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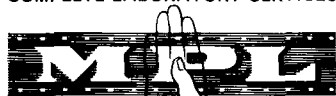
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For the first time the Section meeting was opened with a short film. It was about Eastman's E 910 adhesive cement. Sample bottles of the cement were distributed and provoked some discussion after the screening.—Clifton R. Skinner, Secretary-Treasurer, c/o Skinner, Hirsch and Kaye, 336 Funston Ave., San Francisco 8.

The San Francisco Section met on June 13 at KGO-TV Studio A with an attendance of 36. Guest speaker was Joseph Roizen who spent one year in Europe inspecting Ampex Video-Tape Machines.

Mr. Roizen, who was accompanied to Europe by his family, told of many interesting experiences and illustrated his talk with motion pictures. He showed films of the Olympic games in Italy and several video-tape machines from different countries.

This was one of the most entertaining evenings that we have had and the Section is deeply appreciative of the time and effort that Mr. Roizen and his wife contributed to make it so.—Clifton R. Skinner,

Secretary-Treasurer, c/o Skinner, Hirsch & Kaye, 336 Funston Ave., San Francisco 8.

The San Francisco Section met on July 11 at the University of California, Berkeley. The interesting and informative meeting on Problems and Solutions of Television in the Educational Field was arranged by Al Isberg and Ken Winslow.

Mr. Isberg's report on the progress being made in this field was based on information he had collected during an eastern tour of educational institutions. His discussion was illustrated with 16mm films showing instructive television.

Bill Palmer displayed his latest Motion Picture Video Camera following Mr. Isberg's talk. There was great interest in this piece of equipment, the showing of which had not been previously announced.

Prior to the meeting, the group attended a social hour and dinner hosted by Mr. and Mrs. Isberg at the faculty club house.—Clifton R. Skinner, Secretary-Treasurer, c/o Skinner, Hirsch & Kaye, 336 Funston Ave., San Francisco 8.

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*.

The subject areas are grouped below

- Aerial Photography
- Cameras and Equipment (Except High-Speed)
- Color Photography and Color Development
- Film and Its Properties
- Film Processing Apparatus and Chemicals
- High-Speed Photography and Instrumentation
- Printing and Optics
- Projection Light Sources and Screens
- Sound Recording and Reproduction
- Television
- Video Tape

AERIAL PHOTOGRAPHY

Processing High-Speed Panchromatic Aero Films (in Russian), K. I. Markhilevich, V. L. Abritalin and (Pt. I) I. I. Pyatkin, *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 110-125, No. 35, 1960; *Tekh. Kino i Televideniya*, 4: 92, Nov. 1960.

I. Processing Conditions of Aero Film in a Manually Operated Developing Machine: A review is made of the literature on the influence on the degree of development of panchromatic aero film on resolving power. A formula is proposed for the relation between the time of development and the length of the film, and the results of a test on the influence of the speed of rewinding on the sensitometric values are given.

II. The Cyclic Development of Aero Film: In order to obtain proportional increase in the coefficient of contrast and speed with a permissible fog value, the

method of cyclic development has been proposed for the PP-4M manual developing machine. It has been shown that the method of cyclic development gives positive results in increasing film speed and uniformity of development along the length of the film.

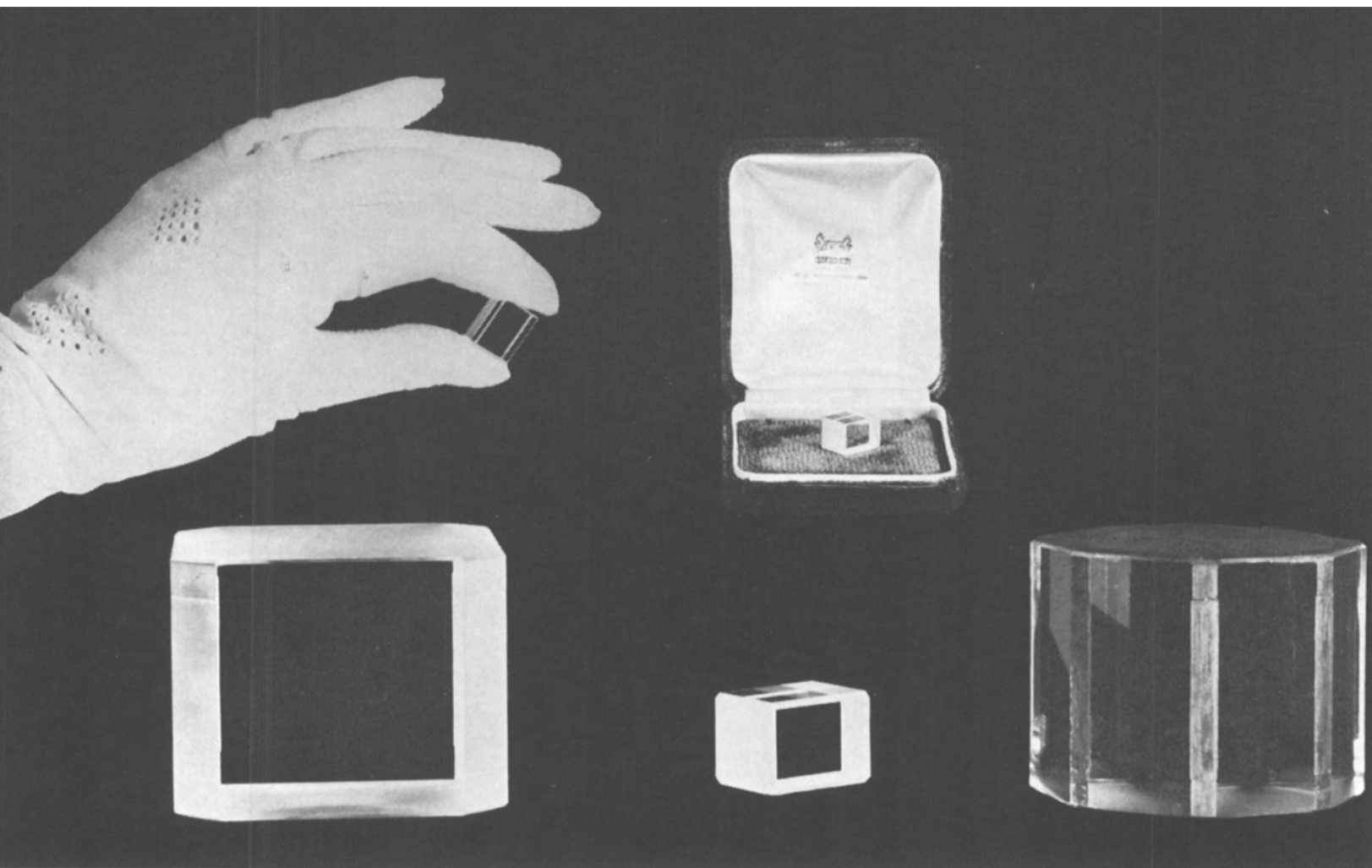
III. The Method of "Starved" Development of Aero Film: A sensitometric study has been made of "starved" development of films under laboratory conditions, in which the quantity of developer is sufficient to develop the weakly exposed parts but insufficient for the strongly exposed parts, so that the latter do not completely develop. Formulas are given for the starved-development method under laboratory conditions. It is shown that the method makes it possible to increase the film speed in comparison with the usual method of development (at a single value of gamma); to increase photographic latitudes; and to increase the maximum density. Some growth in fog and an increase in the time of development are mentioned as disadvantages of the method—S. C. G. (Translated from *Tekh. Kino i Televideniya*.)

CAMERAS AND EQUIPMENT (Except High-Speed)

Electricity Supply Conditions for Spotlights During Shooting of Motion-Picture Films (in Russian), S. Kh. Nazarov, *Tekh. Kino i Televideniya*, 4: 52-57, Nov. 1960.

New Techniques in the Mosfilm Motion-Picture Studios in 1960 (in Russian), G. I. Khazanov, *Tekh. Kino i Televideniya*, 4: 66-69, Nov. 1960.

The experiences of the Mosfilm studio during the production of films by new techniques, particularly wide-screen cinematography with 70mm film, are discussed.—S.C.G.



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A Study of, and Methods for Reducing the Noise of Motion-Picture Cameras (in Russian), L. I. Zaets, *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 101-109, No. 34, 1960; *Tekh. Kino i Televideniya*, 4: 90, Nov. 1960.

Results are given of an experimental study of the noises from the [Russian] 2KSS motion-picture camera, and the sound-insulating properties of certain materials.

A description is given of two cinematic layouts for the camera mechanism, and it is shown that, notwithstanding the increase in the number of pairs of toothed wheels, a considerable reduction in camera noise level has been attained. Methods are described for fixing the mechanism and camera parts to the body, to ensure a reduction in the level of vibrational noise. Results are given of a study of the sound-insulating properties of one type of synthetic resin which has been recommended for making motion-picture camera boxes.—S.C.G. (Translated from *Tekh. Kino i Televideniya*.)

New Constructions in 8mm Amateur Motion-Picture Cameras (in Russian), V. G. Pell', *Tekh. Kino i Televideniya*, 4: 80-84, Nov. 1960.

A number of 8mm motion-picture cameras of European production are reviewed.—S.C.G.

COLOR PHOTOGRAPHY AND COLOR DEVELOPMENT

The Law of the Change of Rate of Color Development with Change in the Properties and Increase in the Concentration of Nondiffusing Color Couplers in a Photographic Material. II. The Change of Contrast Coefficient with Small Concentrations of Coupler (in Russian), V. I. Uspenskii and N. I. Rodionova, *Zhur. Nauch. i Priklad. Fotografii i Kinematografii*, 5: 419-423, No. 6, Nov.-Dec. 1960.

Part I (*Zhur. Nauch. i Priklad. Fotografii i Kinematografii*, 4: 285-288, No. 4, July-Aug. 1959) confirmed a linear relationship between gamma of a developed color-image and log concentration for a number of color couplers over a concentration range of 2 to 16 g/liter of emulsion. However, the experimental points did not lie well on the straight lines at low concentrations. Experiments now carried out by developing emulsion coatings containing low concentrations of the same couplers (derivatives of benzoylacetic acid, of pyrazol-5-one, and of 1, 2-hydroxynaphthoic acid) have shown that, at low concentrations (up to ~4 g/liter), the relation is not logarithmic, gamma being directly proportional to the concentration of coupler. Because of the differences in behavior of couplers with a high activity compared with those with medium and low activities, it is necessary to be careful in choosing the concentrations for comparative tests.—S.C.G.

Primary Color Separation and Inter-Image Effects in the Development of Color Photographic Materials (in Russian), D. K. Balabukha and N. V. Makova, *Tekh. Kino. i Televideniya*, 4: 31-40, Dec. 1960.

The term "primary color separation"

means the initial analysis into the three-color records carried out at the moment of exposure to the subject. Its efficiency cannot be properly evaluated without reference to the final synthesis. A mathematical analysis of color separation by Nyuberg (*Uspekhi Nauch. Fotografii*, 2: 134, 1954) is outlined and the derivation of his color-separation zones is explained. The method is then used to show that the inter-image effects of a multilayer color negative are equivalent to automatic color masking. It then appears that the efficiency of color separation of the multilayer negative material is greater when the final color image is synthesized by an imbibition positive process than when a multilayer positive material is used.—S.C.G.

FILM AND ITS PROPERTIES

New Films, DS-5 and TsP-7, Under Production Conditions (in Russian), *Tekh. Kino i Televideniya*, 4: 49-56, Oct. 1960.

Two new films, the DS-5 color-negative film with masking couplers and the TsP-7 color-positive film, have recently been produced by NIKFI and the Shostka chemical factory for the Soviet motion-picture industry. Practical trials have been carried out by the processing laboratories of the A. P. Dovzhenko Film Studios in Kiev, and the results are now presented. A few modifications of the original processing instructions from NIKFI seem to be called for under the conditions of testing.—S.C.G.

Determination of the Practical Speed of Reversibly Processed Black-and-White Films (in Russian), B. N. Modestov, *Tekh. Kino i Televideniya*, 4: 47-52, Nov. 1960.

The "practical" speed of films for reversal processing was determined by a method based on the visual choice of the best frame in a series of exposures to natural objects, and on calculation from the known conditions of exposure. The films tested were the reversal-film type, OKP-1, and several negative and positive films, all Soviet-produced, subjected to reversal processing; their sensitometric properties, measured in this way, are tabulated. The speed of OKP-1 Film can vary by a factor of 1.6, according to the conditions of exposure and processing. Negative films had speeds similar to that of OKP-1, or higher, while positive films were considerably slower.—S.C.G.

FILM PROCESSING (Apparatus and Chemicals)

Spray-Processing of Motion-Picture Film (in Russian), L. B. Blyumberg, V. G. Ivanova, L. I. Karpova, T. A. Novatskaya and G. G. Novikova, *Tekh. Kino i Televideniya*, 4: 14-19, Nov. 1960.

Experiments have been carried out on the spray processing of motion-picture films, a technique already in use outside Russia. Successful processing of the positive film can be carried out completely in 2 to 2.5 min, and of negative film in 9 to 10 min, with good picture quality and keeping properties.—S.C.G.

A Study of the Processing of Reversal Film for Traveling Mattes (in Russian), A. M. Churacva, *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 95-102, No. 35,

1960; *Tekh. Kino i Televideniya*, 4: 92, Nov. 1960.

A description and results are given of an experimental study to find the relation between the change in concentration in potassium bromide in the matte developer and the solubility of silver bromide. An explanation is given of the use of 15 g potassium bromide per liter of developer prescribed for processing reversal film used for composite films.—S.C.G. (Translated from *Tekh. Kino i Televideniya*.)

HIGH-SPEED PHOTOGRAPHY AND INSTRUMENTATION

Variable-Contrast Optical Projector, T. Suzuki and G. Shinoda, *Technol. Repts. Osaka Univ.*, 10: 693-704, Oct. 1960.

An optical projector having very high sensitivity for detecting fine structures in objects has been developed. The contrasts of images can be varied according to their purpose by changing the different transmittance masks in front of the light source. When the highest contrast was used, fine structures, which could hardly be seen with ordinary projectors, were easily detected. When medium contrast was used, the fine structures disappeared from images, and noiseless images, under certain conditions, were obtained from optically noisy objects. (Authors' Abstract.)

Cinematography of Motion of a Body in Two Media (in Russian), V. I. Rybakov, A. G. Nikolaenko and O. A. Sokolov, *Zhur. Nauch. i Priklad. Fotografii i Kinematografii*, 5: 424-432, No. 6, Nov.-Dec. 1960.

The high-speed cinematography of a body passing from one medium into another (e.g., from air into water, or vice versa), or moving along the boundary, presents particular difficulties in lighting because of the differences in the absorbing and scattering properties of the two media and differences of scale caused by differences in refractive index. These points are discussed in some detail and lighting schemes for some special cases are described.—S.C.G.

The Measurement of the Velocity of Luminescent Jets (in Russian), G. Strelkov and O. I. Yas'ko, *Inzhener.-Fiz. Zhur.*, 3: 93-95, No. 5, 1960; *Referat. Zhur., Fiz.*, Abstract No. 34445, Dec. 1960.

The velocity of high-temperature jets has been determined by the method of streak photography. (Translated from *Referat. Zhur., Fiz.*)

New Apparatus for High-Speed Photography and Cinematography (in Russian), A. A. Sakharov, *Tekh. Kino. i Televideniya*, 4: 63-68, Dec. 1960.

The CR-16 sensitometer (made by the State Optical Institute) covers a wide spectral range and gives characteristics of photographic materials with exposures of from 6×10^{-2} down to 10^{-7} sec. The temperature of the photographic material can be varied from -150 to $+60$ C.

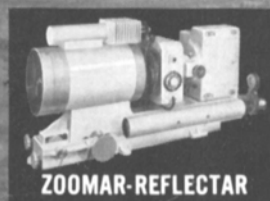
A prototype high-speed camera with discontinuous film transport (also made by the State Optical Institute) works at up to 1000 frames/sec. It uses 35mm film, but the principle should be successful with other formats. The film is braked at a high frequency by means of a pulsating pressure element at the gate, the slack film being

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allowed to form a loop before the gate at each stoppage. The perforations are engaged only by teeth on continuously rotating sprocket drums.

Three "waiting" cameras, i.e., cameras in which the mechanism is allowed to operate at full speed while waiting for the event which trips the shutter, are described. They are the SSKS-3 (made by the Leningrad Institute of Fine Mechanics and Optics), a multiple-objective, rotating-beam camera taking up to 800 frames at a speed of 500,000 frames/sec; the ZhLV camera (made by the Institute of Physical Chemistry of the Academy of Sciences), which achieves speeds of 20,000-3,000,000 frames/sec by means of a rotating-mirror system; and the RKS-11 (made by the Leningrad Institute of Motion Picture Engineers), a moving-grid camera operating at 1000-100,000 frames/sec.

Lenticular grids made by NIKFI are claimed to pass more light than those used in the Sultanoff camera (U.S.A.) and to have a finer structure than the Courtney-Pratt (England) camera. The characteristics of the grids are tabulated. Other apparatus very briefly described includes viewing apparatus for analyzing high-speed films.—S.C.G.

New Soviet High-Speed Equipment, A. Sakharov, *Sci. Film*, 1: 12-13, No. 5, Feb. 1961.

Owing to the extensive use of high-speed photography in science, engineering and

the national economy, special equipment and instruments are being designed and produced. They include instruments for special sensitometric testing of photographic material and equipment for demonstration and analysis of film records. This paper deals with instruments made during 1959 and 1960. (Author's Abstract.)

PRINTING AND OPTICS

The 23KTK-1 Contact-Film Printer (in Russian), N. D. Bernshtefn, I. S. Golod, S. Ya. Golosinskiĭ, A. N. Zaitsev, E. M. Pogorelov, S. V. Smirnov, M. G. Shamsh-teĭn and A. G. Shmakov, *Tekh. Kino i Televideniya*, 4: 10-19, Oct. 1960.

An outline is given of the basic technical characteristics of the new 23KTK-1 film printer for the accurate printing of pictures on 35mm color film. It has been developed by the Central Constructional Bureau of the Ministry of Culture of the U.S.S.R. in collaboration with NIKFI, and has been put into production by the Lenkinap factory.—S.C.G.

PROJECTION LIGHT SOURCES AND SCREENS

Soviet Motion-Picture Technology of Tomorrow (in Russian), V. G. Komar, *Druzh. nar.*, No. 4, pp. 189-91, Apr. 1959.

Wide-screen motion-picture theaters exist at many places in Russia now; the Cine-rama motion picture is in development and approximates the quality of the American

Cinerama. In the next two or three years, 20 large motion-picture theaters will be built in Soviet cities, of which one in Moscow will have a seating capacity of 6000, while others in Kiev, Leningrad, Moscow, Baku, Tashkent, Tbilis, Novosibirsk, Riga and other places will have seating capacities of 2500-4000. In their technical equipment they exceed not only the European, but also American motion-picture theaters. They will be equipped for projecting Cinerama, wide-screen and common films. A special ultrasonic apparatus for determining acoustics has been designed and used successfully in large theaters and auditoriums in Moscow. It is planned that 75mm instead of 35mm film will be used in the future, even for ordinary motion pictures, because it gives a considerably better quality of the image. A brief statement on how the Circorama motion picture was introduced to the United States and a comment that the Soviet Circorama is in the process of development close the article.

A Light Source with Xenon Lamp (in Russian), *Tekh. Kino i Televideniya*, 4: 48, Oct. 1960.

A brief note and diagram give a few details of a 1-kw, d-c xenon lamp source which is being made at a Rostov-on-Don factory to a NIKFI design. It is intended for use with Soviet-made type KPT motion-picture projectors.—S.C.G.

The Exhibition of the New Types of Motion Picture (in Russian), V. G. Komar, *Tekh. Kino i Televideniya*, 4: 75-80, Oct. 1960.

Developments in the exhibition of wide-screen and panoramic motion pictures in the United States, the Federal German Republic, and Holland are reviewed from material gathered by foreign missions. Special attention is paid to the MGM-65 (Panavision), Cinemiracle, and Aromarama systems.—S.C.G.

The Right Type of Educational Motion-Picture Projector (in Russian), M. Dukovnaya, *Tekh. Kino i Televideniya*, 4: 71-72, Oct. 1960.

It is stated that no narrow-gauge projector really suitable for teaching purposes is available in the Soviet Union. The requirements of a suitable projector are discussed.—S.C.G.

An Illumination Engineering Study and a Method of Welding Plastic Motion-Picture Screens (in Russian), M. D. Borodin and K. I. Mel'nikov, *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 5-23, No. 36, 1960; *Tekh. Kino i Televideniya*, 4: 87, Nov. 1960.

The results of the development of a method of high-frequency electrowelding of the sheets forming plastic screens, giving practically unnoticeable welds, are presented. The results of a study of the noticeability of the welds by the audience are given. It is concluded that the method gives very firm welds, unnoticeable on projection onto both diffusing and directional screens.—S.C.G.

The Narrow-Gauge Varioprojector (in Russian), *Tekh. Kino i Televideniya*, 4: 84, Nov. 1960.

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attachments provided it can be converted for the showing of wider-gauge films and film slides. A microscope system can be placed in front of the lens to give enlargements of detail. The projector is intended for scientific and educational purposes as well as for normal showings.—S.C.G.

Motion-Picture Projection with a Pulsed Capillary Lamp (in Russian), G. L. Irskii, *Tekh. Kino i Televideniya*, 4: 74-80, Nov. 1960.

The Philips SPP-800 pulsed lamp and the FP20S projector in which it is incorporated are described.—S.C.G.

Five Years of Soviet Wide-Screen Photography: Its Results and Problems (in Russian), Yu. A. Kalistratov, *Tekh. Kino i Televideniya*, 4: 6-13, Nov. 1960.

A survey is made of the present position of wide-screen cinematography in the Soviet Union, with tabulation of statistical data.—S.C.G.

New Forms of Cinematography and Their Future Possibilities (in Russian), S. M. Provornov, *Tekh. Kino i Televideniya*, 4: 1-6, Nov. 1960.

The different forms of wide-screen, wide-film, and panoramic cinematography are compared from the points of view of the changes in equipment required in installing them, and their effectiveness in giving the spectator, irrespective of his position in the auditorium, a sense of participation. The author believes that the different systems are suitable for different types of subject, and that none will supplant the normal type of cinematography as a mass medium. It follows from this that most new cinemas being built in the Soviet Union should be of the normal type, with provision for wide-screen shows. The largest theaters (seating several thousand) should be provided with equipment for all types, including panoramic. There will still be a call, for some time to come, for cinemas showing normal films only. Western practice has shown that stereophonic sound is not essential for the average wide-screen film, and installation of wide-screen systems should not be delayed because of the difficulties in installing a multichannel sound system.—S.C.G.

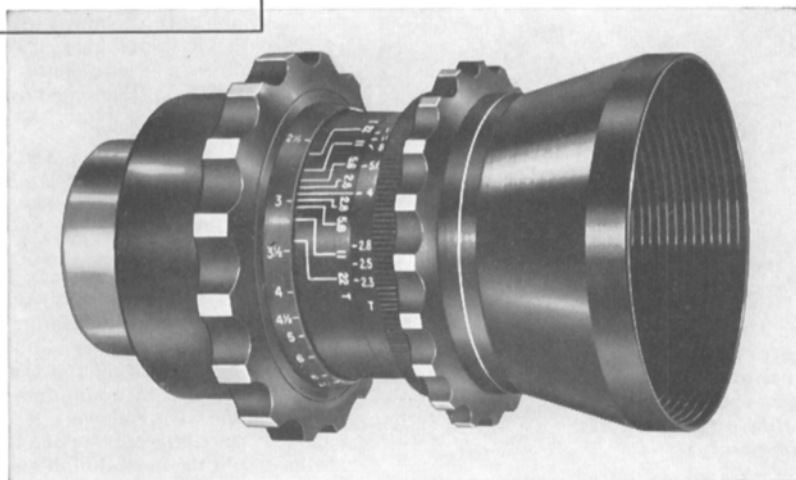
Objective Distortions of Motion-Picture Images with Vertical and Horizontal Projection Angles. I. The Plane Cine Screen (in Russian), E. M. Goldovskii and S. S. Ryshkov, *Zhur. Nauch. i Priklad. Fotografii i Kinematografii*, 5: 439-445, No. 6, Nov.-Dec. 1960.

Objective distortions of motion-picture images are those introduced by the geometry of projection as distinct from subjective distortions which are due to the position of the viewer. A mathematical analysis is made of the dependence of such distortions on the angle of projection in relation to a flat screen.—S.C.G.

Calculation of the Light Flux of a Motion-Picture Projector with the DKsSh-1000 Xenon Lamp (in Russian), O. I. Anisimov, *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 24-50, No. 36, 1960; *Tekh. Kino i Televideniya*, 4: 87-88, Nov. 1960.

Work has been carried out on the setting up of theoretical limits to the maximum light-flux obtainable from a 35mm motion-

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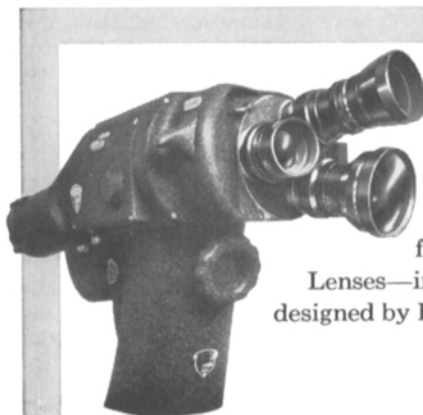
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picture projector with a 1-kw, d-c xenon lamp. The following have been worked out for different angles of viewing: the shape of the radiating discharge of the xenon lamp; curves for the transverse-brightness distribution over the discharge; and curves of equal luminance ("isomeganits") in the plane of the projector gate. Calculations for the luminance at ten points of the gate are given.—S.C.G. (Translated from *Tekh. Kino i Televideniya*.)

Some Characteristics of an Arc with Air Blast (in Russian), V. V. Piskunov, *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, pp. 51-63, No. 36, 1960; *Tekh. Kino i Televideniya*, 4: 88, Nov. 1960.

A new form of carbon arc is discussed, which shows a number of advantages in comparison with the usual forms of high-intensity arc. It will be very important in the design of powerful motion-picture projectors for service in auditoriums seating 6000 or more. The following sections are included: the characteristics of an arc with air blast; and the operation of an arc with an air blast in the optical system.—S.C.G. (Translated from *Tekh. Kino i Televideniya*.)

Dimensions for the Soviet Circular Motion-Picture Panorama System (in Russian), E. N. Goldovskii, *Tekh. Kino i Televideniya*, 4: 21-30, Dec. 1960.

In working out the Soviet system of circular motion-picture panorama, the problem arose of building a theater giving greater possibilities for exhibition of films than in the American Circarama system, it being necessary to avoid the faults in the latter arising from the incomplete solution of the separate technical problems.

In addition, it was considered necessary to increase the capacity of the first theater for circular panorama at the Exhibition of Achievements of the National Economy of the U.S.S.R. to at least 300. The conditions for obtaining optimum presentation, both from the point of view of optimum viewing by the audience and convenience of placing the cameras, are discussed.—S.C.G.

Calculating the Required Level and Variation in Motion-Picture Screen Luminance (in Russian), M. V. Tsvikin, *Tekh. Kino i Televideniya*, 4: 41-48, Dec. 1960.

A method is given for solving the problem of what should be the level and variation in the luminance of a motion-picture screen in order to ensure the required level and variation in its brightness for all, or as many as possible, of the viewers. As an example, a numerical solution of this problem is applied to a wide-screen installation with the NIKFI lattice screen. A method of calculation is shown for examining the brightness of the screen for critical points of observation.—S.C.G. (Translation of Author's Abstract.)

SOUND RECORDING AND REPRODUCTION

The Problem of the Number of Channels and the Quality of Sound on Stereophonic Films (in Russian), I. Aleksander, Ya. Butovskii and E. Yudin, *Tekh. Kino i Televideniya*, 4: 61-67, Oct. 1960.

Nine Channels on Six Soundtracks (in Russian), G. Klimentko, *Tekh. Kino i Televideniya*, 4: 67-68, Oct. 1960.

New Equipment for Sound Recording and Film Processing in Film Production (in Russian), I. B. Gordilchuk, *Tekh. Kino i Televideniya*, 4: 58-64, Nov. 1960.

A number of new types of apparatus produced during the past year in the U.S.S.R. are briefly described. They include a number of soundtrack printers, especially for the preparation of multi-channel records for stereophonic sound used with wide-screen and panoramic films. Processing machines (one for 70mm film and one for 35mm and 16mm) and a printer for panoramic films have also been made.—S.C.G.

Sound for Narrow-Gauge Motion-Picture Films (in Russian), L. I. Burdakhin and V. S. Drabenyastyi, *Tekh. Kino i Televideniya*, 4: 72-74, Dec. 1960.

A simple method has been elaborated for providing 16mm sound films for scientific purposes. A standard 6.5mm magnetic tape is cut into three lengthwise strips and one of the narrow strips is cemented onto the film. The Russian 16mm projector, the Ukrain (PP16-3), has been adapted to carry out this operation.

The projector, which is provided with a sound head for reproduction, has been adapted so that it can also be used for recording the sound track in synchronism with the film.—S.C.G.

TELEVISION

New Motion-Picture Practice in Television (in Russian), G. O. Zhizhenevskii and T. S. Beletskaya, *Tekh. Kino i Televideniya*, 4: 8-9, Oct. 1960.

A brief survey is made of the development work on motion-picture apparatus and techniques for use in television, now being carried out by various institutes and instrument factories in the Soviet Union as part of recent plans for the development of the industry.—S.C.G.

A Telecine Machine for Color Television with a Three-Vidicon Camera (in Russian), V. A. Buldakov, G. V. Zhirnova, S. V. Novakovskii, V. A. Petropavlovskii and A. I. Razin, *Tekh. Kino i Televideniya*, 4: 36-40, Nov. 1960.

The telecine machine described consists of a standard Soviet SKP-34 projector with a television camera containing a beam-splitting optical system and three vidicon tubes to give the three color channels. The projector is not synchronized with the vidicons. A table sets out a comparison of this machine and the flying-spot system for a large number of factors.—S.C.G.

VIDEO TAPE

The Theory of Telecine Transducers (in Russian), N. K. Ignat'ev, *Tekh. Kino i Televideniya*, 4: 20-26, Nov. 1960.

The term "telecine transducer" covers both machines for transmitting motion-picture films and machines for recording television programs on film. Both types are discussed. In addition, frame-frequency changers are dealt with. A mathematical theory of the performance of these machines, from the point of view of preservation of the quality of the signal, is developed.—S.C.G.