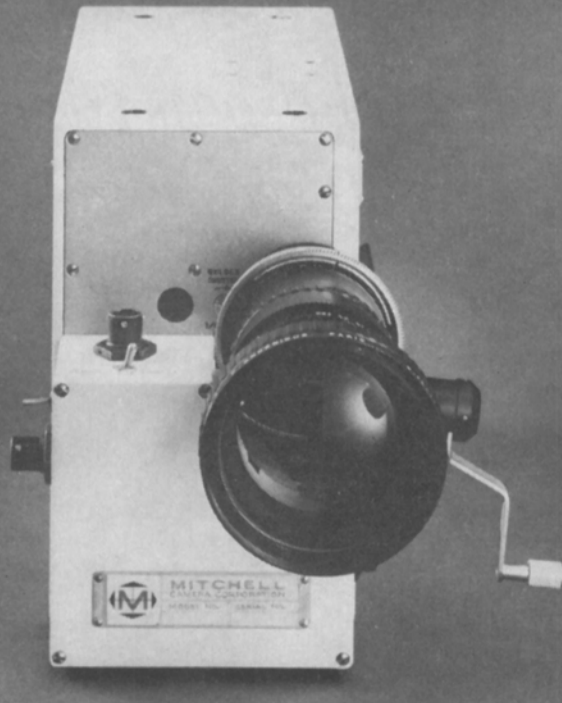


You may not need 600 fps...



**but the Mitchell
Monitor 16mm* has other
features that no
photo instrumentation
project should be without**

A strong point in itself: **frame rates up to 600 fps**, variable in 1-frame increments during standstill or in operation, **even by remote control** or programming with $\pm 1\%$ regulation. But speed isn't everything — this camera excels other ways, too. Highest degree of steadiness is assured by **dual pin registration**, which keeps film perfectly aligned horizontally and vertically. The **universal** (commercial, military and international) motor operates on either 28 VDC or 120 VAC-DC, 50 to 1,000 cycles standard. Result: **no motor changing**, far less down-time. An integral reflex boresight system permits **through-the-lens viewing without removal of film**. Shutter also is integral and adjustable from 6° to 120° from **outside of camera**. Compact (only 4.7" W x 7.2" H x 10.3" L) and simple to operate, the standard Monitor has a 400-foot internal capacity, also takes 1,200-foot external magazine with **breakaway take-up chamber** for removing exposed footage only.

Another option: Conex automatic iris system that controls exposure at all frame speeds, makes approximately **six f-stop changes** in a quarter-second. Send for full technical data.

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**BOOKS
BOOKLETS AND BROCHURES**

Colburn Comments on Editing is a 12-page illustrated booklet which explains in a practical "how-to-do-it" style the problems involved in professional film editing operations, the various techniques involved, and the best solutions to specific problems. The booklet is available upon request from Geo. W. Colburn Laboratory, Inc., Dept. CCE-4, 164 N. Wacker Dr., Chicago, Ill. 60606. Topics discussed in the booklet include the slating of scenes, sequences, making the "rough cut," A & B rolls, "checker-board techniques," invisible splices and lap dissolves.

Method of Measuring and Specifying Colour Rendering Properties of Light Sources, published by the International Commission on Illumination (No. 13 (E-1.3.2) 1965), is available from L. E. Barbrow, Secretary of the U.S. National Committee of the CIE, National Bureau of Standards, Washington, D.C. 20234, at a price of \$3.00. The text, in English, French and German, contains an explanatory preface, the method itself and five tables of data. The method includes equations for calculating both general and special indexes. The general index is in agreement with the one recommended in the United States by the Illuminating Engineering Society's Committee on Color Rendering of Light Sources, which cooperated in the work of the CIE committee.

Microminiaturization of Circuit Components (OTR-125) is a 14-page booklet prepared by Westinghouse Corp. for the National Bureau of Standards Institute of Applied Technology. It is available without charge from Clearinghouse, U.S. Department of Commerce, Springfield, Va. 22151. Government research has accomplished a reduction in the size of microminiature discrete components by controlling the geometric pattern and packaging at the development stage, the booklet reports. An additional advancement has been fabrication of circuit components on a single substrate by controlled deposition of thin films of conducting, insulating, semi-conducting, and ferromagnetic materials.

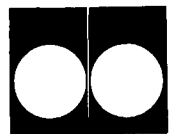
Stonehenge Decoded, by Gerald S. Hawkins in collaboration with John B. White (Doubleday, 277 Park Ave., New York, N.Y. 10017 (1965). Price, \$5.95) disposes of a strange story by substituting an even stranger story to explain the mystery of Stonehenge. A computer was used to analyze the design and function of the huge stones which have inspired so many conjectures and been the subject of so many eerie tales. In about one minute, according to Dr. Hawkins, who is Professor of Astronomy at Boston University, the computer showed that Stonehenge was nothing more or less than a sophisticated, brilliantly-conceived astronomical observatory.

“The advantage of the film is that to a somewhat greater degree than the book, it can discharge the function of both book and teacher. Its ability to bring outstanding teaching to millions cannot, I believe, be seriously questioned.”

GEORGE NELSON, *Problems of Design*

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Subsidiaries of Reeves Industries, Inc.

creating production and exhibition systems to serve makers and users of communication films



REEVESOUND

Electronic measurement equipment is described in a 28-page illustrated catalog (ES-14) available from B&K Instruments, Inc., 3044 W. 106 St., Cleveland, Ohio 44111. Instruments described include a-c voltage-measuring devices which are used for measurement, analysis and recording of AM and FM signals. Applications include acoustics, data analysis, noise control, etc.

A **Universal Color Language**, a paper by Kenneth L. Kelly which appeared in the March-April 1965 issue of *Color Engineering*, is available as a reprint upon request from Kinelow Publishing Company, Inc., 2 John

St., New York, N.Y. 10038. The paper describes a method of color designation designed to provide a universal means of color communication for people of varying technical and occupational backgrounds by means of a newly available color chart. In setting forth the need for such a method, the author points out that same light purplish gray color is designated by various authorities as "Happy Day," "Ingenuie," "Glaucous," "Greige" and "Stramonius."

First Annual Survey of the Broadcast-CATV Market is a report on the findings of a survey conducted for *BM/E* (a periodical concerned with Broadcast Management/

Engineering) by Mactier Publishing Corp., 820 Second Ave., New York, N.Y. 10017. Purposes of the survey included the acquiring of data upon which to base a forecast of the possible expansion of the broadcast industry (including CATV systems) in the direction of new buildings, expanded coverage, etc. A total of 4,948 questionnaires were mailed to radio and TV stations in the United States, Canada, Puerto Rico and the Virgin Islands, of which 1,347 were returned, and 1,101 questionnaires were mailed to CATV facilities, of which 157 were returned.

Laminar/Flow Clean Room Handbook (2nd ed.) by Boyd Agnew, is available from Agnew-Higgins, Inc., 7532 Anthony Ave., Garden Grove, Calif. The 77-page handbook describes laminar flow work stations and complete clean rooms. Material revised since publication of the first edition includes design criteria, performance of blower-filter modules and typical room layouts using the modules. Other chapters include design criteria for the enclosure, the air-conditioning system and associated accessories. A list of performance tests is presented.

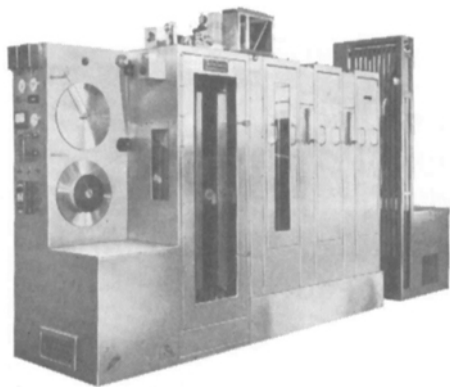
Activities of Carus Chemical Company, Inc., 1375 Eighth St., La Salle, Ill. 61301, are described in an illustrated brochure available from the firm upon request. The firm has been in existence for 50 years. The founder, Dr. Edward H. Carus, a professor of mathematics, left his career as a teacher in 1915 to begin experiments leading to methods of producing potassium permanganate which, at that time, was in extremely short supply. The firm's research staff has been greatly expanded during the years. A major expansion of research activities took place in 1959 mainly directed toward a thorough study of permanganate applications. The firm also produces hydroquinone and manganese sulfate.

Film Techniques for Fairchild MoviePak Cartridge is a new bulletin, one of a series, available from Director of Communications Products and Services, Fairchild Industrial Products, 221 Fairchild Ave., Plainview, N.Y. 11803. The new bulletin discusses, mainly, the different requirements for preparing and loading 8mm cartridge films and 16mm cartridge films. The MoviePak cartridge is a key feature of the Mark IV and V automatic continuous sound film projection systems.

Photographic techniques for generating hard copy from cathode-ray tube displays are described in a 4-page illustrated brochure available from Photomechanisms, Inc., 15 Stepar Place, Huntington Station, N.Y. 11746. The folder offers criteria for application of specific techniques to specific problems. The silver halide process is discussed along with such other photographic processes as electrostatics. Included with the folder is a two-color comparison chart showing relative performance, design and costs of nine photographic hard copy systems.

The Hycam Rotating-Prism Type 16mm high-speed motion-picture camera is

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RTS	Rev. & Neg/Pos.	B&W	16mm	85-125FPM
R-36	Rev. & Neg/Pos.	B&W	16mm	36-72FPM
R-60S	Rev. & Neg/Pos.	B&W	16mm	60-100FPM
316DS	Neg/Pos.	B&W	16mm	60-100FPM
*ND100	Neg/Pos.	B&W (TV News)	16mm	60-85FPM
NP36	Neg/Pos.	B&W	16mm	90FPM
S-90	Neg/Pos.	B&W Spray	16/35	90FPM
S-120	Neg/Pos.	B&W Spray	16mm	135FPM
S-150	Neg/Pos.	B&W Spray	16/35	160FPM
FE-30	Ektachrome	Color	16mm	30FPM
FE-100	Ektachrome	Color	16 or 16/35	100FPM

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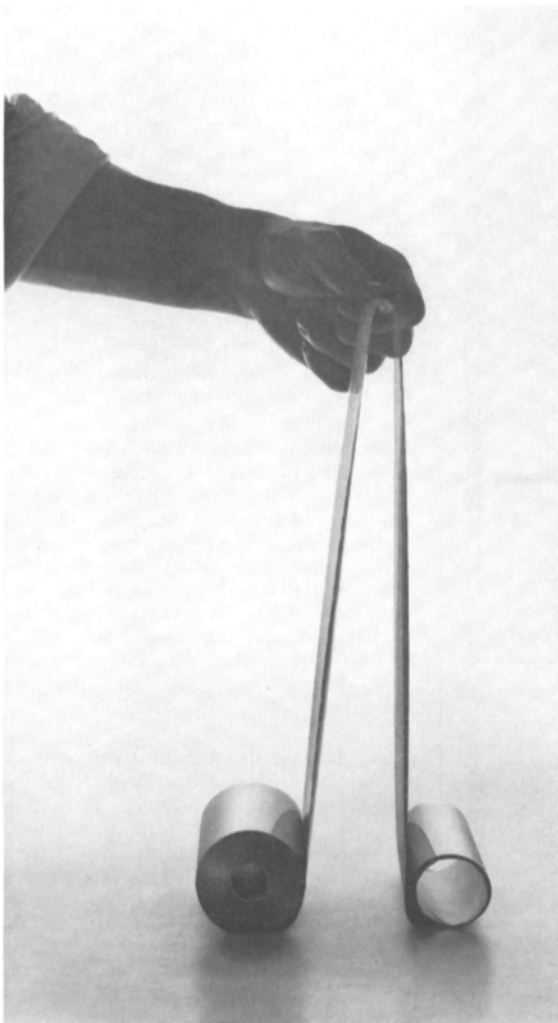
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Or the situation may call for something special in sensitivity. Or in maximum density. Or in simplicity of processing. Whatever need or combination of needs in sensitized goods confronts you, you should know by now who is most likely to have just the thing on hand.*

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described and illustrated in an 8-page brochure (Form HY-865) available from Red Lake Laboratories, 2971 Corvin Drive, Santa Clara, Calif. 95051. Both the 400-ft and 100-ft models are described. A piece of film shot with a Hycam is attached to the front cover of the brochure to give the reader opportunity for picture-quality evaluation. The brochure also includes a diagram and discussion of the optical system, operating charts and speed curves of both cameras.

Oscilloscope cameras and accessories are illustrated and described in a 12-page booklet available from Tektronix, Inc., P.O. Box 500, Beaverton, Ore. 97005. The booklet provides detailed specifications and also

features a series of waveform photographs, illustrating many typical applications with various lens/object-to-image ratio combinations.

NEC News, published monthly by Nippon Electric Co., P.O. Box 1, Takanawa, Tokyo, Japan, reports on various research projects related to its fields of interest. For example, among other reports in the January 1965 *NEC News* are reports on studies concerned with applications of laser materials to communications equipments, a cesium plasma amplifier, and research on infrared applications. This report notes that studies on a passive infrared camera are in progress.

Quartz-iodine lighting equipments are described in bulletins available from Mole-Richardson Co., 937 N. Sycamore Ave., Hollywood, Calif. 90038. Bulletin 102 describes and illustrates Cyc-Strip; Bulletin 104, Single Broad; Bulletin 105, Double Broad; Bulletin 106, Nooklite; and Bulletin 107, Softlite.

An audio-visual equipment catalog (#396) is available from Genarco Inc., a subsidiary of Robins Industries Corp., 97-04 Sutphin Blvd., Jamaica, N.Y. 11435. The catalog, a 2-page illustrated brochure, describes a line of 3,000-w slide projectors and slide changers.

Engineering Specification Catalog No. S-323 is available from Switchcraft, Inc., 5555 N. Elston Ave., Chicago, Ill. 60630, producers of multi-switches. The 10-page catalog gives specifications for such items as illumination, styles and shapes of push-buttons, stack module designs and other multi-switch design requirements.

The 1965 Wholesale Electronic Tube Price Catalog is available from Thor Electronics Corp., 741 Livingston St., Elizabeth, N.J. 07207. The 8-page catalog lists more than 2,500 tubes by type. Prices are included.

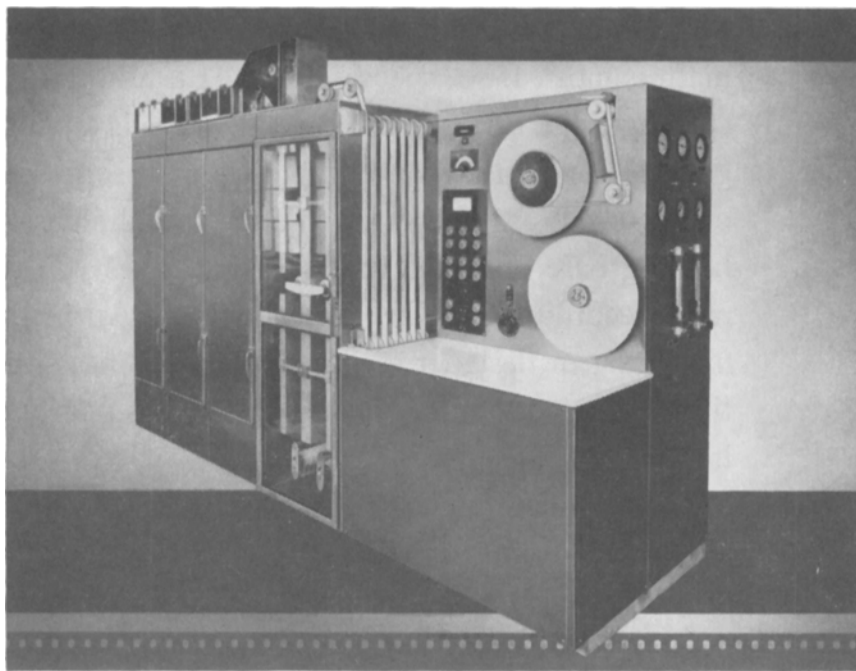
The AG-350 audio recorder/reproducer is described and illustrated in Ampex Bulletin #1706 and price sheet #1821 available from Ampex Corp., Mail Stop 7-14, 401 Broadway, Redwood City, Calif. The instrument is designed for use in broadcasting, recording studio, industrial, educational, medical and government applications.

The Ampex Marconi B3720 Master Video Switching System is described and illustrated in Bulletin No. 2268. The system has been designed to simplify master control switching operations and consists of a 12 x 3 "next event" switcher with an 8-event memory. The bulletin includes a detailed description and specifications.

Variable equalizers and wire-wound resistors are described in separate catalogs available from Hi-Q Division, Acrovox Corp., 1100 Chestnut St., Burbank, Calif. Catalog 32-EF (8-pp., illustrated) describes eight types of variable equalizers. Specifications and diagrams are included. Wire-wound resistors are described in catalog 14-RG (16 pp. illustrated). The catalog includes detailed specifications for various types of resistors intended for military and industrial applications.

The IRC Datedex General Purpose and Signal Diode Reference Book, published by M. W. Lads Publishing Co., Philadelphia, is available from International Resistance Co., 414 N. 13 St., Philadelphia, Pa. 19108, at a price of \$3.95. The 260-page book contains information on circuits and testing procedures for signal diodes, variable capacity diodes, and microwave diodes. More than 3,000 diodes are cross-indexed. Characteristics are described by indicating type and number of junctions, average forward current, peak operating voltage and recovery time.

THE NAME: HI-SPEED FA-200 SPRAY DEVELOPING MACHINE THE SPEED: 200 FEET PER MINUTE. RESULTS: SUPERB



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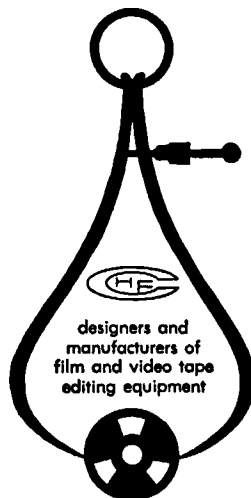
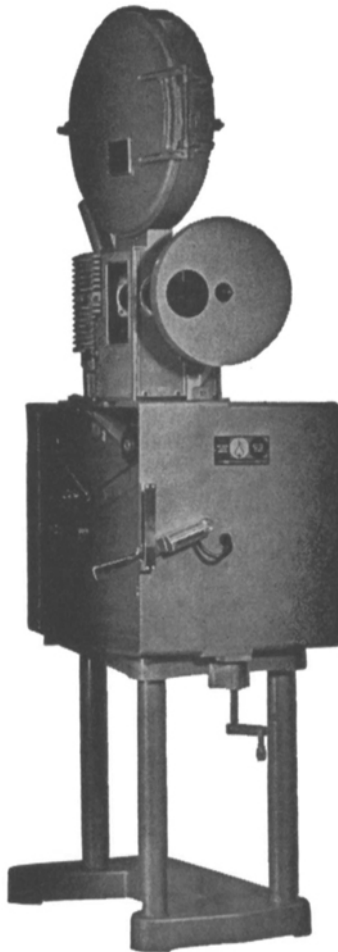
The projector is a converted front shutter Simplex with a two pin intermittent. 16mm or 35/32 film runs at a speed of 144 ft. per minute while 35mm film runs at a speed of 165 ft. per minute.

1. A variac controls the light intensity.
2. A 500 watt lamp is used for 16mm and a 1,000 watt for 35mm (a blower is used to cool the lamphouse).
3. A 2½ inch projection lens is furnished with each unit.
4. A start-stop lever controls the power to the lamp and motor.
5. The magazine and take up core takes up to 3,000 ft. of film.
6. Upper guide rollers are made to handle the film from either direction of the feed reel.
7. A free wheeling take off flange is provided in the magazine.
8. A lamp near the takeup reel permits hand inspection of the film prior to takeup.

NOUVEAU

Le projecteur contient un obturateur Simplex antérieur transformé avec deux clavettes intermittente. Les films de 16mm ou 35/32 tournent avec une vitesse de 144 pieds à la minute, tandis que les films de 35mm tournent avec une vitesse de 165 pieds à la minute.

1. Le regulateur de voltage d'intensité d'eclairage.
2. La lampe de 500 watt est nécessaire pour les films de 16mm, et de 1000 watt, pour les films de 35mm (un ventilateur est mise pour rafraichir la chambre de la lampe).
3. L'objectif de 2½ est installé.
4. La manette de mise en marche et d'arrêt controle en meme temps la lampe et le moteur.
5. La boîte de films avec noyau peut contenir 3000 pieds du films.
6. La roue supérieure est construite de manière de recevoir le film dans les deux directions, nourrie par la bobine centrale.
7. Une roue est installée pour libérer rapidement le film de la boîte.
8. La lampe se trouve pres de la bobine recepteuse, et donne toute facilité pour inspecter le film a main dans le projecteur.



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NUOVO

Questi proiettori sono Simplex trasformati, otturatore al fronte, meccanismo di scatto di due punte. La velocità di proiezione in 16 o 35/32mm è di 144 piedi per minuto, e in 35mm, di 165 piedi per minuto.

1. Controllo manuale della luminosità della lampada.
2. Lampada di 500 watt per 16mm e di 1000 watt per 35mm.
3. Obiettivo di proiezione di 2½".
4. Maniglia per controllo di motore e lampada di proiezione.
5. La cassetta porta pellicola puo contenere 3000 piedi.
6. I rulli superiori di guida sono costruiti per operare con film proveniente di ambedue i lati della bobina svolgitrice.
7. Disco con montatura sporgente nel magazzino.
8. Una lampadina illumina la bobina avvolgitrice, permettendo l'ispezione manuale del film prima che si avvolga nel proiettore.

NUEVO

Esta máquina es un proyector simplex convertido, obturador al frente y movimiento intermitente a doble grifa. Para 16mm o 35/32mm, la velocidad fija de proyección es de 144 pies por minuto, para 35mm es de 165 pies por minuto.

1. Un reostato controla la intensidad de la lampara de proyección.
2. Para 16mm se usa una lampara de 500 watt, y una de 1000 watt para 35mm (un chorro de aire ventila las lámparas en ambos casos).
3. Cada unidad está provista de un lente de proyección de 2 pulgadas y media.
4. Una palanca de control opera el motor y la lampara simultáneamente.
5. Capacidad de proyección: rollos de hasta 3000'.
6. Los rodillos de guía superiores operan con la película en ambas direcciones.
7. La tapa de la bobina de carga es desenroscable.
8. Una lámpara ubicada junto a la bobina de toma permite la inspección manual de la película antes que se rebobine en la bobina superior del proyector.

Advantages and features of the tunnel diode amplifier are listed in a brochure available from International Microwave Corp., a subsidiary of Microwave Associates, Inc., River Rd., Cos Cob, Conn. 06807. The brochure, illustrated in color, includes a list of standard units in communication and television frequencies.

Magnetic film sound recording/reproducing systems, electrical and mechanical interlock systems, stock and custom consoles, and accessories are described in an illustrated catalog (S-102), available upon request from Magnasync Corp., 5547 Satsuma Ave., North Hollywood, Calif. 91601. Specifications are presented as well as detailed descriptions of special features.

Electronic components and equipments for sound and communication are described in a 544-page catalog (#660), available from Allied Electronics Corp., 100 N. Western Ave., Chicago, Ill. 60680. More than 60,000 items are listed and described. Descriptions include price and specifications. An 82-page section on semiconductors includes a cross-indexed price guide of the products of major semiconductor manufacturers. The catalog includes a product index, index of manufacturers and an index of military products.

Chargers and Charging for Lead-Acid and Nickel-Iron Batteries is a 32-page illustrated booklet available from Exide Industrial Marketing Div., Electric Storage

Battery Co., Rising Sun and Adams Aves., Philadelphia, Pa. 19120. The booklet explains principles of battery charging, describes charging equipment and discusses the operation and maintenance of equipment for all types of industrial applications.

Motion Picture and TV Production Equipment Catalog No. 12 is available from S.O.S. Photo-Cine-Optics, Inc., 387 Park Ave. South, New York, N.Y. 10016. Descriptions, including prices of some 6,000 items, are included in the 228-page catalog. The catalog is divided into 23 sections with a cross-section reference index. Sections include studio and newsreel cameras; TV station and closed-circuit systems; lenses; animation, special effects and titling devices; lighting; magnetic/optical sound recorders; editing and film handling accessories; laboratory processors, printers, splicers; audio-visual aids; and theater supplies.

Audio-Visual Guide to Better Projection is a 32-page illustrated booklet available from Radiant Manufacturing Corp., 8220 Austin Ave., Morton Grove, Ill. 60053. The foreword by Dr. Irene F. Cypher, Associate Professor, School of Education, New York University, states that the booklet is intended as a "guide for those who plan and prepare lessons, meetings and group sessions, pointing the way to the effective combination of a presentation well planned, well executed, in an environment really conducive to learning." The booklet is divided into three sections: The Potential of Projection; The Environment for Good Projection; and The Tools of Good Projection.

Information About Information Services is available upon request from Selah Bond, Graphics Arts Information Service, Rochester Institute of Technology, Rochester, N.Y. 14608. The Graphic Arts Information Service is a section of the Graphic Arts Research Department of RIT. Activities include publication of *Graphic Arts Progress*, bibliographies, reference lists and special reports. Also provided is a photocopying service and literature search (at an hourly rate).

A special issue of the Bolex Reporter, devoted to professional applications of motion pictures in medicine, science, industry and education, is available from Paillard Inc., 1900 Lower Road, Linden, N.J. 07036. Among papers and reports appearing in the special issue is a paper on "Cinophotomicrography" by James M. Klinkhamer. Dr. Klinkhamer, who is research scientist in histo-chemistry and cell biology at the Sias Research Laboratories, Brooks Hospital, Brookline, Mass., discusses cinemicroscopic techniques and equipments used at the Sias Laboratories to study orgranulocytes, a type of human white blood cell between 12 and 15 microns in size. He states in the article that monochromatic light is "the secret of achieving high resolution and sharpness of image in cinephotomicrography." He recommends a wavelength of 546 m μ which, he states, "shows a pleasing kind of green color," and which may be obtained by adding a 546 m μ filter to any white light source.

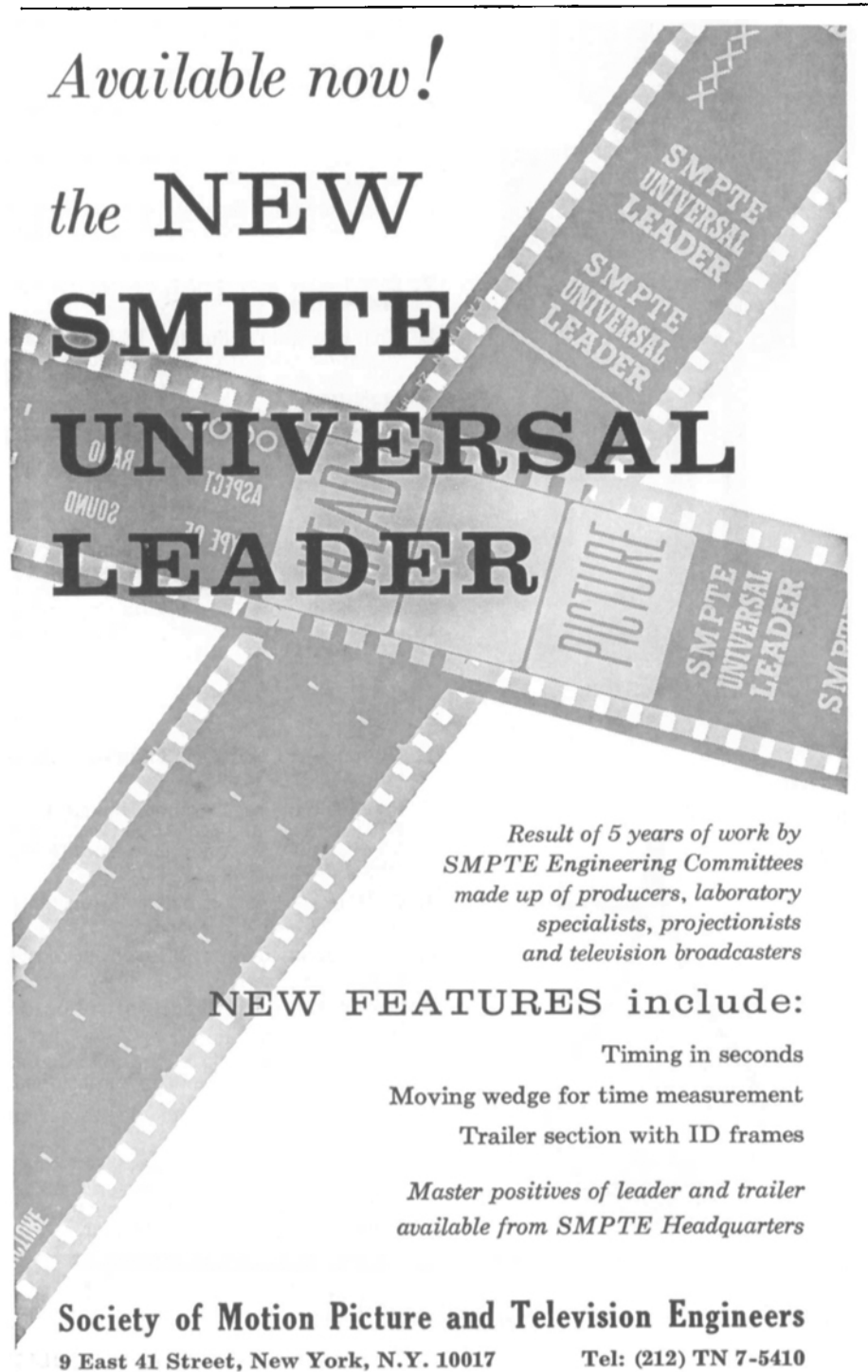
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