

A Coaxial Film Bolometer for the Measurement of Power in the U.H.F. Band (p. 67) *I. A. Harris*

RCA Review vol. XX, No. 4, Dec. 1959

Electroluminescence of Polycrystallites (p. 532) *S. Larach and R. W. Shrader*

The Achievement of Maximum Photoconductive Performance in Cadmium Sulfide Crystals (p. 564) *R. H. Bube and L. A. Barton*

Infrared Photoconductive Detectors Using Impurity-Activated Germanium-Silicon Alloys (p. 599) *G. A. Morton, M. L. Schultz and W. E. Harty*

Sintered Cadmium Sulfide Photoconductive Cells (p. 635) *C. P. Hadley and E. Fischer*

Role of Space-Charge Currents in Light Amplifiers (p. 648) *A. Rose and R. H. Bube*

A Simplified Theory of Two-Carrier Space-Charge-Limited Current Flow in Solids (p. 682) *M. A. Lampert*

A Review of Electrofax Behavior (p. 753) *J. A. Amick*

A Volume-Charge Capacitor Model for Electrofax Layers (p. 770) *J. A. Amick*

Abstracts

Abstracts from other Journals, chosen for importance and timeliness, are published in the *Journal* from time to time. The greater number of these abstracts are translations, chiefly from the U.S.S.R., and made available by the *Kodak Monthly Abstract Bulletin*.

AERIAL PHOTOGRAPHY

The Influence of Atmospheric Smoke on the Contrast of Aerial Photographs Taken From Great Heights and With Wide Viewing Angles

An automatic aerial camera for taking photographs from great heights and with wide viewing angles is described. The basic part of the apparatus is a camera with a 400mm, $f/6.3$ objective. Photographs were obtained on a cloudless day in August on Panchrom X Film (sensitivity, 1000 GOST units) with a ZhS-18 Filter. The exposure time was $1/300$ sec at $f/8$. It is said that high-quality pictures were obtained. (S. C. G.)—[Translated from *Tekh. Kino i Televizeniya*] E. F. Yudin and N. M. Federova. *Optiko-Mekh. Prom.*, pp. 10-13, No. 3, 1959.

CAMERAS AND EQUIPMENT (except High-Speed)

A Universal Portable Device for Shooting Tests on Motion-Picture Cameras

The device consists of a tube which fits into the lens mount of the camera and which contains an objective at a distance of twice the focal length from the plane of the film and a test object at twice the focal length from the objective on the other side, with a light source behind the test object. Methods for carrying out a number of different tests on the camera with the apparatus are described. (S. C. G.)—O. I. Reznikov. *Tekh. Kino i Televizeniya*, pp. 73-5, Nov., 1959.

Czechoslovak Motion-Picture Apparatus

A survey of the products of the Czechoslovakian motion-picture industry includes descriptions of 8mm motion-picture cameras for amateur use, professional motion-picture cameras, projectors, sensitometric

QUALITY FILM PRINTING With These New High Speed

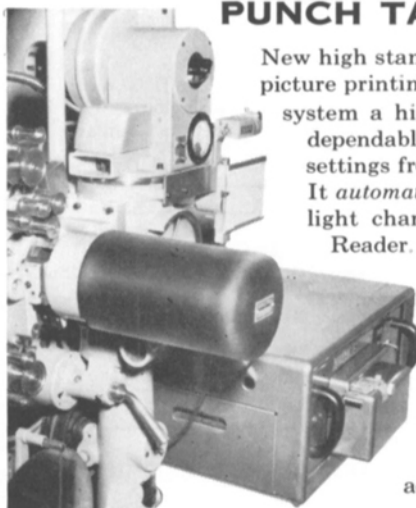
Fully Automatic SHUTTER SYSTEMS



HURLETRON

PUNCH TAPE CONTROL

New high standards of quality in motion picture printing are now possible! Under this system a high speed shutter moves accurately and dependably through the entire range of printer light settings from 0 to 22... at increased printer speeds! It automatically adjusts to short scene and extreme light changes controlled by the Hurtletron Tape Reader. Output per man hour is greatly increased and human errors due to fatigue are eliminated!



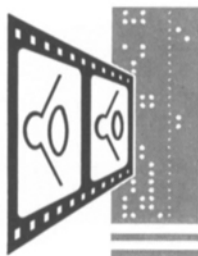
Program intelligence control tape produced on the Hurtletron Dial-Matic Perforator provides a permanent accurate control of all necessary printer, fader and shutter functions. The Hurtletron Tape Reader can also be adapted for use with any punch tape code.

HURLETRON

PROGRAMMING BOARD CONTROL

The automatic Hurtletron Programming Board Control provides the same excellent performance as the tape system. Once preset to the original, it will produce the number of quality film prints necessary without resetting... ideal for loop printing! It is lower in initial cost.

Installation of all these Hurtletron units is simple and easy. A Hurtletron Field Service Engineer is available to assist in installing and training of operators as part of our complete service. Write today for complete details.



ELECTRONIC SYSTEMS, INC.

Subsidiary of
**ELECTRIC EYE
EQUIPMENT COMPANY**
DANVILLE, ILLINOIS

Professional Services

Professional cards available
to members
12 insertions, 2 x 1 in., \$60

IN THE SOUTHWEST
For Equipment and Stage Rental
Technical and Creative Personnel
Complete 16mm and 35mm
Laboratory and Producer Services
H's BIG "D" FILM LABORATORY, Inc.
4215 Gaston Plaza, Dallas 10, Texas.
TAYlor 7-5411 I.A.T.S.E.

BERTIL I. CARLSON
Photoproducts Co.
*Consultants, designers, builders
in PHOTO INSTRUMENTATION*
Box 60, Fort Lee, N. J.

CRITERION
FILM LABORATORIES, INC.
*Complete laboratory facilities for 16
& 35mm black-and-white and color*
33 West 60th St., New York 23, N. Y.
Phone: COLUMbus 5-2180

ELLIS W. D'ARCY & ASSOCIATES
Consulting and Development Engineers
Xenon-Arc Applications
Motion-Picture Projection
Magnetic Recording and Reproduction
Box 1103, Ogden Dunes, Gary, Ind.
Phone: Twin Oaks 5-4201

16mm Complete Color
and Black & White
Motion Picture
Laboratory Services
including
Sound Recording
FISCHER PHOTOGRAPHIC LABORATORY, INC.
6585 North Ave., Oak Park, Ill., EUclid 6-6603

RENT 16mm, 35mm, 70mm
Motion Picture Cameras
High Speed Cameras
Special Cameras
Lenses
Lights
Processing Equipment
Editing Equipment
GORDON ENTERPRISES
5362 N. Cahuenga, North Hollywood, Calif.

IN THE CENTER OF THE U. S.
8mm OVERNIGHT
16mm BLACK & WHITE
PROCESSING
HAROLD'S FILM SERVICE
Box 929—Sioux Falls, South Dakota

COLORTRAN CONVERTER
LIGHTING EQUIPMENT
The most illumination for the least investment
CROSS COUNTRY RENTAL SYSTEM
ELIMINATES COSTLY SHIPPING
writes for catalog
NATURAL LIGHTING CORP.
630 S. Flower St., Burbank, Calif.

TUFF COAT
Multiplies the useful life of all types of preprint
and release film. Protects from scratches and
abrasions. Safe, easy to use. Kills static, cleans
and lubricates. Special type available for
Videotape, Magstripe and Lacquered footage.
Send for Brochure "S"
NICHOLSON PRODUCTS CO.
3403 Cahuenga Blvd. Los Angeles 28, Calif.
Ho. 7-1712

SAVE Users of Permafilm Protection and
25-50% Perma-New Scratch Removal show
ON savings ranging from 25% to 50%
PRINT and more by lengthening the life of
COSTS their prints. A money-back test will
convince you.
PERMAFILM INCORPORATED
723 7th Ave.-New York 19-CI 6-0130
PERMAFILM INC. OF CALIFORNIA
6446 Santa Monica Blvd.
Hollywood 38-HO 4-4168

PHOTOGRAPHIC
INSTRUMENTATION
Specializing in
HIGH-SPEED
Motion-Picture Photography
Photographic Analysis Company
100 Rock Hill Rd., Clifton, N. J.
Phone: Prescott 9-4100

PROFESSIONAL MOTION PICTURE
PRODUCTION EQUIPMENT
Cameras, Sound Recording, Editing,
Laboratory and Affiliated Equip.
Consulting Services by Qualified Engineers
Domestic and Foreign
REEVES EQUIPMENT CORP.
8 Third Ave., Pelham, N. Y.
Cable: REEVESQUIP, PELHAMNY

SUPPLIERS
PHOTOGRAPHIC CHEMICALS
and
Consultants in Photographic Chemistry
L. B. Russell Chemicals, Inc.
14-33 Thirty-First Avenue
Long Island City 6, New York
RAvenswood 1-8900

FILM PRODUCTION EQUIP.
SALES World's largest source—practically every need for producing, processing, recording, editing motion picture films.
LEASING
SERVICE S.O.S. CINEMA SUPPLY CORP.
New York City: 802 West 52nd Street, Plaza 7-0440
Hollywood, Calif.: 8331 Hollywood Blvd., HO 7-2124

ALL 16mm PRODUCERS SERVICES
Equip. Rentals • Technical Crews
40 x 70 Sound Stage
16mm LABORATORY FACILITIES
Exclusive TRIAD Color Control
Additive Color Print Process, Plus B & W
SOUTHWEST FILM CENTER
3024 Ft. Worth Ave., Dallas 11, Texas

16mm CENTRAL PROCESSING
SERVICE
Ansochrome Ektachrome ER
Reversal—Negative—Positive
Printing—Recording—Rental—Editing
WESTERN CINE SERVICE, INC.
114 E. 8th Ave., Denver 3, Colo. AMherst 6-3061

apparatus, lighting equipment, and sound-recording apparatus. (S. C. G.)—I. Struska. *Tekhn. Kino i Televideniya*, pp. 69-74, Sept., 1959.

Cellulose Acetophthalic Esters as Film-Forming Lacquer Layers

Descriptions and results are given of experimental work, the object of which was to determine the feasibility of using cellulose acetatephthalate as a film-forming pigmented-lacquer layer on motion-picture film (antihalation and protective); it is easily washed off in processing the film in alkaline photographic solutions. (S. C. G.)—[Translated from *Tekhn. Kino i Televideniya*] L. V. Rozental and O. K. Smirnov. *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 101-04, No. 4 (27), 1958.

Study of the Properties of Cellulose Ester Film Base at Low Temperatures

A report is given of a study of the frost-resistance properties of bases made from various cellulose esters and the alteration in these properties following the introduction of plasticizers into the composition of the base and coating single on it. (S. C. G.)—[Translated from *Tekhn. Kino i Televideniya*] G. V. Avilov and E. K. Podgorodetskii. *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 54-65, No. 4 (27), 1958.

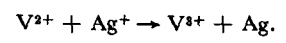
Methods of Determining the Safety of Motion-Picture Film

The results of work on the determination of a quantitative safety index for film are reported. The properties of Soviet-produced acetate and triacetate films and those of some samples of foreign safety film have been confirmed, and compared with the analogous properties of nitrocellulose film. (S. C. G.)—[Translated from *Tekhn. Kino i Televideniya*] G. V. Avilov, D. M. Yuzhnaya, and E. K. Podgorodetskii. *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 149-54, No. 4 (27), 1958.

FILM PROCESSING APPARATUS AND CHEMICALS

The Development of Films From Television Recording With Divalent Vanadium Ions

In the rapid development of cinematograph film generally carried out with the aid of a strongly alkaline Metol-hydroquinone developer, e.g., with caustic soda, at a high temperature, there is an increase in grain and a lowering of the speed of the emulsion, which is particularly noticeable in the case of 16mm film. The paper describes a developer with V²⁺ ions which exhibits considerable advantages over earlier ones in this connection. The time of development, when it is used, is 20 sec at a temperature of 15 C instead of 5 min at 20 C with Metol-hydroquinone. The starting material used for vanadium development is V₂O₅, from which is obtained the 4-valent vanadium compound which is reduced by electrolysis to the divalent vanadium salt. The process of development of the film by vanadium ions may be represented by the equation,



The V³⁺ ions exhibit a very slight developing power, but may be electrolytically re-

duced again to the V^{3+} ion. In this way, the vanadium developer is easily regenerated. A disadvantage of development in a new developer is the instability of the process because of the tendency of the developer to oxidation by atmospheric oxygen, and hence the electrolysis apparatus and the whole circulation system must be completely isolated from the air. The degree of activity of the developer is shown, as is well known, by its oxidation-reduction potential. In the case of a new developer, the ions V^{4+} , V^{3+} , V^{2+} possess the spectral characteristics of their oxidation-reduction potentials. The activity of the developer is determined according to the increased speed, obtained by controlling the spectral characteristics of the vanadium ions. The suitability of the vanadium developer for high-speed development of photographic film was confirmed in newly constructed automatic developing machines still requiring some improvements. (S. C. G.)—[Translated from *Referativnyi Zhur., Fiz.*] K. Takushiro. *Techn. J. Japan Broadcast Corp.*, pp. 19-26, No. 32, 1957 (in Japanese).

Study of a Section of a Multiple-Loop Film-Transport Mechanism, in Which the Upper Axle Is Fixed, While the Lower Axle Is Turned by a Friction-Drive Roller

The results are set out for the study of a section of a film-transport mechanism applied to three cases: (1) in which the upper and lower axles with rollers are set in air; (2) in which the upper axle roller is set in air, and the lower is set in a photographic solution; and (3) in which the upper and lower axles with rollers are set in a photographic solution. For all three cases, calculations were made and curves were obtained showing the change of tractive forces on the film in the film-transport mechanism. (S. C. G.)—[Translated from *Tekh. Kino i Televideniya*] I. S. Golod. *Informatsionno-tekhn. Byull. TsKB Minist. Kultury S.S.S.R.*, pp. 7-16, No. 3 (7) [or 17?], 1958.

The 71P-1 Film-Restoring Machine

A report is given of the development of a new type of film-restoring machine, the 71P-1, intended for restoration and protective treatment of both sides of black-and-white and color film prints, 35 mm and 16 mm, under the conditions of district and regional hiring. The machine may be used for the general treatment or for specific operations by using the required units only: viz., cleaning the emulsion layer and base, restoration of damaged picture layer or base, and their treatment. Constructional details of the machine are given. The method of loading, the kinematic lay-out, and the electrical circuit are outlined. (S. C. G.) [Translated from *Tekh. Kino i Televideniya*] V. F. Golosov. *Informatsionno-tekhn. Byull. TsKB Minist. Kultury S.S.S.R.* pp. 3-6, No. 3 (17) [or (7)?], 1958.

FILM PROCESSING APPARATUS AND CHEMICALS

Automation of the Regeneration of Fixing Solution and Electrolytic Deposition of Silver in the Processing of Motion-Picture Film in Developing Machines

A detailed description is given of a fully automatic unit for the electrolytic precipitation of silver from a fixing solution which is continuously circulated in a developing machine. In addition to the removal of silver, the unit automatically provides for the replenishment of the sodium thiosulfate.—(S. C. G.)—A. I. Kalinikos and N. I. Snyatkov. *Tekh. Kino i Televideniya*, pp. 1-12, Oct., 1959.

A Study of the Possibility of Increasing the Photographic Speed of Panchromatic Films by Means of Cyclic and "Starved" Development

High-speed panchromatic films give their best detail-rendering with a gamma of 1.7, but when developed to this gamma, some films show speeds three to four times below the nominal. In order to raise the film speed while developing to this particular gamma, cyclic and "starved" development have both been tried. In cyclic development, the film is passed through the developer, rewound, and left for a short while, this cycle being repeated as often as required (in this case three times.) For a given gamma, the speed was raised by this method 20 to 40 per cent in comparison with normal development. In addition, the film was developed more uniformly along its length. "Starved" development consists in soaking the film until saturated in the developer at a low temperature, removing it, and leaving it until development is complete. This form of development gave an increase in speed of about twice for a given gamma. The latitude of the film was also increased approximately twice, and there was an increase in the maximum density. Recommended formulas for starved development are given. (S. C. G.)—K. I. Markhilevich and V. L. Abritalin. *Zhur. Nauch. i Priklad. Fotografii i Kinematografii*, 4: 433-37, No. 6, Nov.-Dec. 1959.

The Calibrated and Uniform Application of Processing Solutions to Continuously Moving Film

Consideration is given to the fundamental conditions which ensure a calibrated and uniform application of processing solutions to a continuously moving film. On the basis of the derived equations, it is shown how the volume of a solution applied to the film depends on different factors arising in the use of different types of apparatus with dip-coating rollers, transfer-coating rollers, etc. The action of wetting agents in the application of processing solutions to the continuously moving film is considered, and the conditions are indicated for obtaining their uniform distribution over the surface of the film. In the experimental part of the paper, a study is made of the action of different wetting agents on the uniformity of application of developing and fixing solutions to the film. [Translation of Authors' Abstract] (S. C. G.)—S. M. Levi, N. J. Maslenkova, and N. I. Kirillov. *Tekh. Kino i Televideniya*, pp. 18-25. Dec., 1959 (in Russian).

only
CINE-LIGHT
PASSES THE
RELIABILITY
TEST !!!



Cinematographers agree that the Cine-Light 250B has no equal for reliable performance. Offering 20% more light, and far greater lamp and battery efficiency than any other unit on the market today, the Cine-Light 250B provides 30 continuous minutes of shooting time at 250 watts output. There is no chance of missing that "once-in-a-lifetime" shot. Cine-Light's heavy duty filament maintains consistent color temperature throughout the lamp's life-expectancy. Equipped with sealed and vented nickel-cadmium batteries. Separate Transistor-Controlled Dual-Action battery charger furnishes automatic high rate charging assuring 90% -100% of full capacity within 4 hours. Prevents overcharging to preserve long battery life. Adjustable, anodized and polished 9" reflector — concentrates light where you desire — allows either spot or flood-type beam patterns. Engineered with your shoulder in mind — COMPACT, LIGHTWEIGHT, EASY TO CARRY.



Write for full details on the outstanding Cine-Light 250B.

ADVERTISED IN
LIFE

ELECTRO POWERPACS, INC.

A Subsidiary of Hydra-Power Corporation
5 HADLEY STREET, CAMBRIDGE 40, MASS.

Electro Powerpacs, Inc.
5 Hadley Street
Cambridge, Mass. TV-5

Gentlemen:
Please send me complete information on the Cine-Light 250B.

Name _____
Address _____
City _____ State _____

New Equipment for Manufacturing Vinylpolymer Tanks for Developing Machines

Specially devised equipment for heating, bending, and welding the parts of vinylpolymer tanks are considered: the PM-1 equipment for heating the parts; the SP-1105 press for bending; and the SM-1 machine for welding the walls of the tank. Constructional details are given and also the electrical circuit of the equipment and the technological manufacture of the vinylpolymer tanks for developing machines. It is shown that the use of this equipment increases output by 20 per cent. It is simple and pays for itself in 1.5 to 2 months. (S. C. G.)—[Translated from *Tekh. Kino i Televideniya*] P. N. El'ster and A. M. Chesnokov. *Informatsionno-Tekh. Byul. TsKB Min. Kultury S.S.R.*, pp. 3-16, No. 4 (18), 1958. (In Russian)

COLOR PHOTOGRAPHY

DS-3 Color Negative Motion-Picture Film

A new, improved color negative film has been developed by the research institute, NIKFI, in collaboration with one of the Soviet film factories. It is a daylight-type film, like the earlier DS-2 Film. The DS-3 has only the three emulsion layers, differing from the DS-2 in that the colloidal silver layer has been replaced by dyeing the top, blue-sensitive, layer yellow. It has improved color rendition, owing to the use of a better magenta coupler, and improved

resolving power due partly to the yellow dye and partly to a higher silver/gelatin ratio than that in the DS-2 and a corresponding decrease in thickness of the emulsion layers. Speed has been doubled, but other sensitometric characteristics remain the same. (S. C. G.)—I. M. Kilinskii, Yu. B. Vilenskii, and A. N. Iordanskii. *Tekh. Kino i Televideniya*, pp. 15-17, Aug. 1959.

New Type Make-Up Material for Color Motion Pictures and Color TV

Skin-color types are analyzed colorimetrically as part of an evaluation of a new cosmetic make-up, called "High-con Color Stick," (Japanese Color Research Institute) which is intended for use in the production of professional motion pictures. (W. F. W.)—*Mot. Pict. Engineering J.* (Japan), pp. 1-8, No. 81, Aug., 1958. (Translation T-2921.)

General

Speeding-Up Technical Progress and the Introduction of Advanced Techniques into Cinematography and the Cinema Industry

The present phase in Soviet economic and cultural development requires a considerable extension of motion-picture photography. A number of points are discussed on which effort is to be concentrated. The use of 70mm film is to be greatly extended and its production is to be increased by a factor of 4.4. The development of magnetic picture recording is to have high priority.

Every effort is to be made to introduce rationalization, mechanization, and automation into the manufacture of film, into the film studios, and into the cinemas. Film-printing laboratories are to increase their capacity, and once again automation is stressed; the control of quality should be much improved by automatic methods. The imbibition printing of color-film prints is to be greatly extended, and multilayer color-negative films containing masking couplers are to be improved to give better color rendering and sharpness.

The effects of these problems on the work of the research institutes, especially NIKFI, and the factories are discussed. (S. C. G.)—V. G. Komar. *Tekh. Kino i Televideniya*, pp. 1-6, Nov. 1959.

HIGH-SPEED PHOTOGRAPHY

Calculation of an Optical System for Combining a High-Speed Cine Camera With Shadow and Interferometric Apparatus

E. A. Tarantov. *Zhur. Nauch. i Priklad. Fotografii i Kinematografii*, 4: 375-79, No. 5, Sept.-Oct. 1959.

The 1-KSK Motion-Picture Camera for High-Speed and Special-Effects Cinematography

The Soviet 1-KSK motion-picture camera operates at rates as high as 132 frames/sec on a single film, or 96 frames/sec on two films in special effects work. Other types of special effects are also possible. The mechanics and optics of the camera are described. (S. C. G.)—G. A. Shmidt. *Tekh. Kino i Televideniya*, pp. 55-9, Aug. 1959.

Synchronizing Apparatus for the RKS-1 High-Speed Camera and a Taking Speed Meter

A circuit is given for synchronizing the Soviet RKS-1 high-speed camera with electronic flashlamps. The taking-speed meter described measures the speed of rotation of the camera mirror by electromagnetic means. (S. C. G.)—V. P. Gusev, A. S. Zingerman, and S. M. Provornov. *Tekh. Kino i Televideniya*, pp. 13-17, Sept. 1959.

OPTICS

A Photoelectric Microphotometer for Testing Photographic Objectives

There are several characteristics which govern the quality of an optical image; among these the frequency-contrast characteristic has received the widest use. By frequency-contrast characteristic of an objective is understood the characteristic of the image quality and the characteristic of the objective for a certain range of frequencies in the image of a sinusoidal test object.

A layout is given for a laboratory photoelectric microphotometer for determining the contrast of an optical image, consisting of an optical bench and a photoelectric measuring device. Results of measurements are given. (S. C. G.)—[Translated from *Tekh. Kino i Televideniya*] A. T. Ashceulov, T. A. Pavlichuk, and M. D. Khukhrina. *Optiko-Mekhanicheskaya Prom.*, pp. 4-7, No. 6, 1959.

at your service!

16MM BLACK & WHITE

reversal printing and processing

COLOR PRINTING

FAST, EXPERT ATTENTION
TO EVERY JOB!

- Fastax Service
- A&B Roll Prints
- Fades-Dissolves
- Timed Prints
- Work Prints
- Color-to-Color Prints
- Color-to-B & W Prints
- Security Clearance

Write for
complete information . . .
Circular E

LAB-TV

11th FLOOR
Judson 6-2293
723 Seventh Avenue at 48th Street, N. Y. 19, N. Y.

The Accuracy Required in Making Kinematic Layouts for Certain Objectives With Variable Focal Lengths

The article is devoted to the solution of the following problems: (1) the determination of the tolerances necessary in making a kinematic system; and (2) the calculation of corrections for the coefficients of the equation of motion after the preparation of the separate components of the setup.

Values are worked out for the angles of a paraxial beam, calculated for a determined set of conditions, and the value of tolerances on displacement of the separate components. (S. C. G.)—[Translated from *Tekh. Kino i Televideniya*] M. S. Stefanskii. *Optiko-Mekhanicheskaya Prom.*, pp. 11-13, No. 8, 1959.

New Developments in Cinematographic Optics and the Immediate Tasks in This Field.

This survey is limited to recent cinematograph objectives produced in the Soviet Union by GOI (State Optical Institute), the Central Constructional Bureau of the Ministry of Culture of the Soviet Union, and LIKI (Leningrad Institute of Motion-Picture Engineers). The types of objectives covered are: (1) fast, short-focus, wide-angle, anastigmats with a large back focal length; (2) fast, long-focus telephoto objectives; (3) improved objectives with normal optical characteristics; (4) anastigmats for general, wide-screen, and panoramic projection; (5) anamorphic optical systems for wide-screen cinematography; and (6) fast, wide-angle anastigmats for cinematography on wide-gauge film. (S. C. G.)—D. S. Volosov. *Tekh. Kino i Televideniya*, pp. 1-12, Sept, 1959.

PROJECTION

The Focusing of a Projection Lens and the Angle of Projection

A curve shows the relation between the displacement of a motion-picture projection lens for focusing, its focal length, and distance from the screen, and formulas are derived for calculating the dimensions of a screen for inclined projection. (S. C. G.)—[Translation of *Referativnyi Zhur., Fiz.*] *Motion Picture Engineering Rep.*, pp. 12-13, No. 88, 1957. (In Japanese.)

The Problem of the Conditions for the Perception of Motion-Picture Images

Analysis is made of the conditions necessary in a motion-picture auditorium to give the viewer as natural an impression of the subject imaged as possible. It is concluded that, apart from a full stereoscopic presentation, the panoramic forms, with either three separate films or a single wide film, meet these conditions to a very high degree. (S. C. G.)—E. M. Goldovskii. *Tekh. Kino i Televideniya*, pp. 13-23, Oct. 1959.

Method of Evaluating the Quality of Stereoscopic Projection on a Grid-Type Stereoscopic Screen

The quality of grid stereoscopic screens is determined by the dimensions of the working region for the central and size zones of stereoscopic vision and the magnitude of the coefficient of separation of the images of the stereographic pair. The magnitude of the separation coefficient de-

pends not only on the quality of the lenticular screen but also on the reflecting surface and on the adjustment of the grid with the reflecting surface. The coefficient of separation is a characteristic of the quality of perception of a stereo image and the parameters of the working region of the zone determine the degree of ease of perception of a stereo image on a grid stereoscopic screen. (S. C. G.)—[Translation of Author's Abstract] L. V. Akimakina. *Zhur. Nauch. i Priklad. Fotografii i Kinematografii*, 4: 363-66, No. 5, Sept./Oct. 1959.

A Method of Calculation for Elliptical Polished Reflectors for Motion-Picture Projectors

A method is described for calculating the change in thickness of a reflector glass on polishing, allowing the calculation of aberrations up to practically insignificant values. This gives the possibility of a simple method of polishing and preparing a high-quality reflector with a large collecting angle. The method set out has great importance in the wide application of the new light sources—the spherical xenon high-pressure lamps—in motion-picture projection. (S. C. G.)—[Translated from *Tekh. Kino i Televideniya*] G. A. Golostenov, A. N. Lazareva, and Ts. I. Ezrokhi. *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 5-23, No. 30, 1959 (in Russian.)

Influence of the Finish of Sprocket-Teeth Surfaces on the Wear of Film Perforations

Curves showing the wear on perforations by sprocket teeth with different milling finishes are presented. [Abstractor's Note: Since the finishes are given the designations prescribed in a Russian Standard, it is not possible to translate the results in terms of British practice in the absence of that Standard.] (S. C. G.)—S. M. Pertsev. *Tekh. Kino i Televideniya*, pp. 50-4, Sept. 1959.

One or Three Lenses for the Panoramic Cinema?

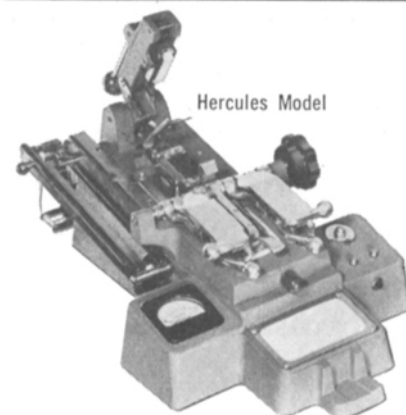
The author regards panoramic cinematography with a curved screen as superior to wide-screen systems. A comparison is made between the systems using three separate cameras and projectors (Cinerama in the United States and Kinopanorama in the Soviet Union) and the Todd-AO system which uses only one camera and one projector, and requires a wide-angle lens and 70mm film. It is concluded that the three-lens system is the more desirable of the two, and that the wide-format system can only be regarded as an improved, but more expensive, version of the wide-screen system. (S. C. G.)—A. A. Lapauri. *Tekh. Kino i Televideniya*, pp. 41-5, Sept. 1959.

SOUND RECORDING AND REPRODUCTION

The Theory of Transverse Magnetic Signal Tracks With Varying Intensity

Consideration is given to the problem of the frequency characteristic of the surface induction of a magnetic signal track with varying intensity on a tape carrier, in the

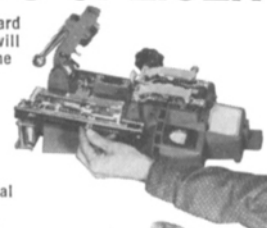
NEW INTERMIX PRESTO-SPLICER HANDLES EVERY JOB



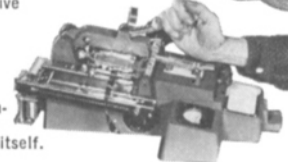
Newly modified Presto-Splicer butt-welds motion picture film, microfilm, acetate, mylar, Polyester, safety-base, paper . . . or any other kind of tape or film . . . AND INTERMIXES ANY OF THESE MATERIALS making a failure-proof, invisible weld that is literally the strongest part of the tape. Every splice you make will be a cleaner splice . . . a stronger splice . . . a PERMANENT splice, with

PRESTO-SPLICER

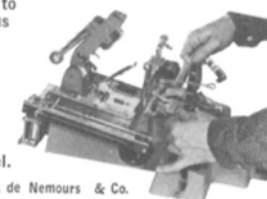
Slide handle toward you as far as it will go. This brings the special Mylar* tape with thermal setting adhesive into position.



Splice in the usual manner. Heat sets the adhesive but does not disarrange the molecular structure of the tape. The bond is permanent, stronger than the film itself.



Use the trimmer to remove the surplus tape. The entire procedure is so simple, so positive, that no special training is needed for your existing personnel.



*T.M. E. I. duPont de Nemours & Co.

For further information, write

**PRESTOSEAL
MANUFACTURING CORP.**
37-27 33rd Street
Long Island City 1, N. Y.

case in which the tape is magnetized perpendicular to the plane of its working surface. Formulas are derived for calculating the losses occasioned by the self-demagnetization of the transverse signal track. A comparison is made of the frequency characteristics of the surface induction for the transverse and linear systems. (S. C. G.)—[Translation of Author's Abstract] V. A. Geranin. *Tekh. Kino i Televideniya*, pp. 47-50, Oct. 1959.

The Conversion of a Single Channel to a Stereophonic Soundtrack

V. M. Ottochek and A. V. Chernochenko. *Tekh. Kino i Televideniya*, pp. 51-7, Oct. 1959.

Calculation of a Correcting Link in the Recording Head Circuit of a Magnetic Recorder

I. G. Minaev. *Tekh. Kino i Televideniya*, pp. 62-3, Nov. 1959.

A Method of Determining the Surface Residual Induction of Magnetic Sound Carriers

Yu. A. Vasilevskiy and A. S. Popova. *Tekh. Kino i Televideniya*, pp. 36-44, Dec. 1959. (in Russian.)

A Single Technology for Magnetic Sound-Recording in the Production and Dubbing of Art Films

Discussion on a single technology for magnetic sound-recording in the production and dubbing of art films has proceeded in a number of articles in *Tekhnika Kino i Televideniya* during 1959. A commission has

been set up by the Ministry of Culture of the Soviet Union (to which the motion-picture industry is responsible) with the task of settling the question of a single system for use through the Soviet studios. The chairman of the commission now puts forward the recommendations. They are based on the use of 35mm magnetic tape at a speed of 456 mm/sec. [18 in/sec], and cover the original recording, methods of editing, transfer to the positive film, and some other points. (S. C. G.)—M. A. Genisaretskii. *Tekh. Kino i Televideniya*, pp. 46-9, 1959.

TELEVISION

Method of Compensating for Uneven Film Movement in [Television] Systems With A Flying-Spot Tube

In apparatus for television transmission or cinematography of television images, departures of the film-transport speed from the average cause a falling-off of the definition of the television image and variation in the mean position of the television raster. The method proposed allows for compensation of the uneven motion of the film with the aid of supplementary vertical displacements of the television raster proportional to the integral of the varying component of tension of a film-speed indicator. (S. C. G.)—[Abridged translation from *Tekh. Kino i Televideniya*] Russian 115, 127. G. V. Braude. Filed July 7, 1956.

Journals Available/Wanted

These notices are published as a service to expedite disposal and acquisition of out-of-print Journals. Please write direct to the persons and addresses listed.

Available

Complete file, Vol. I No. 1 through Dec. 1959 with indexes. Fine condition: \$500. James G. Barrick, 15726 Fernway Ave., N.W., Cleveland 11, Ohio.

Complete set of Transactions, except Nos. 6 and 9, and all Journals published to date, including indexes. All in good condition. Price \$500. Also extra copies of Transactions Nos. 21, 31, 32. W.W. Hennessey, RFD #2, Pound Ridge, N. Y.

Complete set of Journals from May 1937 to June 1954, including special volumes and membership directories, excellent condition; also Mar., May 1934 and July 1935 issues. Write: Harry R. Lubcke, 2443 Creston Way, Hollywood 28, Calif. HO 9-3266.

Jan.-Dec. 1950; Jan., Feb., Apr.-Dec. 1951; Jan.-Mar. 1952. Also available are vols. 6 and 7 of The Television Society (British) covering the period Jan. 1950 through Sept. 1955. Write: Andrew N. McClellan, 65 Hillside Drive, Toronto 6, Ont., Canada.

Dec. 1946, Feb.-Dec. 1947, 1948-1955 complete. All copies in perfect condition; for sale as entire lot only. Write: Joseph W. MacDonald, 2414 Sullivant Ave., Columbus 4, Ohio.

Jan. 1947 to Dec. 1957 complete and in perfect condition. For sale only as a set. Write: Charles J. Marshall, 2816 Royalston Ave., Kettering, 19, Ohio.

Complete set of Journals Jan. 1949 to Dec. 1958. Perfect condition. What offers? Write: J. G. Jackson, 210 Kingsway South, Port Alberni, B.C., Canada.

Assortment of Journals, from 1937 through 1950. Write: Alan Cook, South Londonderry, Vt.

Wanted

Jan. 1938. E. Raymond Arn, Film Associates, Inc., 4600 S. Dixie Ave., Dayton 9, Ohio.

Feb., Mar., Apr., June 1934. Mrs. Janet Van Duyn, Librarian, CBS Laboratories, 227 High Ridge Rd., Stamford, Conn.

Journals—Bound volumes. Write: S. P. Solow, Consolidated Film Industries, Inc., 959 Seward St., Hollywood.

Transactions 6 and 9 (\$15 each offered). W. W. Hennessey, RFD #2, Pound Ridge, N.Y.

Jan. 1938, Jan. 1949. (Many other issues are available for trade.) Dept. of Cinema, Univ. of Southern Calif., University Park, Los Angeles 7. Att: Herbert E. Farmer.

Transactions No. 1, 1916 (\$5 offered); No. 6, 1918 (\$10 offered); No. 7, 1918 (\$10 offered). James G. Barrick, 15726 Fernway Ave., N.W., Cleveland 11, Ohio.

DRIVE SPROCKETS FOR PERFORATED TAPE

These drive sprockets are typical of the production of high precision machine parts considered a specialty at LaVeZZi. They can be manufactured to your specifications, held to extreme tolerances on pin diameter and registration, wheel diameter and concentricity, and can include hardened steel pins. The program on which you are working may need parts of this quality and we invite your quotation requests. Write for brochure today.

LaVeZZi MACHINE WORKS
4635 WEST LAKE ST., CHICAGO, ILLINOIS