correlate them. Nevertheless they are factual, and to be reckoned with if the subject is to be understood. In some respects they seem discouraging to the color photographer, but on the other hand they also make it clear that some departure from literal color fidelity is acceptable.

The book will be useful to those who deal with the viewing of color objects and phenomena. They may not always find it too easy reading, as the detailed facts are not simple, but the presentation is quite orderly and reasonably clear.—*Pierre Mertz*, Consultant, 66 Leamington St., Lido, Long Beach, NY 11561.

Acoustic Design and Noise Control (2d. ed.)

By Michael Rettinger. Published (1973) by Chemical Publishing Co., 200 Park Ave. South, New York, NY 10003. 562 pp. + Index, Table of Contents, Prefaces to 1st and 2d. editions. Illus. Diagrams, Tables. Appendix 5½ by 8½ in. Price \$22.50.

The book has been considerably revised and has been enlarged — by more than 50% — since the appearance of the first edition in 1968. The first edition was entitled *Acoustics — Room Design and Noise Control*. As the author explains in the Preface, because of the extent of the updating, it was deemed appropriate to supply a new title — *Acoustic Design and Noise Control*. In the new edition the author considerably extends his comments on "noise in its many vicious, unsuspectedly harmful ways and manifestations."

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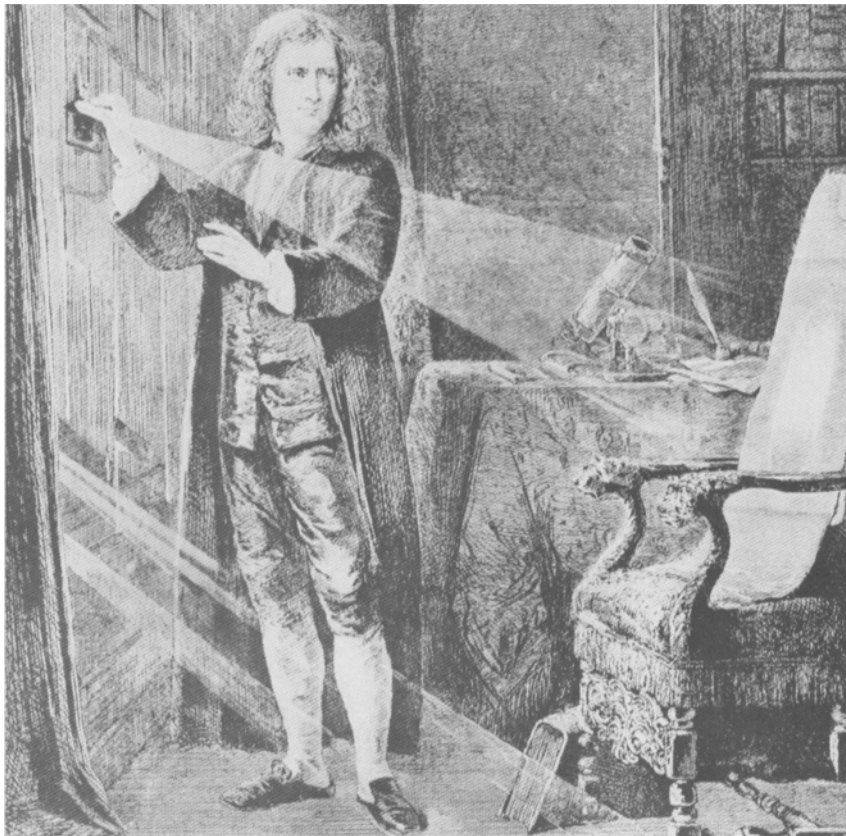
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The first edition was reviewed by Harry F. Olson in the December 1968 issue of the *Journal* (p. 1368). His comments are, certainly, equally applicable to the second edition. He notes that it is "an exceedingly well organized and clearly written book on the physics of sound, room acoustics, noise, noise reduction, room design and electronic systems applied to rooms."

The emphasis in the book is on practical examples and engineering formulas; however, as the author points out, "mathematics has not been avoided entirely, and indeed the reader is expected to possess a fair amount of algebraic *savoir faire*." The book is expected to be especially useful to architects, designers and engineers and it could well serve as a textbook for students, but it also contains much that is within the grasp of the average interested reader, especially in the chapters on Noise and Noise Reduction.

The book begins with a chapter on the Physics of Sound, and the author tells us, "Like a wafted kiss, sound is both a physical phenomenon and a subjective sensation." In the same chapter he presents an interesting observation of the type that everybody knows but nobody ever thought about before — "The acoustic engineer . . . stores sound on magnetic tape or photosensitive film, much as . . . the photographer stores light on these same media, and reproduces it for anyone who wishes to hear it. The close relationship between signal and image preservation is the more interesting in view of the totally different types of energy involved and the fact that

their velocities of propagation differ by a factor of 1,000,000."

The expanded chapters on Noise (Chapter III) and Noise Reduction (Chapter IV) take up almost half of the book. This reviewer found the information set forth and the questions raised in the chapter on Noise highly alarming. For example, "Can the people adapt themselves physiologically to the future city roar without desensitizing drugs or hypnosis? It is doubtful, for evolution does not work in a span of years but over a period of hundreds of thousands of years." The chapter on Noise Reduction contains a number of suggestions for the reduction of noise in specific situations and environments.

The chapter on Room Design (Chapter V) contains a section on the design of a motion-picture theater and the design of TV and motion-picture sound stages. Chapter II is on Room Acoustics and the Appendix describes a sound amplification system and other matters including sine wave terminology and conversion factors.

As Dr. Olson said of the first edition, "This book is a modern, comprehensive and clearly written exposition on the subject of room design and noise control. It should prove to be invaluable to those concerned in any manner with room acoustics, noise control and the allied subjects." — *Edit.*

The Work of the Science Filmmaker

By Alex Strasser. Published (1972) by

Hastings House, Publishers, Inc., 10 E. 40 St., New York, NY 10016. 308 pp. Illus. Diagrams. 6 by 9 in. Price \$17.50.

Despite its title, this work addresses itself to filmmaking in general as well as to the making of educational and documentary science films. The author, however, is more than film producer. He is a brilliant audio-visual communicator, and it is this aspect of his work that raises this book above the level of the many other titles already available in the area of film production. His films deal largely with different aspects of physics and will be of especial interest to workers in that field.

The book's first section discusses film as a medium and as a language, first putting it in some historical frame of reference by reproducing art work by da Vinci and Duchamp that attempted the graphic portrayal of motion. Included are descriptions of characteristics of silent and sound films, as well as a brief treatment of visual perception illustrated with optical illusions and contemporary paintings that have been influenced by cinematic effects. This section (54 pages) stands on its own as one of the best written and most lucid treatments of the film as a medium of communication.

The next section is a general discussion of subject matter, the visible and invisible worlds, and ways of getting the desired message across to the audience. The third section is devoted to special techniques, including, among others: micro- and macro-cinematography, masks and mattes, UV and IR, schlieren, time lapse,

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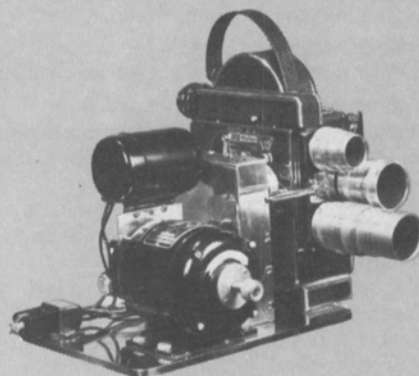
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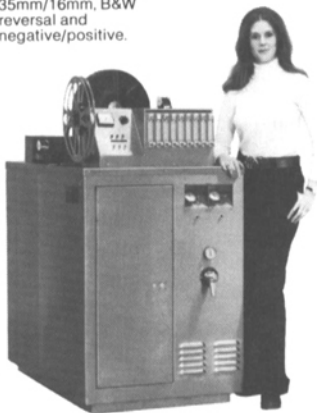
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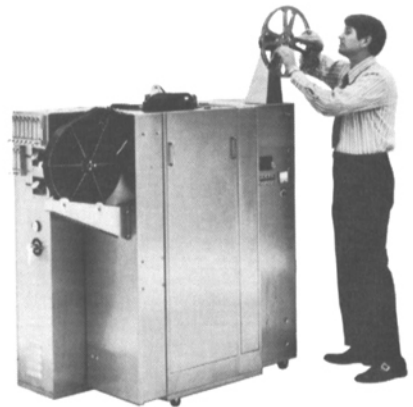
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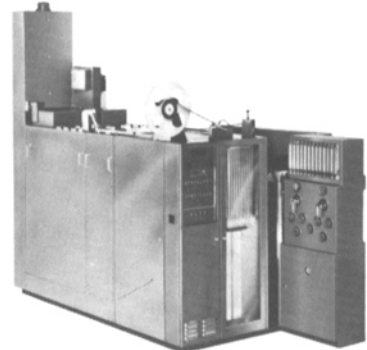
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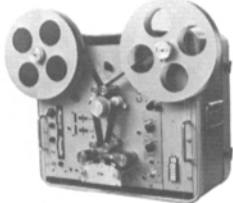
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high speed, optical printing, models, miniatures, animation and simulated animation. The orientation throughout is that of the independent producer operating on a limited budget. Emphasis is placed upon live photography, camera tricks and use of miniatures or models rather than upon cel animation, opticals and aerial images. The coverage throughout this section is general and not in nearly as much detail as is found in the books on special effects by Frank P. Clark and by Raymond Fielding. Mr. Strasser makes much use of a semi-transparent mirror in front of the camera, at 45 degrees to the optical axis, allowing double exposure of the scene in front of the camera, plus the view to one side of the camera. This device is used in many variations for superimposition of self-drawing lines and other diagrammatic details over the live action set, and the technique is quaintly referred to as "Pepper's Ghost."

The major portion of the book, entitled "Films in the Making," deals with the making of many scientific films, the problems encountered and their solutions. Most of the films under discussion were concerned with portraying and explaining various physical phenomena such as: sound, hearing, heat transfer, radiation, electro-magnetism, light; two of the films were on science history, one portraying the development of radio communication and the other the conquest of the atom. The films are described one at a time, and the various concepts are indicated along with the filmic means used to communicate them.

The organization of the book is based on the films themselves, making it easy to find the subject matter involved, but somewhat less easy to find a particular production technique. In most cases, illustrations of the production methods are included, together with stills from the films. Despite the large number of illustrations (over 150 in the book) some scenes are discussed but not illustrated, making it difficult to visualize either the finished on-screen result, or the precise production set up used. Aside from these minor shortcomings, however, this section is very valuable and contains many ingenious solutions to production problems.

The concluding section, entitled "Film Making Procedures," is a description and a detailed flow chart of all the steps in film production from the original proposal to the release print. The appendix contains evaluation forms used by the Canadian Film Institute for science films, a list of science film libraries, and some related information about science film associations and societies, mostly British or international. There are also a bibliography and a glossary of film terms.

This book is the fourth in a new series that prefixes its titles with the words "The Work of . . .", and I must confess that I noted the appearance of this series with some misgivings that we were about to see the proliferation of an endless number of books on the production of films in every category that could be imagined. However, the present volume is a valuable one for those with special interest in science films, and worth reading by other film makers for its varied approaches to problem solving. — Murray Duitz, Producer and A-V Consultant, 1004 Barth Drive, Baldwin, NY 11510.

Dictionary of Films

By Georges Sadoul (Translated, edited and updated by Peter Morris). Published (1972) by University of California Press, 2223 Fulton St., Berkeley, CA 94720. 432 + x pp. 6 by 9 in. Price \$16.50 (cloth), \$5.95 (paperbound).

Dictionary of Film Makers

By Georges Sadoul (Translated, edited and updated by Peter Morris). Published (1972) by University of California Press, 2223 Fulton St., Berkeley, CA 94720. 288 + viii pp. 6 by 9 in. Price \$14.50 (cloth), \$4.95 (paperbound).

Originally published in France in 1965, these two interconnected books have well-deserved reputations as outstanding reference works, thanks to the high regard in which author Sadoul is held as film historian and critic. These translations bring to the Anglo-American public editions that have been conscientiously updated, as well as translated and edited, by Peter Morris, Curator of the Film Archive at the Canadian Film Institute in Ottawa.

The new material contributed by Morris, about 15% of the text, is carefully marked with asterisks and brackets to distinguish it from Sadoul's. He also rechecked the original entries and corrected various errors virtually unavoidable in a work of this magnitude. Both dictionaries are international in scope, carefully cross-indexed and set in a convenient two-column per page layout.

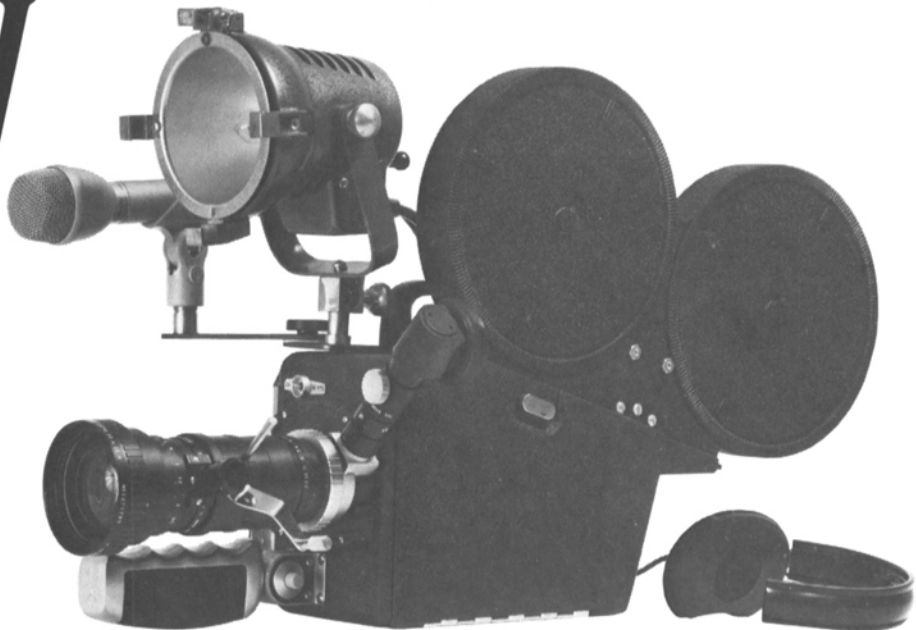
The *Dictionary of Films* is probably the more significant of the two volumes, since it reflects Sadoul's critical mind at work, his personal preferences, his perceptive evaluations, his esthetic approach, his comments on the films' historic context and circumstances of production, and the place they occupy in the directors' total works. These elements add a special dimension to Sadoul's book, escalating a simple compilation into a *catalogue raisonné* of inestimable value.

The physical arrangement of the book is alphabetical, giving the original title and its English translations (either the literal or that used in commercial distribution). Credits, a short synopsis of the plot, an indication of the film's genre and, in numerous instances, a variety of significant material follows. Some 1,300 films of primary importance are thus repertoried, providing a rich lore for reference and research.

The *Dictionary of Film Makers*, its companion volume, contains some 1,000 entries of *cinéastes* (as Sadoul calls them), i.e. directors, writers, cameramen, composers, art directors, editors and a few producers. No actor, actress or craftsman (as such) is included. For each name succinct biographical data is provided, as well as the titles and dates of his films, with comments on his style and the nature of his contribution to screen art.

The numerous continental film makers included give this book the added value of acquainting us with lesser known figures, particularly East Europeans, whose activities have not been accorded abroad the reputation they merit. — George L. George, General Editor, Pitman Film Books, 6 E. 43 St., New York, NY 10017.

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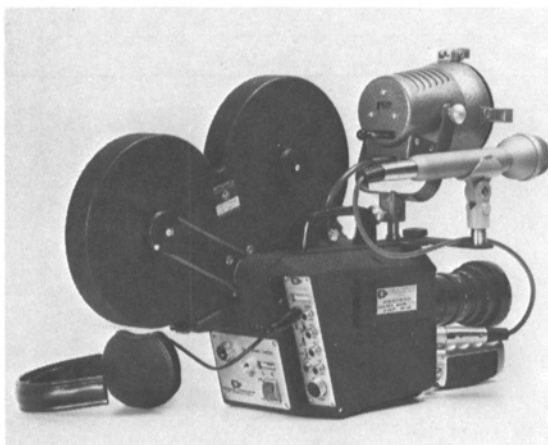
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The American Film Heritage

Compiled by the American Film Institute. Ed. Kathleen Karr. Twenty contributors. Foreword by Gregory Peck. Published (1972) by Acropolis Books Ltd., Colortone Bldg., 2400 17th St., N.W., Washington, DC 20009. 184 pp. Illus. (more than 200 photographs, many in color). 8½ by 10 in. Paperbound. Price \$4.95 (also available clothbound, price \$17.50).

When the American Film Institute was established in June 1967, more than half the films produced in the United States prior to 1950 were no longer known to exist in any form. (Safety film, a nonflammable and relatively stable acetate stock, became the standard in the industry by 1952.) Preservation of films produced in the nitrate era is a race against time. The primary intent of the American Film Institute's archive program is to secure and preserve American films representing the growth, development and maturity of an important art form. A second, but no less important, intent is to secure and preserve films for their value as sociological and historical records (from the Introduction by Sam Kula).

Twenty distinguished contributors to *The American Film Heritage* describe the early films, discuss what is being done to preserve them, and remind us again of the artistic heritage left by the early moviemakers. Among the contributors to *The American Film Heritage* are Tom Shales, a well known critic; Kevin Brownlow, film historian and author of *The Parade's Gone*

By: William K. Everson, film historian, whose books include *The Western: From Silents to Cinerama* and *A Pictorial History of Western Film*; several AFI staff members; and other specialists in film history, film criticism and film techniques.

The descriptions, criticisms and evaluations of the early films begin with the 1921 screen play, *Miss Lulu Bett*, produced by William C. De Mille, who, as Tom Shales notes, was "Cecil's brother whose work was largely ignored for 40 years." The essays on early films, by Tom Shales and others, are admirably done, but the book is no mere nostalgia trip. Every concerned reader will be glad that AFI is doing all it can to preserve the work of the quiet De Mille brother as well as that of such legendary directors as Frank Capra ("Frank Capra has made so many movies about American heroes that he has become an American hero himself"), Orson Welles, Michael Curtiz and other gifted filmmakers.

The chapter on "Early Animation," by Kathleen Karr, stresses that not only Walt Disney but "many pioneers, perfecters and practitioners of the animator's art" contributed to the development of animation. Miss Karr notes, "Often ideas developed by independent artists found their way to the mouse factory, but the give-and-take was productively mutual if not always voluntary."

Miss Karr also reminds the reader that as early as 1909 Winsor McKay's animation series called *Gertie the Trained Dinosaur* was amusing movie audiences.

The chapter on "The Black Film Experience," by Stephen F. Zito, is well worth careful reading as a study in racial attitudes — "Black films of the past viewed from the vantage point of today reveal some of the foundations for racism and intolerance that still persist . . ."

This is an excellent book and no matter what may be the reader's special interests — technical, historical or artistic — he will find something in the book that will give him more information and better insights. — *Edit.*

The Movie Business: American Film Industry Practice

Ed. by A. William Bluem and Jason E. Squire. Published (1972) by Hastings House, Publishers, Inc., 10 E. 40 St., New York, NY 10016. 368 + xvi pp. 6 by 9½ in. Price \$12.50.

This is an excellent book covering every aspect of the film industry. The editors, themselves well known in the "movie" world, invited a number of prestigious individuals to contribute essays based on their knowledge and experience in their special areas of endeavors and accomplishments. Forty-three well-known names appear as authors of essays in the book.

The book contains eight sections: (1) Developing the Story and Screen Play; (2) Finance and Budgeting of Films; (3) Film Company Management; (4) Production Preliminaries; (5) Production — The Crea-

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tive Functions; (6) Distribution and Exhibition; (7) Building Film Audiences; and (8) The New Technology.

The section on the New Technology, contains an article by Wilton R. Holm entitled "Management Looks At the Future." In it he describes the boxoffice as a "measuring device" that can indicate "how well our pictures fulfil the human needs of our audiences." He looks forward, not only to improved techniques in the production of motion pictures, but to better methods of gauging the possible audience response to any given film.

In the section on Production — The Creative Functions, six well-known names appear as the authors — Stanley Kramer, Sidney Pollack, Bud Yorkin and Norman Lear, Stirling Silliphant and Russ Meyer. Equally distinguished film people are represented in the other sections.

In addition to the articles dealing with the technology and art of producing a feature film, such matters as legal requirements, copyrights and preplanning are explained. Helpful schedules and forms are shown in the article on preplanning procedures.

Peter Gruber, Production Vice-President of Columbia Pictures, has contributed a survey of the videocassette field, with a brief look at a number of systems including Avco, EVR, the RCA HoloTape system, Philips VCR recorder-player, Teldec Videodisc, Technicolor Super-8 and others.

This is an excellent book, especially useful to readers involved professionally with some aspect of motion-picture production,

but it also contains a great deal of interest to anyone who wants to know more about "the movies" which suggests a large and varied audience for this book.—Lucian E. Pope, 9740 Outlook Dr., Overland Park, KS 66207.

Cinematography

By J. Kris Malkiewicz, assisted by Robert E. Rogers. Published (1973) by Van Nostrand Reinhold Co., 450 W. 33 St., New York NY 10001. 216 pp. Illus. (some in color). Diagrams. Tables. 8 by 9 in. Paperbound. Price \$6.95. (Available clothbound. Price \$12.95.)

The author of this book, a lecturer in film techniques at the California Institute of the Arts, notes, in the Preface, that in filmmaking, "the long and painstaking route to the audience leads through the lens and film in a camera." He tells the reader (student) that the book will try to help him take that route "with fewer frustrating disappointments and more competency and joy."

The book is beautifully illustrated, clearly written and well put together. Intended especially for cinematographers, (the author reminds the reader that "this is a technical book and therefore it does not venture into film directing . . .") nevertheless it can be read with pleasure and profit by every amateur and student of film as well as by professional filmmakers. The author invites filmmakers "who direct

their own films but know little of camera techniques to read it, if for no other reason than to make the lives of their cameramen much easier . . ."

Some areas of cinematography not usually covered in "how to" books are discussed. For example, optical printing is explained in a chapter especially well illustrated by photographs and diagrams and another chapter deals with infrared and underwater photography.

Photographs of equipment (cameras, lenses, etc.) are excellently presented and the diagrams add much to the text.

The book is divided into 11 chapters: (1) Cameras; (2) Films and Sensitometry; (3) Filters and Light; (4) Lighting; (5) Picture Quality Control; (6) Sound Recording; (7) Cutting and Lab Work; (8) The Basics of Optical Printing; (9) Infrared and Underwater Cinematography; (10) Production; and (11) Film School Organization.

The book also contains a helpful Glossary and a Bibliography.

The author, who has been teaching film at the California Institute of the Arts since 1968, was graduated from the Polish Film School in 1964 as a cinematographer. He worked in the Polish film and television industries and later directed documentary films for Irish television. In 1967 he was nominated Chief Lecturer in the Film Division of the Polytechnic in London.

Robert E. Rogers, who collaborated with Mr. Malkiewicz in the writing of *Cinematography* has been a film producer and is presently working as a screen writer.—*Edit.*



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What is Cinema? Vol. II

By André Bazin (Essays selected and translated by Hugh Gray). Published (1972) by the University of California Press, 2223 Fulton St., Berkeley, CA 94720. 200 pp. 5½ by 8 in. Paperbound. Price \$2.45.

Francois Truffaut, who was a close friend of André Bazin, provided the Foreword to *What is Cinema?* The first sentence is: "André Bazin wrote about film better than anybody else in Europe." This statement is, of course, open to some question, especially in view of Truffaut's affection and admiration for the man as well as his admiration for his writing. But certainly these beautifully written and, in some instances, profound examinations of a few films regarded as "classics" are sufficient to place Bazin in the higher echelons of the world of film criticism.

Some of the essays seem a bit dated. For example, in the essay on "Eroticism in the Cinema," Bazin says, (in a comparison of literature and the cinema) "To grant the novel the privilege of evoking everything, and yet to deny the cinema, which is so similar, the right of showing everything is a critical contradiction which I note without resolving."

In the same essay, he says, "If you can show me on the screen a man and a woman whose dress and position are such that at least the beginnings of sexual consummation undoubtedly accompanied the action, then I would have the right to demand in a crime film that you really kill the victim—or at least wound him pretty badly. Nor is this hypothesis ridiculous, for it is not too long ago that killing stopped being a spectacle."—A statement dated indeed, in view of *Last Tango* and *Gimme Shelter* (in which an actual murder was filmed and subsequently shown as part of the movie) but Bazin's gentle (and possibly muddled) approach to matters of considerable social as well as filmic importance makes one "furiously to think."

Other essays in the collection include: *An Aesthetic of Reality: Cinematic Realism and the Italian School of the Liberation*; *La Terra Trema* (a film dealing with an attempted revolt by the fishermen of a small Sicilian village against the economic stranglehold exerted by the local fleet-owning merchants); *Bicycle Thief*; *De Sica: Metteur en Scene*; *Umberto D: A Great Work*; *Cabiria: The Voyage to the End of Neorealism*; *In Defense of Rossellini: A Letter to Guido Aristarco*, Editor-in-Chief of *Cinema Nuovo* ("The art of Rossellini is linear and melodic. True, several of his films make one think of a sketch: more is implicit in the line than it actually depicts. But is one to attribute such sureness of line to poverty of invention or to laziness? One would have to say the same of Matisse"); *The Myth of Monsieur Verdoux*; *Limelight*, or the Death of Moliere; *The Grandeur of Limelight*; *The Western: Or the American Film Par Excellence*; *The Evolution of the Western*; and *The Entomology of the Pin-Up Girl*. (Unless there is some error in the translation or the proofreading, the word "Entomology" in this context is probably too subtle a joke for this reviewer to catch.

"Etymology" would hardly be more suitable.) The final essay in the book and, in the opinion of this reviewer the least interesting, is *The Destiny of Jean Gabin*.

The most valid (or perhaps the least dated) of the essays are the three exploring the various facets of the work of the incomparable Charlie Chaplin. Bazin's essay on one of the strangest of the Chaplin films, *Monsieur Verdoux*, gives some credence to Truffaut's glowing praise. Bazin considers *Monsieur Verdoux* in the light of the early films such as *The Gold Rush*, *The Circus*, *The Kid*—all the superbly comic films of the young Charlie—"In the precise and mythological meaning of the word," he says, "Verdoux is just an avatar of Charlie—the chief and we may indeed say the first. As a result *Monsieur Verdoux* is undoubtedly the most important of Chaplin's works."

Possibly because Bazin's judgment of *Monsieur Verdoux* coincides with that of this reviewer, we find his essays on Chaplin the best in the collection. Quotations taken from context would do a disservice to the profoundly acute insights shared with us in these essays. We suggest to the reader that if he is at all interested in the development of film that he acquire a copy of *What Is Cinema?*—Edit.

Audio Control Handbook (4th ed.)

By Robert S. Oringel. Published (1972) by Hastings House Publishers, 10 E. 40 St., New York, NY 10016. 192 pp. Illus. Diagrams. 6 by 9 in. Price \$10.00.

The book was first published in 1956. A revised edition published in 1963 was reviewed in the April 1964 issue of the *Journal*. The review noted that: "Here in clear, nontechnical language is a complete step-by-step explanation of every phase of audio control."

The fourth edition has been revised and expanded. It is mainly a "how-to" book and apparently is intended mainly for the audio control operator and especially for the beginner. The equipments used in audio control are described—such as audio control console, volume unit (VU) meter, recorders, editing devices, various types of microphones, etc. They are explicitly described and most of them are illustrated, many with both photographs and diagrams.

The titles of the 16 chapters will help the reader assess the subjects covered:

1. Introduction
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3. Console Input Facilities
4. Console Outputs
5. Records, (Audio-) Tape, Tape Recording and Editing
6. Patching
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9. Microphone Use Techniques
10. Microphone Setups
11. The Program as the Operator Sees It
12. Studio/Control Room Communication
13. Remote Broadcasts and Recordings
14. The Effects of Studio Design on Sound Quality

15. The Audio Operator and the FCC
 16. The Other Members of the Broadcast Team

The book also contains a glossary of broadcasting terminology. — *Edit.*

An Inquiry Into the Uses of Instructional Technology

Published (1973) by the Ford Foundation, P.O. Box 1919, New York, NY 10001. 128 pp. Paperbound. Price \$2.00/single copy; @ \$1.50 each, two to ten copies; @ \$1.00 each, ten or more copies.

This is a report by the Ford Foundation on the use of technological aids (television, tape, film, etc.) employed in education. Uses of these aids in countries other than the United States are discussed. This report will be of little interest to engineers, but may be of peripheral interest to some educators. It is unfortunate that so much effort is expended on the perceptual level and so little effort on the conceptual level. — *Petro Vlahos*, Motion Picture & Television Research Center of the Association of Motion Picture & Television Producers Inc., 8480 Beverly Blvd., Hollywood, CA 90048.

International and Metric Units of Measurement

By Marvin H. Green. Published (1973) by Chemical Publishing Company, 200 Park Ave. So., New York, NY 10003. 108 pp. + index. 5½ by 8½ in. Price \$12.50.

This is a small book of great interest. Conversion to the metric system in the United States is on its way, and each day more and more attention must be paid to the relation between the International Systems of Units (SI) and those of the English or Foot-Pound-Second (FPS) System. The basic conversion factors for the foot (that is: the yard divided by 3) and for the pound were established in 1959 by agreement between several organisations in such English speaking countries as Canada, New Zealand, United States, United Kingdom, South Africa, Australia. The metric system, with its simplified decimal relationship between its diverse units of measurement, is the outgrowth of long established and traditional unit values, first formulated for the meter in France in 1799 and corrected and refined over the years. At present the International System (SI), often called the metric system, is in use in all of Europe (England has recently adopted it), in all of South America and in other continents and countries. Familiarity with the metric system is rapidly becoming a must for all engineering tasks.

Mr. Green's book, in very handy format, is efficient, practical and useful. Essentially it is a book of tables for conversion, but each series of tables is preceded by a clear-cut discussion of the basic units, with only the explanations necessary for basic understanding of the meaning of these units. One word of caution, however, must be added here, without detracting from the many merits of the book. The author uses freely, throughout the book, such terms as the international inch, the international pound, the international yard, etc. What is meant is the equivalent value in the metric system for units of other systems, which may be derived from the met-

ric system by well-defined conversion factors. But it must be underscored here that, while these conversion factors have been established by international agreement, only the units of the SI system are recognized as international units. SI stands for *Système International*, the French expression used in honor of the French people in the establishing of the metric system.

Units for the following areas are considered in the book: Angular Measure, Area, Atomic Energy Units, Density and Concentration, Electrical Units, Energy, Flow, Force, Length, Magnetic Units, Mass, Power, Pressure, Time, Velocity and Volume. A list of reference publications and two appendixes complete the book. One appendix compares systems of units and the other offers a very detailed comparison of international and customary U.S. units. An alphabetical index of unit names and constants makes it especially easy for the reader to find any desired specific value, for example, Avogadro's constant, the speed of light, the value of the Troy Ounce or the Prototype of the International Kilogram.

One of the merits of this book is the extreme accuracy the author has strived for. Most fractional values are given to seven significant figures or more. For instance, the Gram-equivalent of the Avoirdupois Ounce is given as 28.349523125, certainly a high degree of precision.

Of immediate applicability in motion-picture and TV engineering practice are, of course, the chapters on electricity, flow of fluids, length units, magnetic units, mass and pressure. It is hoped that the author may incorporate in succeeding editions of this already useful book chapters on temperature, radiation and photometry, acoustic units and units in the field of optics. A table of customary unit symbols would, perhaps, also be a welcome addition to the book. — *Edit.*

Fluorescence and the Colorimetry of Fluorescent Materials

Complete Proceedings of the Inter-Society Color Council's Fourth Williamsburg Conference, Held 6-9 February 1972. Published (1972) in Vol. 1, No. 5 (April/May), pp. 4-46, and No. 6 (September), pp. 5-30 (bound together), of *The Journal of Color and Appearance*. Gordon and Breach Science Publishers, 440 Park Ave. So., New York, NY 10016, or Gordon and Breach Science Publishers, Ltd., 12 Bloomsbury Way, London WC1, England. 50 pp. and 50 pp. Illus. 8¼ by 11¼ in. Paperbound. Price (single copies not available) the Volume of *The Journal of Color and Appearance* (Nos. 1-6) for individuals, \$14.50; for libraries, \$35.00.

Nine papers by invited international experts, dealing with Fluorescence and Colorimetry in Fluorescent Materials, were presented in four days to about 100 attendees, thus allowing ample time for discussion at the Inter-Society Color Council's Fourth Williamsburg Conference in February 1972. These papers, plus the comments made during panel sessions, have been gathered and edited by the Conference Chairman, Franc Grum, Research Associate and Head of the Research Laboratory on Optical Radiation, Eastman

Kodak Co., Rochester, N.Y., and Chairman of the Inter-Society Color Council Problem Subcommittee 18 on Colorimetry of Fluorescent Materials.

W. D. Wright of Imperial College, London, England, summarized the Conference at its close, but the published Proceedings open with his charming remarks. Referring to how much he had learned at the Conference and how much he still had to learn, he commented on the importance of "a fundamental understanding of the process of fluorescent excitation and emission," and on "the enormous intellectual challenge that faces us." Dr. Wright recollected his own experience in the early 1930s when he "was involved with the production of cathode-ray tubes for use in black-and-white television screens, being required to mix red, green and blue phosphors to produce a good white. Mr. Grum," he continued, "must have a much more sophisticated colour mixture problem on his hands in the use of fluorescing dyes to compensate for unwanted absorption in colour photography."

Gunter Wyszecki, Principal Research Officer and Head of the Radiation Optics Section of the National Research Council of Canada, was the first speaker, with an exposition on the "Basic Concepts of the Colorimetry of Fluorescent Materials." The contribution by Chairman Franc Grum dealt with "Instrumentation in Fluorescence Measurements." Eugene Allen, Research Professor of Chemistry at Lehigh University, Bethlehem, Pa., described "Fluorescent Colorants: True Reflectance, Quantum Efficiency and Match Formulation." He was followed by Ernst Ganz, head of the Physics Department of Ciba-Geigy Corporation, Basel, Switzerland, who described "Whiteness Measurement," and then by Ake Svenson Stenius, Research Associate of the Swedish Forest Products Research Laboratory, Stockholm, who went into "Whiteness in Paper."

"Mechanisms of Release of Absorbed Energy" were described by Henry Hemmendinger, of the Davidson & Hemmendinger Color Center, Belvidere, N.J. "Daylight Fluorescent Pigments, Inks, Paints and Plastics," were outlined by Richard A. Ward, Director of Process Development, Dayglo Color Corp., Cleveland, Ohio, who was fittingly followed by the final speaker, Herb Aach, Professor of Art, Queens College of the City University of New York, Flushing, N.Y., and American editor and translator of *Goethe's Color Theory*. Professor Aach, who has made extensive use of fluorescent pigments in his paintings, spoke on "Fluorescent Pigments in Art and Design." — *Edit.*

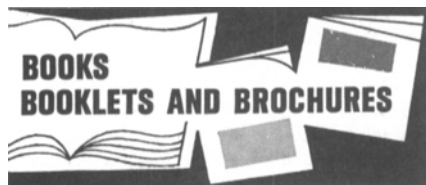
Light and Lens: Methods of Photography

Edited by Donald L. Werner. Published (1973) by the Hudson River Museum, Yonkers, N.Y., and Morgan & Morgan, Inc., 145 Palisade St., Dobbs Ferry, N.Y. 10522. 80 pp. Illus. with 82 photographs. 8½ by 11 in. Paperbound. Price \$7.95.

Light and Lens in a photographic exhibition between covers; from June to September 1973 the pictures shown in this book are hanging on the walls of the Hudson River Museum, Yonkers, N.Y. But this is no usual photographic salon provid-

ing opportunities for the local camera club. These are examples of new methods or newly discovered old ones, going all the way back to the cyanotype invented by Sir John Herschel in 1842. The wide range of techniques represented include:

New developments in holography, solarization, photo-etching, gum-printing, tinting and toning, and stroboscopic and flash photography;



Cine Service Vintage Films, a catalog listing films reproduced from original prints (some of them more than 60 years old) is available from Vintage Films 85 Exeter St., Bridgeport, CT 06606. The films are in 16mm and 8mm and some are silent. Prices of the 8mm silent films begin at \$6.95 for one reel. Price of the 16mm features, both sound and silent, ranges from about \$100 to about \$160, depending on length. Such collectors' items as *Witchcraft Through the Ages*, a film made in Sweden in 1920 and banned in most countries at the time of its release, *The Living Story of the Bible*, made about 1909, notable mainly for its special effects, and such classics as *The Cabinet of Dr. Caligari* and *The Last Laugh* are available. More than 150 "greats" of the past are listed. The catalog is illustrated.

The Norimat De Luxe Super and Dual 8 All-In-One sound cassette projectors are described in a leaflet available from Karl Heitz, Inc., 979 Third Ave., New York, NY 10022. The projectors have sound on sound recording, automatic volume control, noise reducing switch for music or speech, built-in 2-W loudspeaker, 4-W amplifier, choice of 18 or 24 frames/s and a built-in voltage selector for 110/220 V ac.

Alpa snap-in filters of optical glass dyed in the mass, plane parallel and coated are described in a leaflet available from Karl Heitz, Inc., 979 Third Ave., New York, NY 10022. The leaflet covers all available tints, various applications, exposure factors, Kodak equivalents, color temperature and other items. Some 20 filters are described.

The Fairchild Reverbertron and Auto-Ten automatic attenuators are described in data sheets available from Fairchild Sound Equipment Corp., 15-58 127 St., Flushing, NY 11356. The Reverbertron is a dynamic reverberation system designed to enhance broadcast and recording studio sound. The Auto-Ten is a signal-operated gate-soft switch designed to reject unwanted signals or noise below variable preset thresholds. Both data sheets are illustrated.

Accessories for the Norelco PIP System are illustrated and described in a 4-page

Image assembly and multiple-image photography;

Sculptural photographic constructions that cover large wall and floor areas;

Sensitization of wood, fabric, plastic, glass, and other surfaces for receiving high-resolution photographic images.

There is not a plain, old-fashioned photograph in the lot. The image has been broken up and reassembled, melted down

leaflet available from Norelco Training and Education Systems, North American Philips Corp., 35 Abbett Ave., Morristown, NJ 07960. The units include a PIP Wall Projection Audio Visual Unit, a Wall Projection/Auto Stop Audio Visual Unit, a pulse generator, a portable reel-to-reel tape recorder, screen with detachable hood, a PIP Program Restart footswitch and other devices for use with the Norelco PIP System.

A motor modification for Ciblo motors of Eclair NPR cameras to give full crystal control of filming speed is described in an illustrated data sheet available from Image Devices Inc., 811 NW 111 St., Miami, FL 33168. The data sheet shows the camera with modification, which also provides LED speed readout to offset the absence of a tachometer on the original motor as well as an external sync reference for videotape and such uses.

Pakomp 1, an automatic pricing system, is described in a 4-page brochure illustrated in color, available from Pako Corp., 6300 Olson Memorial Hwy., Minneapolis, MN 55440. The system consists of a central controller, which automatically computes prices and includes interfaces for optional equipment, a keyboard/display unit for data entry at a work station, and a label printer which prints price labels and is used in conjunction with the keyboard/display unit. The system has been designed to provide photo processors with a practical pricing system to help reduce order-handling costs, increase ease of operation and improve customer service.

Vega Wireless Microphone Systems are described in illustrated data sheets available from Vega Electronics, 3000 W. Warner, Santa Ana, CA 92704. The wireless microphone system consists of a microphone and transmitter which radios all sound to the remote receiver. The receiver connects to a public address amplifier, studio mixer or tape recorder. Various models and applications are described in the data sheets.

Waveform Generators in the F200 Series are illustrated and described in an 8-page brochure available from Ailtech, 19535 E. Walnut Dr., City of Industry, CA 91748. Prices on the instruments in the series were reduced early this year, an announcement stated. Also available is an illustrated brochure describing the Series 500 Function Generators.

Signetics Integrated Circuits Handbook and Catalog: Digital, Linear MOS contains 1100 pages in eight sections covering

and refrozen. This is a seminal collection.

In addition to a foreword by Donald L. Werner, Curator of Photography at the Hudson River museum, there is an interesting introduction by Dennis Longwell, Assistant Curator of Photography at the Museum of Modern Art in New York City, and an excellent glossary of photographic terms. — *Edit.*

(1) Numerical Index, Functional Index and Military; (2) 54/74 Product Specifications; (3) MSI/TTL, 8,000 Product Specifications; (4) Bipolar Memory Product Specifications; (7) MOS Product Specifications; and (8) Package Information, Reliability Information and a Cross Reference Guide. The catalog contains numerous diagrams and tables. Further information is available from Paul D. Hansen, Manager of Marketing Communications, Signetics Corp., 811 E. Arques Ave., Sunnyvale, CA 94086.

Communication Tubes Price List, an 8-page leaflet, is available from JSH Electronics, Inc., 8549 Higuera St., Culver City, CA 90230. The list covers more than 1900 types of klystrons, magnetrons, special purpose tubes, cathode-ray tubes, receiving tubes, vidicons, image orthicons, solid-state tube replacements and microwave diodes.

Low-Frequency Gain-Phase Measurements (Application Note 157), a 26-page illustrated booklet designed to bridge the gap between theoretical analysis and practical measurements, is available from Hewlett-Packard Co., 1501 Page Mill Rd., Palo Alto, CA 94304. Topics discussed in the booklet include Pole/Zero Measurements; Envelope Delay Measurement Techniques; Open/Closed Loop Measurements; Impedance/Return Loss; Crystal Evaluation; Capacitor LRC; Delay Line; OP Amps/Rejection; Integrators and Differentiators; and Instruments.

Coordination and Protection for Emergency and Standby Power Systems, a 76-page illustrated report, is available from Onan, 1400 73d Ave., N.E., Minneapolis, MN 55432. The report describes means of complying with requirements from the National Fire Protection Association's Publication, No. 70-1971, *National Electrical Code 1971*. The requirements are intended to prevent overloading and other faults. The information in the report, assembled from various sources, is intended to provide a convenient reference for the consulting engineer.

The Bebell Professional Film Laboratory Services and Prices Book, reflecting price levels of laboratories in the industry, is available from Bebell, Inc., 416 W. 45 St., New York, NY 10036. The book has been updated through the end of May 1973. The 16-page, 8½ by 11-in book contains a page devoted to the 8mm and super-8 services available from Bebell Motion Picture Laboratory Div. The book also contains a page of detailed Exposure Indexes for regular, forced and retarded developing of Kodak 16mm films.