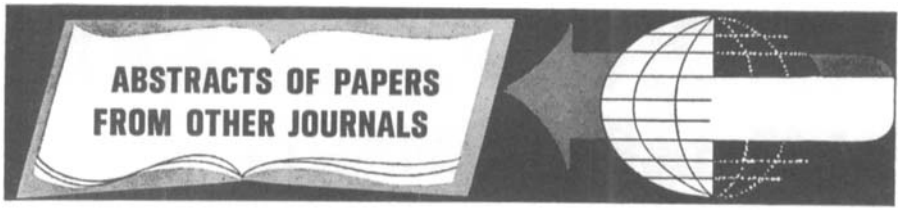


Abstracts of papers appearing in other journals chosen for their importance and possible value to researchers, as well as those of timely interest, are published in the *Journal* from time to time. Many translations of abstracts from foreign journals, chiefly those of the USSR, are made available to the *Journal* by the Research Laboratories of the Eastman Kodak Company. As a rule, translations are made of the abstracts and not of the papers. The journals in which the papers appear can be consulted at some libraries. Current issues of *Tekhinika Kino i Televideniya* can be consulted at, or borrowed from the Society's Headquarters Office.

The subject areas are grouped below:

Cinematography
Film and Its Properties
General
High-Speed Photography and Instrumentation
Optics
Photographic Theory and Materials
Sound
Television

CINEMATOGRAPHY

A method of testing the stability of exposure conditions of a motion-picture camera (in Russian) A. I. Potashnikov and V. L. Trus'ko, *Tekh. Kino i Televideniya, 17:* 25–28, Apr. 1973.

Fluctuations in density along a length of motion-picture negative are frequently due to variations in the exposure time of the frames, due in turn to variations in the angular velocity of the rotating shutter of the camera. A photoelectric apparatus has been devised for measuring the frame-to-frame variation of exposure in a camera and to provide a coefficient of stability of the exposure system. — S.C.G.

A gyrostatic stabilizing device for cinematography from a moving automobile (in Russian), V. B. Kalabin, V. A. Babenko, and A. V. Buravtsev, *Tekh. Kino i Televideniya, 17:* 55–56, May 1973.

Design of an extremal experiment in the solution of the problem of improving image quality in cinematography (in Russian) V. D. Petrov, *Tekh. Kino i Televideniya, 17:* 35–37 Apr. 1973.

The factorial method of optimization is discussed in considering the design of experiments for improving picture quality. Examples are quoted. — S.C.G.

A system of 16mm and 8mm wide-screen cinematography with a reduced aspect ratio (in Russian), L. G. Tarasenko, *Tekh. Kino i Televideniya, 17:* 33–35, Aug. 1973.

A case is made for the printing of 35mm anamorphotic films onto narrow-gage films with an aspect ratio of 1.8:1, instead of 2:1, so as to make the best use of the picture area. — S.C.G.

Determination of the causes of picture unsteadiness in cinematography (in Russian), A. I. Koval'chuk, I. V. Kukhtin, and I. M. Mogilevskii, *Tekh. Kino i Televideniya, 17:* 21–23, Aug. 1973.

After discussion of three methods of assessing the unsteadiness of a motion-picture in the taking, attention is turned to the method in which a static subject is exposed twice on the same film, and the displacement between the images is measured. The conditions under which unsteadiness measured on the film in this way is not due to the operation of the camera are discussed. — S.C.G.

FILM AND ITS PROPERTIES

New technical specifications for black-and-white negative motion-picture films (in Russian), L. P. Krylov, I. G. Abidina, B. N. Modestov, and N. V. Makarov, *Tekh. Kino i Televideniya, 17:* 26–40, Mar. 1973.

There has been a discrepancy in the Soviet film industry between the photographic characteristics of negative black-and-white films under the different conditions of testing in the manufacture of the rawstock and in use in the studios.

THE WHOLE SHOOTING MATCH.

Maybe you're shooting documentaries. Or features. TV news. Or commercials (live or animated); travelogues; sports; wildlife; educational films; macrocinephotography or cinephotomicrography, you name it. Bolex can provide you with exactly the right camera body, lenses and accessories to assure you'll have just what you need when you need it. (And at prices that may surprise you with their economy.)

The cameras: You get to choose from five rugged camera bodies designed for hand held or tripod use. With either three-lens turret or bayonet mount, with spring motor or electric drive, with 100′ to 400′ film capacity, for silent filming or sync sound with sync pulse generator or crystal. And that's just the beginning.

Consider features like: automatic threading, flickerless reflex viewing and focusing with complete depth of field control, a filter slot behind the lens, single-frame counter, unlimited film rewind, variable speeds for accelerated and slowmotion filming, single frame filming, variable shutter with automatic control possibility, registration claw for total accuracy in picture steadiness even when films are blown up to 35mm.

The lenses: With the Bolex system, you can choose from 7 fixed focal length lenses, ranging all the way from 10mm super wide angle to long 150mm telephoto. And they all have built in macro focusing, automatic depth of field scales and diaphragm presetting so you can step down the aperture without taking your eye off the reflex finder. You can choose a lens as fast as f/1.1, or one that can focus down to one inch without accessories.

The system offers you seven zoom lenses with zoom ranges from 5:1 to 10:1. One of those is the Vario Switar 100 POE-4 with built-in power zoom, automatic light measuring through the lens, focusing as close as four feet and picture sharpness equal to any good fixed focal length lens.

The works: You can extend your basic equipment almost indefinitely with a wide range of accessories.

For instance: if you choose a spring-wound camera, you can automate easily with any one of three auxiliary motor drives, for time-lapse or animation, for variable speed shooting or for filming with sync pulse generator or crystal. The system offers you tripod; monopod; camera grips; blimps; an automatic fading device; cable releases; matte boxes (complete with masks); an underwater housing; attachable exposure meter; 400′ magazine; closeup lenses; extension tubes; optical magnetic sound projector.

It's quite a list. But that isn't all. The full story of Bolex's whole shooting match fills a 32 page book. Which we'll be happy to send you. Just write to Paillard Incorporated, 1900 Lower Road, Linden, N.J. 07036. You'll get a very professional response. Other products: Hasselblad cameras and accessories.

BOLEX 16
PAILLARD

A new set of black-and-white negative film stocks designated KN-1, KN-2, and KN-3, was introduced in 1972 with specifications which allow it to be used in the same developer in testing during manufacture and during studio use. The characteristics of the new films are discussed. — S.C.G.

The new TsPN-1 color film for the preparation of duplicates from a reversal positive (in Russian), L. V. Grechko, M. N. Sviridenko, and A. I. Sviridenko, *Tekh. Kino i Televideniya, 17:* 21-24, Apr. 1973.

A new Soviet motion-picture stock, similar to Eastman Color Internegative Type 7271 film is now being produced for the preparation of negative duplicates from positives shot on 16mm reversal color stock. Its structure and photographic characteristics are discus ed and compared with those of the Eastman film. — S.C.G.

Control films for 8mm motion-picture projection (in Russian), E. L. Nel'skiĭ and O. R. Prozorovskaya, *Tekh. Kino i Televideniya, 17:* 46-49, July 1973.

A special film designed in the NIKFI laboratories for testing the operation of 8mm motion-picture projectors is described. — S.C.G.

A new motion-picture film for the printing of imbibition matrices (in Russian), Z. P. Dokuchaeva, G. V. Derstuganov and Z. F. Shakirov, *Tekh. Kino i Televideniya, 17:* 36, July 1973.

A new Soviet matrix film for imbibition printing is briefly described. — S.C.G.

The influence of drying on the physical and mechanical properties of motion-picture films (in Russian), W. M. Bondarchuk and A. Sh. Shamilova, *Tekh. Kino i Televideniya, 17:* 27-30, Aug. 1973.

During processing of film there is some improvement in its physical and mechanical properties, in particular in its impact strength. However, the tendency to curl remains when conditions are favourable for it. Different conditions of intensive convective drying influence the impact strength of black-and-white films, somewhat lowering it in comparison with the strength measured after processing. The conditions of intensive drying have practically no influence on the curl of black-and-white positive motion-picture film. — S.C.G.

GENERAL

A study of ball bearings used in motion-picture cameras and magnetic tape recorders (in Russian), Yu. K. Vartanov, D. D. Bogoroditskii, and V. R. Epshteĭn. *Tekh. Kino i Televideniya, 17:* 53-54, Mar. 1973.

The evenness of operation of motion-picture cameras and other apparatus depends on the quality of the ball bearings. A study has been made of the relation between the constant and variable components of the moment of rotational inertia of ball bearings, on the one hand, and their dimension, accuracy of manufacture, axial and radial loads, and rotational velocity, on the other. — S.C.G.

A Canadian film training study project, Gerald G. Graham, *Brit. Kinemat. Sound and TV, 55:* 318-319, 323, Oct. 1973.

This paper deals with a study of manpower training requirements for the film industry conducted by the National Film Board during 1972-1973. Growing concern about the training of filmmakers and technicians has been expressed by many groups representing public and private interests in Canada.

HIGH-SPEED PHOTOGRAPHY

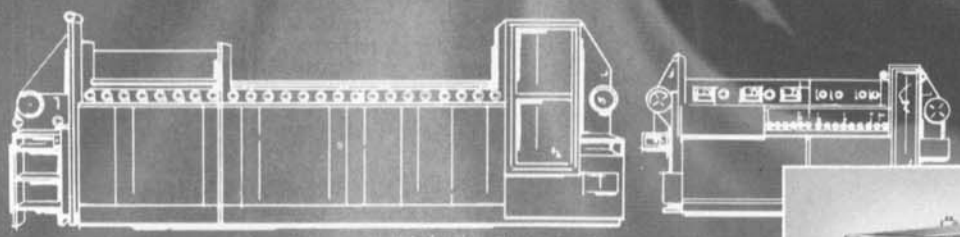
The VK-2 motion-picture camera (in Russian), N. F. D'yakov, I. I. Krŷzhanovskiĭ, S. M. Nikitin, V. G. Novikov and V. I. Reshetkin, *In* "Vsesoyuznaya Nauchno-Tekhnicheskaya Konferentsiya 'Sovremmenoe Sostoyanie i Perspektivŷ Vŷsokoskorostnoĭ Fotografii i Kinematografii i Metrologii Bŷstroprotekayushchikh Protsessov.' Tezisŷ Dokl.," Moscow, 1972, pp. 68-69; *Ref. Zh., Fotokinotekhnika,* Abstract No. 7.46.175, 1973.

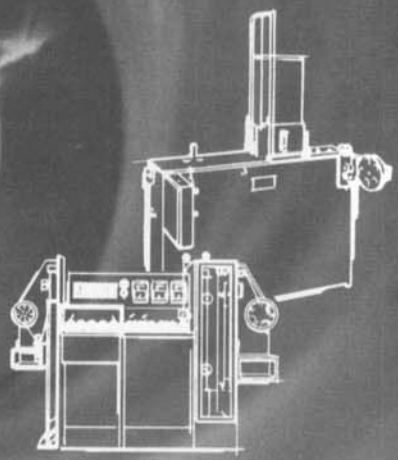
A discussion is given of a high-speed motion-picture camera of the instant-access type with image commutation, intended for the cinematography of rapid processes with a frequency of up to 100,000 frames/s. A description is given of the electrical circuit of the camera control. — S.C.G. (Translated from *Ref. Zh., Fotokinotekhnika*)

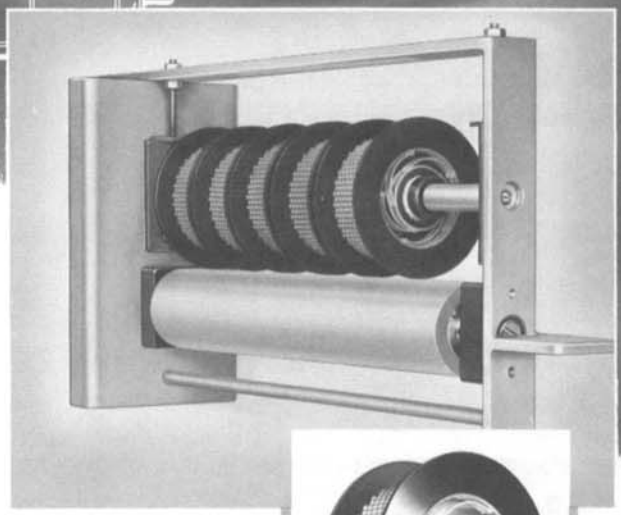
Possibilities in the use of high-intensity halogen incandescant lamps for high-speed photography and kinematography (in Russian), I. O. Yavno, *In* "Vsesoyuznaya Nauchno-Tekhnicheskaya Konferentsiya 'Sovremmnoe Sostayanie i Perspektivŷ Vŷsokoskorostnoĭ Fotografii i Kinematograffi i Metrologii Bŷstroprotekhayushchikh Protsessov'. Tezisŷ Dokl.,"

NEW TREISE PROCESSORS FEATURE

SBR™ drive!







Now you can change film sizes ...and still maintain uniform tension and constant speed!

Any laboratory that changes film sizes frequently or plans to process multi-perforated film will find the new Treise Processors a dream to operate. They feature a revolutionary new type of demand-drive that assures uniform controllable tension and constant film speed throughout the processor.

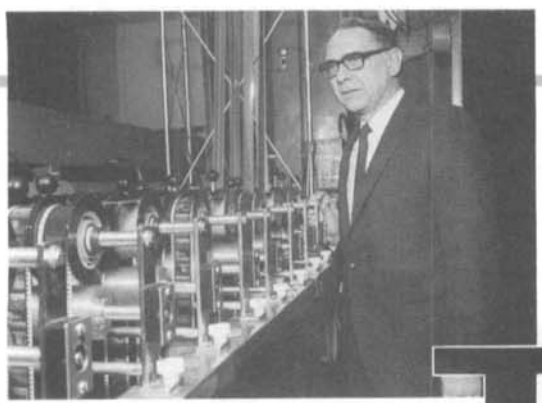
The heart of the Treise SBR-Drive is a unique new film roller with a flexible heavy-duty 5-leaf spring insert. The spring bearing rollers (SBR) are mounted on a stationary shaft at the top of each rack and are free to rotate. An overdrive shaft is mounted directly underneath. As film tension increases (or decreases), the SBR contact (or pull away from) the drive shaft. The result is individual strand control! Due to the unusual construction of the Treise spring insert, the distance between the rollers and the drive shaft is so small that the slightest change in film tension creates a response and thus maintains a remarkable degree of equilibrium.

All SBR are equipped with "soft touch tires" that firmly grip the film and smoothly move it along without the slightest scratch or abrasion. Treise processors operate smoother, too, because they feature heavy-duty gear box drive and torque motor take-ups.

When using SBR-Drive, the elevator is kept at a fixed position less than an inch from the bottom of the tank, thus permitting full utilization of chemical solutions. SBR-Drive comes either in individual lift-out racks or as part of a complete unit lifted out by hoist, for quick easy servicing.

SBR-Drive includes an automatic braking system to stop the processor, in the event a film breaks due to some error in handling.

The new Treise SBR-Drive Processors feature stainless steel tanks, with hastelloy or titanium components in ferri bleach areas. Models are available to accommodate any film size from 8mm to 105mm, to handle any kind of process, and to operate at speeds from 30 fpm to 250 fpm.



Bill Smith, Allied Film President, checks over his SBR-Drive.

ALLIED FILM LAB modified a 10-year-old processor with SBR-Drive . . . and now it runs like new!

Join the many leaders, like Allied Film Lab, Foto-Kem, News Film Laboratories, University Microfilm, etc., who are already benefiting from this revolutionary "step forward" in processor design. Write today for complete details about our modification program. Modernize *your* processor with Treise SBR-Drive!

Write for full information about SBR-Drive!

TREISE ENGINEERING, INC.

1941 FIRST STREET • SAN FERNANDO, CALIF. 91340 • (213) 365-3124

See us at 116th
SMPTE Conference
In Toronto

your lab processor will operate

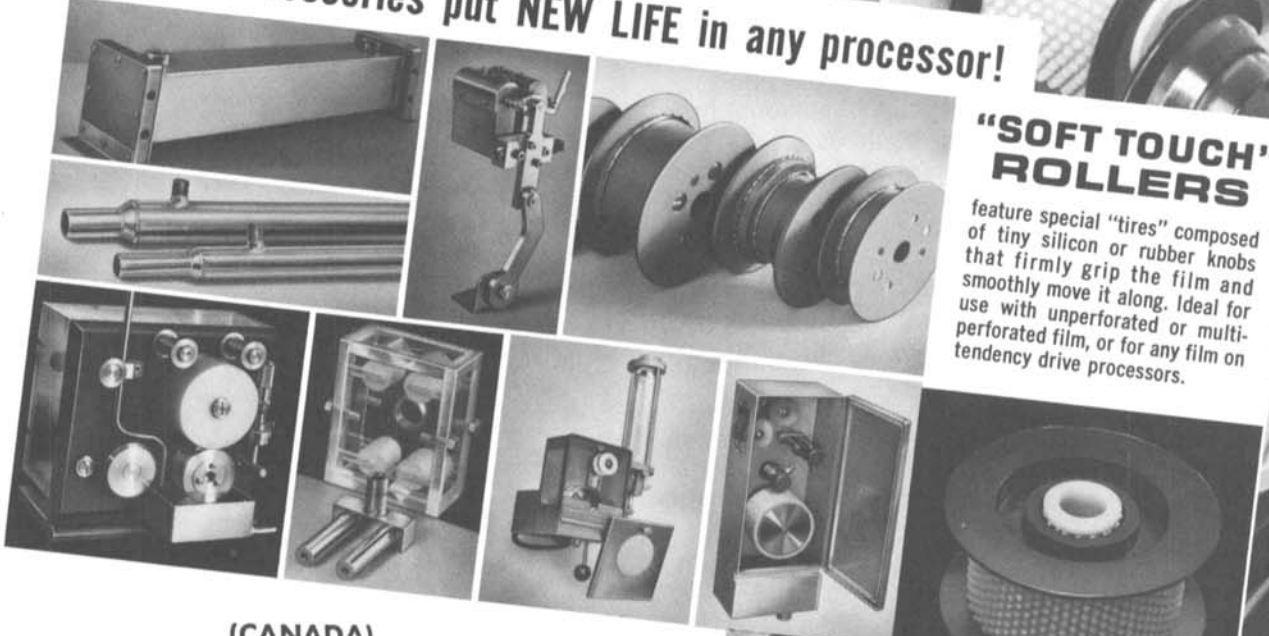
SMOOTHER!

with specially designed

TREISE
FILM ROLLERS

There's no drag . . . no film abrasion . . . no wear and tear . . . when you use Treise Rollers. Their unique ball-bearing design insures minimum film pull and provides exceptionally smooth processor performance. All rollers are molded entirely of durable plastic. Moreover, the lands in the rollers are angled so that the film "rides" with only the outside edges touching. The film image never comes in contact with the roller and thus never receives the slightest scratch or abrasion! Available in 8/16mm, 16/35mm, and 70mm. Sizes from 2½" O.D. to 7⅜" O.D. Shaft diam: ⅜", ½", or ⅝". Choice of stainless steel or nylon ball bearings, or plastic bushings.

Treise Accessories put NEW LIFE in any processor!



"SOFT TOUCH" ROLLERS

feature special "tires" composed of tiny silicon or rubber knobs that firmly grip the film and smoothly move it along. Ideal for use with unperforated or multi-perforated film, or for any film on tendency drive processors.

(CANADA)

For New Sales:
RUTHERFORD PHOTOGRAPHIC, LTD.
211 Laird Drive, Toronto 17 Ontario • 422-1340

For Parts & Service:
GRAPHTRONICS LTD.
338 Wilson Avenue, Downsview, Ont. • 633-4634

Moscow, 1972, p. 138; *Ref. Zh., Fotokinotekhnika,* Abstract No. 7.46.112, 1973.

The requirements that a light-source for high-speed photography should satisfy are discussed. The possibilities of using incandescent lamps of the halogen type for this purpose are indicated, and work carried out on them in the Soviet Union is discussed. — S.C.G. (Abridged from *Ref. Zh., Fotokinotekhnika*)

OPTICS

The characteristics of objectives and optical systems for the 10OPK motion-picture camera (in Russian), F. S. Novik, *Tekh. Kino i Televideniya, 17:* 13-18, July 1973.

A discussion is given of the optical designs of objectives and optical systems of the 10OPK motion-picture camera, intended for the shooting of varioscopic films. Characteristics and aberration curves, defining the image quality of very wide-angle objectives and view-finders, are given. — S.C.G. (Translated from *Tekh. Kino Televideniya*).

Interaction of vision with optical aids, Ian Overington, *Jour. OPTICAL Soc. Am. 63:* 1043-1049, Sept. 1973.

When vision through an optical aid is being considered it is desirable to know something of the effect of the optical quality of the aid on performance. Methods of image evaluation are discussed with particular reference to visual aids. All major methods of image evaluation are distinctly limited in predictive capability when the human observer is the final element in the chain. A model of visual performance is presented that has predictive capabilities over a wide range of situations, when used in conjunction with objective performance data relating to visual aids and the optics of the eye.

Film Sensitometry With Laser Sources, John P. Fallon and Paul F. Kellen, *Optical Eng: Jour. SPIE, 12:* 75-79, Mar./Apr. 1973.

Exotic new photographic systems need specific new procedures for the evaluation of their properties. Laser imaging systems call for sensitometry with laser sources, but these present particular problems due to light coherence properties. Efforts to expand the laser beam will result in poor uniformity; air gaps between film and step wedge will cause interference fringes. Exposure time, when determined by laser pulse length may degrade overall accuracy.

A Laser Sensitometer has been designed and built using the coherent nature of the laser light to generate a series of images of the same aperture at varying enrgy levels. The instrument utilizes the diffraction properties of a periodic structure for that purpose. Relative measurements depend only on the properties of the optical system and are threfore very repeatable. Results obtained with a pulsed ruby laser are presented. The instrument has been also used satisfactorily with a helium neon laser. The technique can be extended for use with a high-power CW laser, and high-speed shutters or rotating mirrors can be incorporated in the design. For certain cases a scanning device could be substituted for the pulsed laser in the instrument described.

"Coded aperture imaging with on-axis fresnel zone plates," M. D. Tipton, J. E. Dowdey and H. J. Caulfield, *Optical Eng., 12:* 166-168, Sept./Oct. 1973.

Coded aperture imaging of x-ray or γ ray emitting objects using on-axis Fresnel zone plate apertures was the original method suggested by L. Mertz in 1961. Since then other forms of coded aperture imaging have become more popular. We show in this paper that, under certain well-defined conditions, high quality images can be obtained with Mertz's original encoding method.

Faster LASL Lens Design Program, Berlyn Brixner, *Applied Optics, 12:* 2703-2708, Nov. 1973.

Certain improvements have made the LASL lens design system much faster although less versatile and have maintained the calculation accuracy: an increment-vector damping technique optimized by a search procedure, analytic differentiation, simultaneous design on all variables, reliable convergence criteria, vignette control by biased violation errors, bounds for the variables, and an enlarged weighting procedure. The designing system optimizes the sizes and positions of many-ray image spots without considering the classical aberrations.

The optics of microdensitometry (group of seven papers), Richard E. Swing; C. S. McCamy; David J. Cronin and George O. Reynolds; John P. Fallon; John C. Butler; Robert E. Kinzly; and C. S. Miller, I. L. Kof-

Jamieson film processors because...

...they're lower priced, operate more economically, and have proved themselves in 100s of installations in 23 countries.

We offer three basic groups or series of processors, and our patented, small reservoir tube tank is the key to them all. It combines the transport rack and solution tank in one small unit, which results in several major advantages:

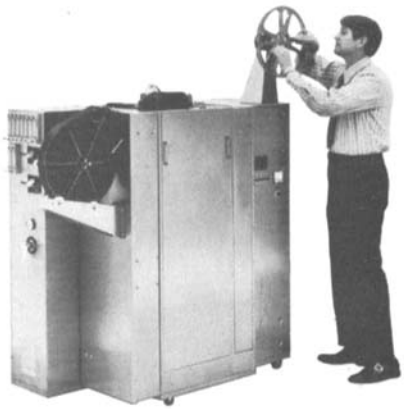
- Film advances virtually tension-free. The demand top-overdrive film transport uses no clutches, floating rollers or film sprockets.
- Smaller machines take only half the floor space.
- Solution volume is reduced 15 times over open-tank designs.
- Temperature in primary solutions is controlled to an accuracy of a few hundredths of a degree.
- The elliptical shape of the tubes protects the film and provides high induced turbulation.

JAMIESON COMPAC 16/8
Conducts standard ME-4 at 20 FPM. Runs 16mm and 8mm interchangeably. Models available for 35mm/16mm, B&W reversal and negative/positive.

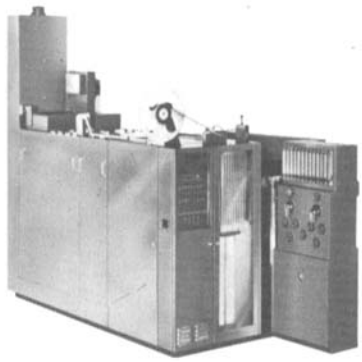
Other important features include: Lower maintenance and labor costs, and less power and water usage. The small volume of solution in the machine gives long-term stability and improved cleanliness. And film threading is both easier and faster, accomplished without removing the tank.

Because of our equipment's modularity and flexibility, we can custom design processors for combination processes or for special requirements.

Write for our new brochure and data sheets on all our models. And give us an opportunity to quote on your processor requirements.



JAMIESON MARK IV, Model A
Runs 16mm and 8mm Ektachrome at 30 FPM. Model B for ECO-3 and ME-4 with silver track. Other models for 35mm processes, including CRI.



JAMIESON MARK IX, Model B
Conducts ECO-3 and ME-4 for all 16mm, 8mm Ektachrome camera and print films at 65 to 75 FPM. Other models run Eastman Color and other processes in 16mm and 35mm.

☐ Yes, I'd like to see your new brochure and data sheets on your color and B&W film processors for 8mm, 16mm and 35mm film.

Name _____ Title _____

Firm _____ Division _____

Address _____

City _____ State _____ Zip _____

JAMIESON FILM COMPANY

EQUIPMENT DIVISION 6911 Forest Park Road, Dallas, TX 75235 — (214) 350-1283 Represented in Europe, the Middle East and South Africa by **W. Vinten Limited.** Cable: JAMIESON

sky, C. A. Trowbridge and F. G. Parsons, *Optical Eng.: Jour. SPIE, 12:* 185-232, Nov./Dec. 1973.

A review of the current developments in microdensitometry is made with emphasis on the investigations leading to the current level of understanding of optical performance. The classical microdensitometer is then analyzed according to the principles of spatial coherence. Conditions for the insuring of linear operation are derived and the idea of effective incoherence at the source aperture is presented with a discussion of the implications. The various microdensitometer configurations are subjected to analysis and the four possible variations (viz. overfilling, underfilling with two possible locations for the sampling aperture) are thoroughly evaluated. The new concept of linear microdensitometry is discussed and summarized briefly. The current concerns of microdensitometry are then presented and considered.

PHOTOGRAPHIC THEORY AND MATERIALS

Photographic speeds based on radiant energy units, J. H. Altman, F. Grum and C. N. Nelson, *Phot. Sci. & Eng., 17:* 513-517, Nov./Dec. 1973.

The calculation of photographic speed is reviewed and formulas are given for calculating the radiometric and photometric speeds of materials from the spectral sensitivity data and the spectral power distribution of the source. The derivations of the various equations are indicated and some sample radiometric speeds are given for typical film-source combinations.

A unit for testing the photometric characteristics of motion-picture projector reflectors (in Russian), A. G. Aver'yan G. A. Golostenov and A. N. Lazareva, *Tekh. Kino i Televideniya, 17:* 31-33, Aug. 1973.

A description is given of a device for determining rapidly and sufficiently accurately, under production conditions, the light, color, and infrared characteristics of motion-picture projection reflectors with interference coatings. — S.C.G. (Translated from *Tekh. Kino i Televideniya*).

Review of work on motion-picture technology carried out in 1972, S. A. Bongard et al., *Tekh. Kino i Televideniya, 17:* 3-38, May 1973.

A review is given of the research and development work on motion-picture technology carried out in the USSR by the All-Union Motion-Picture Research Institute (NIKFI), the Leningrad Institute of Motion-Picture Engineers (LIKI), the "Mosfilm" and "Lenfilm" studios, and the RSFSE studios. — S.C.G.

A study of the sensitometric values of original color materials (in Russian), R. M. Maistrovoĭ, *Tekh. Kino i Televideniya, 17:* 31-35 July 1973.

A study has been made of the characteristics of original color films received over a period of about one year for duplicating and printing at the Kiev Motion-Picture Printing Factory. The scatter of the values is recorded and mean values are derived free from random variations. Other statistical aspects are discussed. — S.C.G.

The effective densities of black-and-white duplicating negative motion-picture films (in Russian), Z. A. Belorusets, L. P. Krylov, M. A. Ermolaev, B. R. Beĭlina and L. F. Shutskaya, *Tekh. Kino i Televideniya, 17:* 26-27, July 1973.

The possibility of measuring printing densities of dupe negative materials with the standard Soviet DFE-10 densitometer is discussed. — S.C.G.

The adoption of an objective method of control of duplication of black-and-white films (in Russian), A. E. Zinov'eva, A. I. Bavina and A. P. Shur, *Tekh. Kino i Televideniya, 17:* 28-30 July 1973.

A method devised in the Moscow Film-Printing Factory for objective control of the preparation of dupe negative black-and-white films is based on correction of the overall contrast at the dupe positive stage. All stages of printing are controlled sensitometrically by the use of a standard shot including a grey scale. The method is suitable for large-scale printing. — S.C.G.

The washing of photographic and motion-picture materials processed in developing-fixing solutions (in Russian), A. V. Red'ko and P. V. Stepanov, *Tekh. Kino i Televideniya, 17:* 24-26 Aug. 1973.

When monobath processing is used, the time required for washing the film becomes comparable with the time required for the processing itself. Short washing times can be attained with a monobath containing hydroquinone and caustic alkali, removal of sodium thiosulfate being sufficient for archive purposes. — S.C.G.

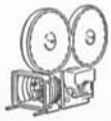
Review of work on motion-picture technology carried out in design offices and under-

THE BACH Auricon® LINE OF 16MM PROFESSIONAL CAMERAS

"CINE-VOICE II"
100 FT. RUNS 2-3/4 MIN.

AURICON "PRO-600 SPECIAL"
400 FT. RUNS 11 MIN.

AURICON "PRO-600"
600 FT. RUNS 16-1/2 MIN.



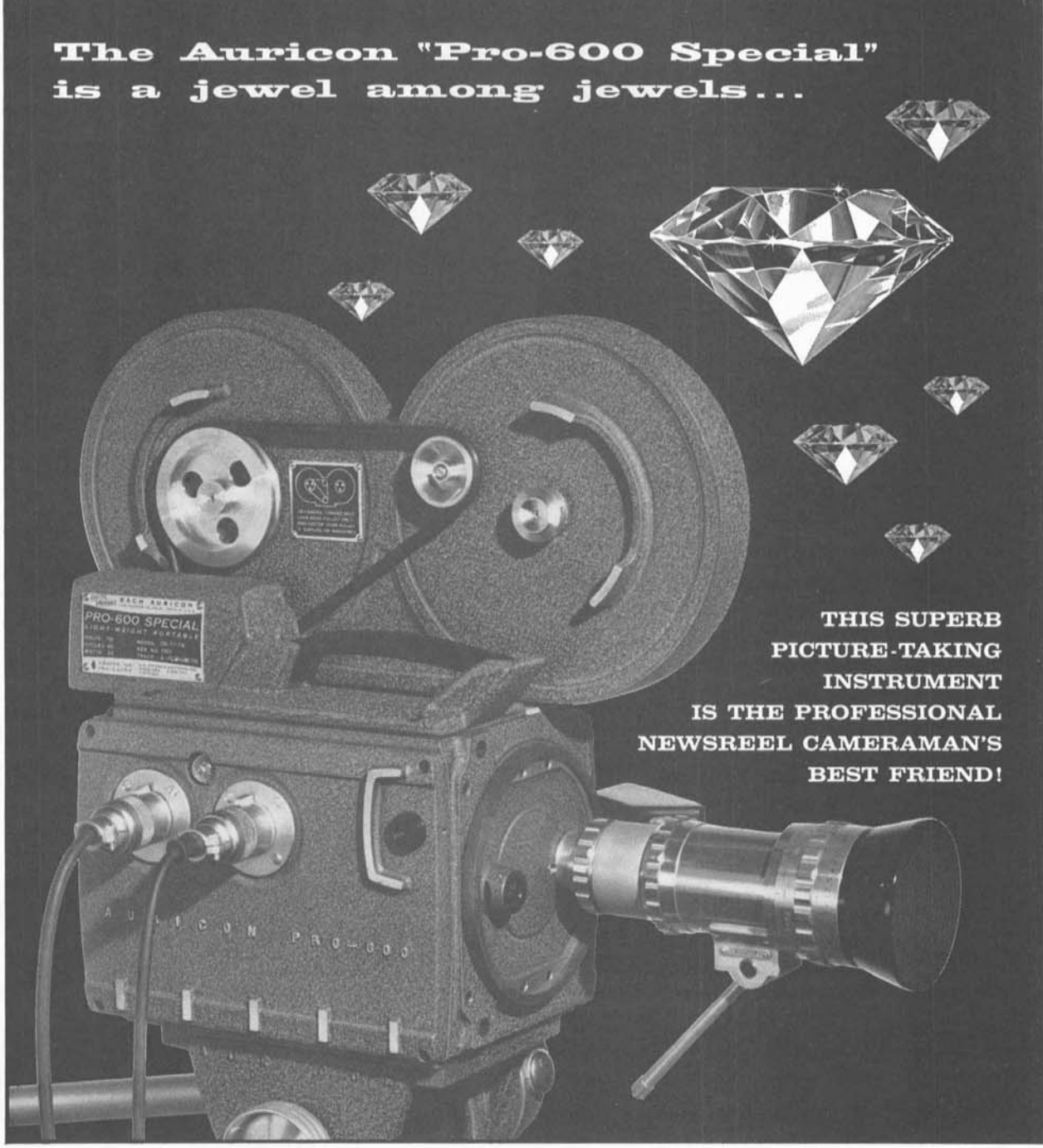
AURICON "SUPER-1200"
1200 FT. RUNS 33 MIN.

GUARANTEE

All Auricon Equipment is sold with a 30-day money back Guarantee and a 1 year Service Warranty. You must be satisfied!

WRITE FOR YOUR FREE COPY OF THIS 74 PAGE AURICON CATALOG

The Auricon "Pro-600 Special" is a jewel among jewels...



THIS SUPERB PICTURE-TAKING INSTRUMENT IS THE PROFESSIONAL NEWSREEL CAMERAMAN'S BEST FRIEND!

ALL OVER THE WORLD, PROFESSIONAL NEWSREEL CAMERAMEN HAVE ACCLAIMED THE AURICON "PRO-600 SPECIAL" FOR ITS PRECISION AND DEPENDABILITY UNDER RUGGED FILMING CONDITIONS!

The great majority of Newsreel Cameramen prefer the Auricon "Pro-600 Special" for the production of 16mm Newsreels and Documentary films. This superb picture-taking instrument, with all of its many built-in professional features, weighs only 24 pounds "ready to travel," yet gives you a choice of 400 or 600 feet of film, with ultimate portability!

The slim-lined "Pro-600 Special" is Self-Blimped for completely quiet operation, so there is no noise for the microphone to pick up, and no need for the heavy, bulky, sound-proof enclosure "blimp" required by all other 16mm cameras when recording sound. The "Pro-600 Special" records Optical or "Filmagnetic" Single-System sound. Because it is driven by a true, synchronous motor, it is also ideal for Double-System sound recording, as well. All of the many Auricon Professional accessories can be added when needed, for field or studio filming, without the use of tools . . . giving complete flexibility! The Auricon "Pro-600 Special" is the perfect answer for large film-capacity Newsreel and Documentary filming . . . with light-weight portability!

More than any other camera ever built, the "Pro-600 Special" has become firmly established as the Newsreel Cameraman's "best friend," because of its jewel-like Quality and proven high Reliability.
Write for free, illustrated Auricon Catalog fully describing this "jewel among jewels."

GET BEHIND AN AURICON "PRO-600 SPECIAL"...

...and know the real satisfaction of filming with a truly Professional Camera!

BACH AURICON, Inc.
6946 Romaine Street, Hollywood 38, California
HOllywood 2-0931

OVER 30 YEARS OF PROGRESS
BACH Auricon
1931-1961

takings [in the USSR] in 1972 (in Russian), O. I. Ioshin, M. G. Yudin, V. I. Glazunova, I. V. Karpov, V. P. Kotelevets, L. N. Krom, V. M. Drozov, I. S. Golod, A. N. Nekhamkin, L. V. Libenzon and A. F. Luk'yanenko, *Tekh. Kino i Televideniya, 17:* 3-18, June 1973.

New designs of motion-picture cameras, lenses, sound-recording apparatus, developing machines, printers, and cinema and studio equipment, prepared in the USSR during 1972 are described. — S.C.G.

Fast method of determining the MTF of photographic materials, H. T. Buschmann, *Phot. Sci. & Eng., 18:* 29-32, Jan./Feb. 1974.

Usually the MTF of a photographic material is determined by scanning sinusoidal test patterns of suitable spatial frequencies. The test patterns are imprinted onto the films and the images scanned by microphotometers. For electrical communication systems random noise is used often to measure the frequency response of the system. In analogy to such systems it is possible to produce random noise optically by using the laser speckle pattern. This speckle noise of defined bandwidth is exposed onto very fine grained photographic plates in order to obtain test patterns of random noise. After copying the pattern onto the film with white or spectrally selected light the analysis is achieved by scanning the copy with a microdensitometer and evaluation of the power spectral density. To obtain the MTF of the material one has to know the power spectral density of the test pattern as well as the spectrum of the granularity of the film at the same density. By using a digital correlation technique and a computer, this method is very fast. Some example of MTF measurements of films are given.

PROJECTION

A study of the main parameters of raster multi-stereo-pair motion-picture projection (in Russian), M. V. Tsivkin, *Tekh. Kino i Televideniya, 17:* 19-25 July 1973.

The factors affecting the image in the formation of a multiple system of stereo pairs in the optical raster method of motion-picture stereoscopic projection are discussed. Recommendations are given for choosing the most effective system. — S.C.G.

SOUND

A New Automatic Noise-Reduction System (ANRS), Masami Yamazaki and Isao Masuda, *Jour. Audio Eng. Soc., 21:* No. 6, pp. 445-449, July/Aug. 1973.

A new noise-reduction system, suitable for use with high-quality cassette tape recorders, is described. The signals of low level are compressed in the recording process and expanded in a complementary way during playback in order to reduce noise without altering the tonal quality of the original sound. In this process, however, the hissing noise inherent in tape recording in the region of 5 kHz, is reduced by approximately 10 dB.

Photographic soundtracks on super-8 films (in Russian), S. D. Karipidi. *Tekh. Kino i Televideniya, 17:* 70-77, July 1973.

A review of the present position in the photographic recording of sound on super-8 films based on Western literature. — S.C.G.

Some problems in the recording of sound on 8mm motion-picture films (in Russian), L. Ya. Anan'ko, R. R. Arnol'd, S. A. Efremova, V. K. Kushnarev and S. V. Marsov, *Tekh. Kino i Televideniya, 17:* 36-39, Aug. 1973.

It is concluded that 8mm film of both the normal and super-8 format may be provided with a magnetic soundtrack with the optimal choice of the variables of the magnetic sound head and contact with the magnetic track. — S.C.G.

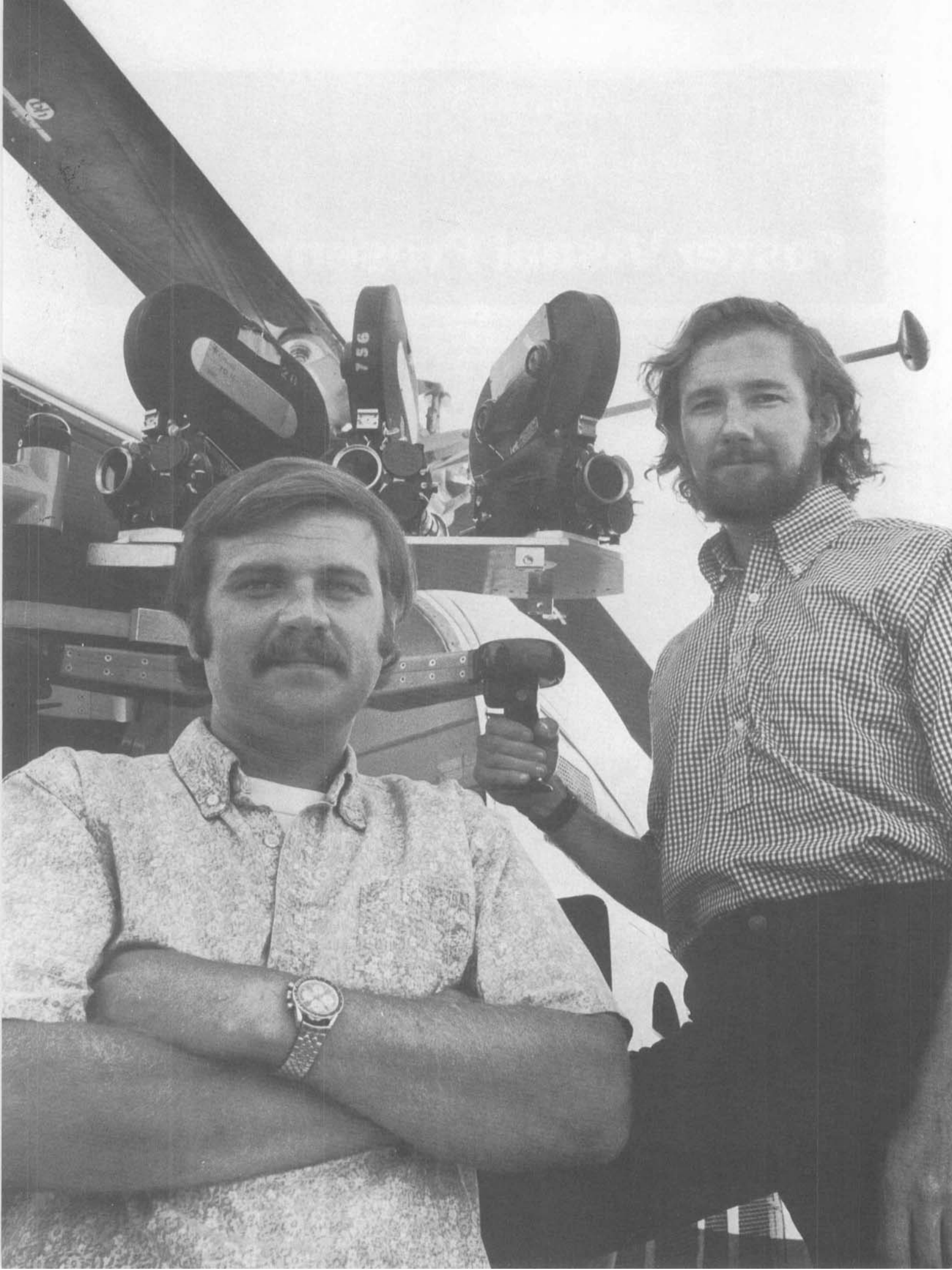
PCM recorder: a new type of audio magnetic tape recorder, N. Sato, *Jour. Audio Eng. Soc., 21:* No. 7, 542-548, Sept. 1973.

The PCM recorder is a new type of audio magnetic tape recorder that records audio signals in the form of pulse codes. The composition and performance of the PCM recorder, are explained in comparison with conventional magnetic tape recorders. The PCM recorder owes its superiority in performance as compared to conventional audio recorders to the adoption of a digital recording system. Quality of reproduction satisfies the most rigid standards for recording of music signals.

TELEVISION

Mariner 9: primary control net, Merton E. Davies, *Photogrammetric Eng., 39:* 1297-1302, Dec. 1973.

The control net of Mar is being computed photogrammetrically from the television pictures taken by the spacecraft during its active year in orbit around Mars.


756

"What we do best happens in twenty twinkles of an eye.

"The experience we had on Jonathan Livingston Seagull was probably pushing nature to the nth degree. We were trying to work in the clouds, the ocean and waves, and of course, the overall beauty of the magnificent Big Sur coastline.

"And then we tried to get a sea gull to fly in the right place. Talk about no chance for a second shot! Consider the background positions, the weather conditions from moment to moment, and it was a matter of crossing fingers three times and hoping that sea gull would fly between you and the backdrop. And occasionally he would, bless his poor little heart.

"Other people in this business have the same worries and pressures. But when they do a scene, they usually get three or four takes for safety reasons. We can't. In our type of shooting there are absolutely no alternatives, whether the subjects are sea gulls, motorcycles, or surfers. Most of the time we work with uncontrolled situations that don't respond to our commands.

"With everything else that's going on, it's really an absolute must that the film be constant, with no variation of quality. Eastman film is probably the reason for one less ulcer between us. It's definitely the most consistent thing in filmmaking."

Jim Freeman (left) and Greg MacGillivray. Aerial photographers of the Oscar winning "Sentinels of Silence" and "Jonathan Livingston Seagull." Directors, photographers, and editors of "Above San Francisco," "Catch the Joy," and "Five Summer Stories." On location shooting a tri-screen spectacular.