



SMPTE to Reprint *Elements of Color*

Elements of Color in Professional Motion Pictures, a 104-page book published in 1957 by the SMPTE will be reprinted this fall.

Elements of Color has been one of the Society's most successful books. Although the book was published over 10 years ago, the demand has continued among film makers and as a text in many university departments of cinema.

The book will be reprinted as originally published with 27 pages of illustrations in color. A new introduction will warn readers that certain chapters are out of date.

It is expected that there will be available for distribution with the book a publication by Eastman Kodak Co., Motion Picture and Education Markets Div., Rochester, N.Y. 14650, which will provide current information about making motion-picture prints from color originals. For this and the reprint planning, the Society has been especially helped by Walter I. Kisner, Technical Associate-Communications, Eastman Kodak Co.

Elements of Color was prepared by a special committee of the SMPTE. The

Chairman was Wilton R. Holm, E. I. du Pont de Nemours, Hollywood, Calif. Information on price and availability of *Elements of Color* when it is back in print will be published in the *Journal* at a later date.

The Society has plans to publish a completely revised edition of *Elements of Color* before 1970.

The American Film Institute, a nonprofit, nongovernmental organization, has been created for the purpose of stimulating and encouraging progress in film. The initial three-year budget is \$5.2 million. Grants of \$2.6 million have been made available by the National Endowment for the Arts and the Ford Foundation, and \$1.3 million in commitments over a three-year period by member companies of the Motion Picture Association of America. The remaining funds are to be raised by the Institute's Board of Trustees from private, foundation and corporate sources. (It has been noted that the United States is one of the last of the major film-producing countries to establish such an organization. The comparable organization in the USSR has an annual budget of between \$4 and \$5 million and the Swedish film institute has an annual budget of \$2.25 million.)

Announcement of the establishment of the American Film Institute followed an organizational meeting held in Washington, D.C., on June 5. Director of the new Institute is George Stevens, Jr., formerly Director of the United States Information Agency's Film Division. A 22-member Board of Trustees is composed of motion-picture producers and directors, educators,

actors, writers and other experts in the field of motion pictures. IATSE is represented by the union's President, Richard F. Walsh.

A nine-point program has been formulated to define the aims of the Institute:

(1) to recognize, assist, encourage and promote elements of progress and scholarship in film arts and humanities;

(2) to encourage and support the growth of creative activities and creative talent in film in a climate of freedom of thought, inquiry, imagination and individual initiative;

(3) to maintain, develop, disseminate and coordinate the nation's artistic and cultural resources in film;

(4) to foster and support film, film scholarship and teacher training for film study in general education;

(5) to encourage and promote greater public understanding, appreciation and enjoyment of film;

(6) to encourage and promote increased opportunities in film and to provide or support production and projects that will assist and encourage film artists to achieve, demonstrate and maintain high standards of professional excellence;

(7) to facilitate the exchange of information and to support the publication of scholarly works pertaining to the history, theory and practice of film art;

(8) to initiate and support research in the history, criticism, theory and practice of film art and to provide or support other relevant projects including surveys, research and planning in film; and

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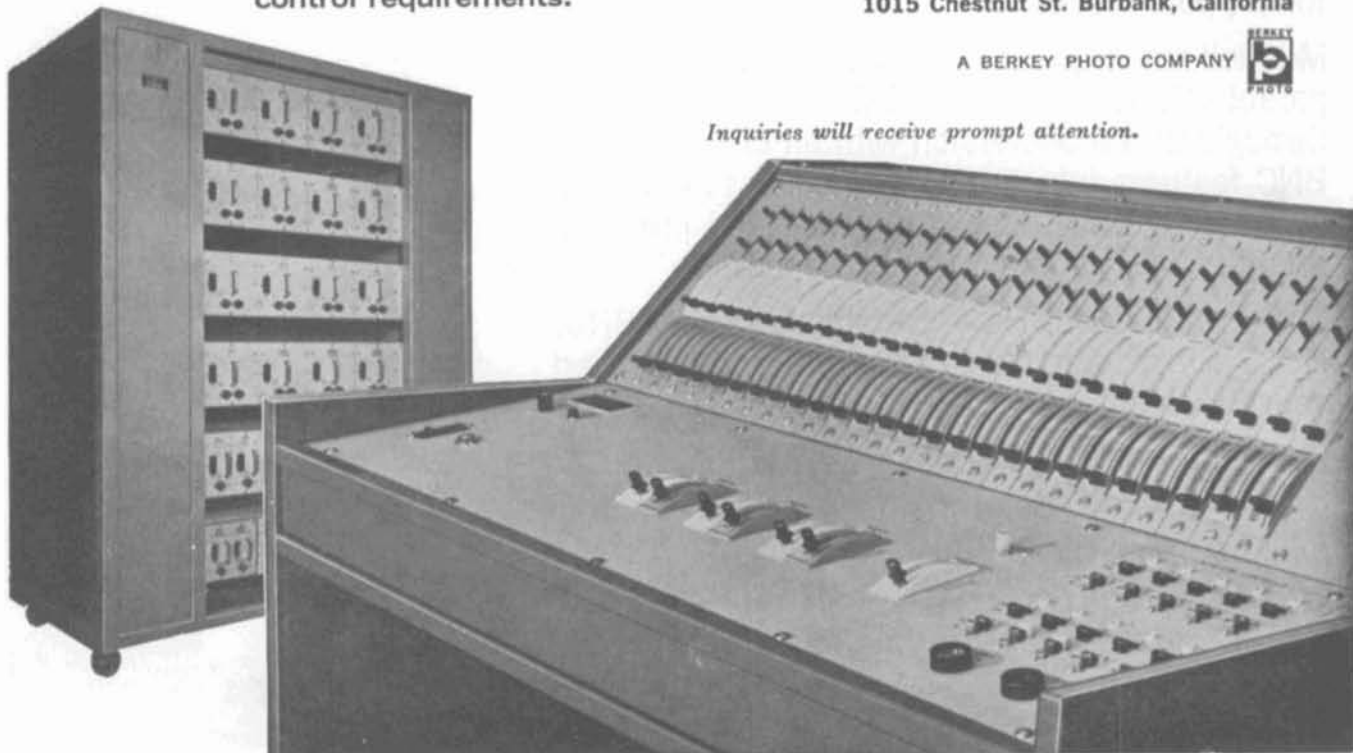


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(9) to award fellowships and grants for training and workshops in the history, criticism, theory and practice of film.

The Jaromir Kosar Memorial Award has been established by the Society of Photographic Scientists and Engineers (SPSE) to honor the memory of the late Jaromir Kosar, a photographic scientist who specialized in the study and development of nonsilver halide photographic systems. (An obituary of Dr. Kosar appears on p. 302 of the March 1967 issue of the *Journal*.) The award will be presented annually to an individual whose original work in the field of science or engineering is deemed to have contributed significantly to the development of an unconventional photographic imaging system (i.e., a system other than silver halide). Recipient of the first award will be announced at the SPSE Symposium on Unconventional Photographic Systems to be held October 26-28 in Washington, D.C.

Awards presented by the Society of Photographic Scientists and Engineers (SPSE) during its annual conference held May 15-19 in Chicago included the Charles E. Ives Journal Award to Richard W. Henn and Donald G. West for their paper "Properties of Gold-Treated Microfilm Images" (*PS&E*, 10: 15, 1966), and the Science Journal Award to Vernon I. Saunders and William West for their paper, "Motion of Silver Ions Through Single Crystals of Silver Bromide During

Electrochemical Development" (*PS&E*, 10: 42, 1966). Other awards included one Honorary Member, four Fellows, five Senior Member awards and a number of service awards.

The Photographic Process as a Scientific Instrument, an intensive five-day course designed to assist engineers and scientists in applying photography to the acquisition of data, will be conducted by the Rochester Institute of Technology, Extended Service Division, September 11-15. Sessions will be held in the College of Graphic Arts and Photography. A. Robert Maurice, Assistant Director of the Extended Service Division is in charge of registration. The course will be conducted by members of the regular faculty of the School of Photography, including Professors William S. Shoemaker (Director), Burt H. Carroll, Albert D. Rickmers and Hollis N. Todd (Staff Chairman of Photographic Science and Instrumentation) and Associate Professors Richard D. Zakia and Assistant Professor John F. Carson.

Ohio State University, Department of Photography, has created a series of motion pictures for the United States Office of Education. The films deal with the theory, practice and history of communicative and educational media. They were designed especially for use by specialists in the field of education or communication. Subject matter includes current uses of the new educational technology in

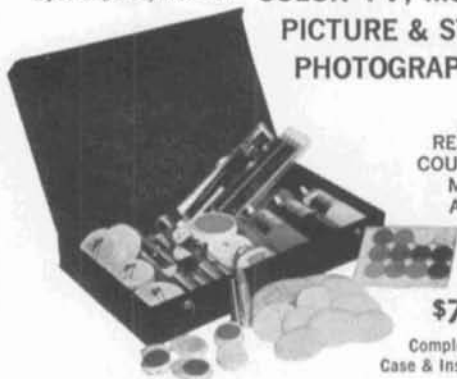
school administration, teacher-training programs, and classroom situations. Filmed on coast-to-coast locations, the films document the problems of mass communication, classroom communications, and intercultural understanding. Current methods of solving these problems are shown with special emphasis given to the insights of such men as Edgar Dale, James D. Finn, George Gerbner, Marshall McLuhan, Wilbur Schramm, Gilbert Selde and Kenneth Norberg. Further information is available from Film Distribution Supervisor, Ohio State University, Motion Picture Div., 1885 Neil Ave., Columbus, Ohio 43210.

An in-plant school for the education and training of film technicians in a processing laboratory has been established at MoviLab, Inc., 619 W. 54 St., New York, N.Y. 10019, according to an announcement by Saul Jeffec, MoviLab President. Heading the school as supervisor of instruction is Pablo Weinschenk-Tabernero who was formerly Chief Engineer of Alex Laboratories in Argentina and conducted evening classes in motion-picture technology at his own school in that country. He was also Professor of Lighting Direction at the University of La Plata. MoviLab's school is presently in session with about 30 students enrolled. It is expected that from 250 to 300 MoviLab employees will be enrolled in the school during its first year of operation. Attendance is mandatory for all new workers in the laboratory and

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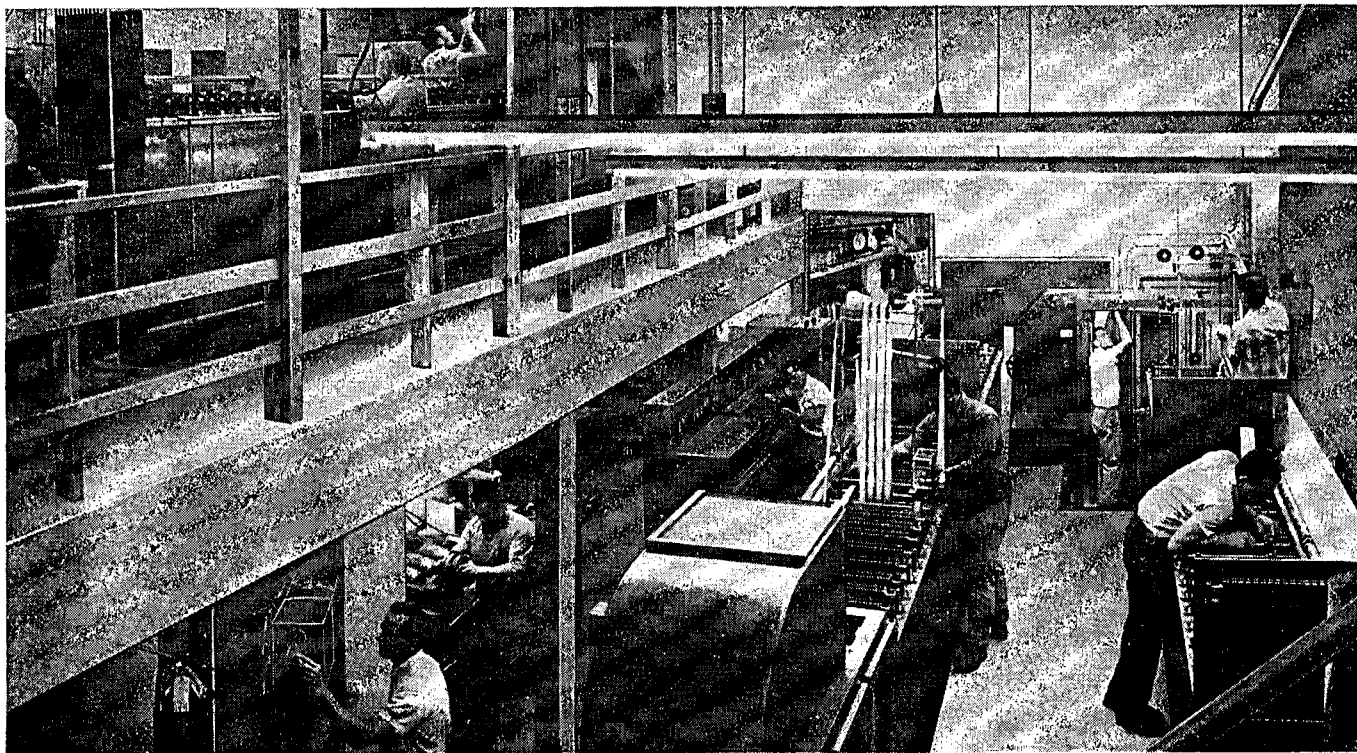
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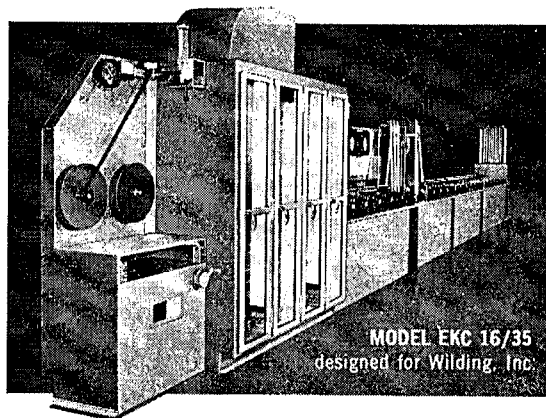
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optional for others. The curriculum will cover all phases of film laboratory techniques including printing, developing, editing, splicing, cleaning, projection, testing, chemical analysis, control, mechanics and maintenance.

According to Mr. Jeffee, this school is the first and only such school in the United States. Upon his return from Russia in 1965 ("Technical Report of a Visit in 1965 to Motion-Picture Facilities in the USSR," by Farmer, Jeffee, Pestrecov and Solow, *Journal*, 75: 561-580, June 1966), he noted the concentration on technical training in government-sponsored schools in the USSR in contrast to what he described as neglect by both government and industry on the United States of vocational technical education in motion-picture and television. In announcing the school, Mr. Jeffee said, "The purpose of Movielab's in-plant school is to fill the vacuum that government and industry ignore for the training and development of film laboratory technicians . . . We are providing instruction for our own employees. These courses do not exist in the schools—and they should."

IATSE Local 702, Motion Picture Laboratory Technicians, is cooperating with Movielab in conducting the training school. C. W. Vitello, President of Local 702, said that experienced technicians as well as beginners have responded to the opportunities offered by the school, many of them seeking to attend the school on their own time to acquire new skills as well as brushing up on previously acquired techniques.

The Society of Photographic Scientists and Engineers will hold its annual symposium and exhibit October 26-28 at Marriott Twin-Bridges Hotel, Washington, D.C. Theme of the Symposium will be Unconventional Photographic Systems. Subjects to be covered at technical sessions will include Electrostatic and Electrolytic Photographic Methods; Photopolymerization Processes; Thermographic Image Formation; Photochromic Substances; Photochemical Formation and Destruction of Dyes; Light-Sensitive Diazo Compounds; and Unconventional Preparation and/or Processing of Silver Halide Systems. Recent developments in materials, processes and equipments will be shown in the exhibit area. SPSE headquarters are at 1330 Massachusetts Ave., N.W., Washington, D.C. 20005.

National Community Television Association held its 16th annual convention June 25-28 in Chicago. (NCTA headquarters are at 1634 Eye St. N.W., Washington, D.C.) Highlights of the program included a panel discussion on "The Communications Explosion." Panel members were James MacCormack, Comsat Chairman; James D. O'Connell, Telecommunications Advisor to the President; John R. Pierce, Executive Research Director, Bell Telephone Laboratories; and Allen E. Puckett, Executive Vice-President of Hughes Aircraft Co. NCTA was established in 1951 to represent the CATV industry which distributes television programs over coaxial cable.

The United States Trade Center in Frankfurt, Germany, will hold an exhibit October 2-6 of technical and professional photographic equipment and supplies manufactured in the United States. The exhibit will be under the auspices of the Bureau of International Commerce, U.S. Department of Commerce. Invitations to a selected group of potential buyers, agents and distributors will be issued by the Trade Center staff. The announcement pointed out that American research and development activities in high-speed and instrumentation photography, space technology, holography and other fields have created demands for a wide variety of photographic products. It was noted that Germany is an important market for non-consumer photographic equipment. Further information is available from John R. Crown II, Export Operations Officer, Commercial Exhibits Div., Bureau of International Commerce, Washington, D.C. 20230.

The Canadian Region of the Institute of Electrical and Electronics Engineers will sponsor the 1967 International Electronics Conference and Exposition to be held September 25-27 in Toronto. The exposition will include displays of the latest electrical and electronic devices used in industry, medicine, defense and space research which will be exhibited by some 180 firms located in the United States, Canada and overseas. The technical programs will include more than 100 technical papers. Session topics will include Color

Reviewed by the SMPTE Advisory Committee on Special Effects in Motion Pictures: Herbert Meyer, Chairman, Russell Brown, Thomas G. Fisher, Jack Froehlich, Max Hankins, Ub Iwerks, Ivan Martin, Bob Matthey, Frederic L. Ponedel, John Roche, J. Edward Stenbridge, Edward Stones, Virgil Summers.

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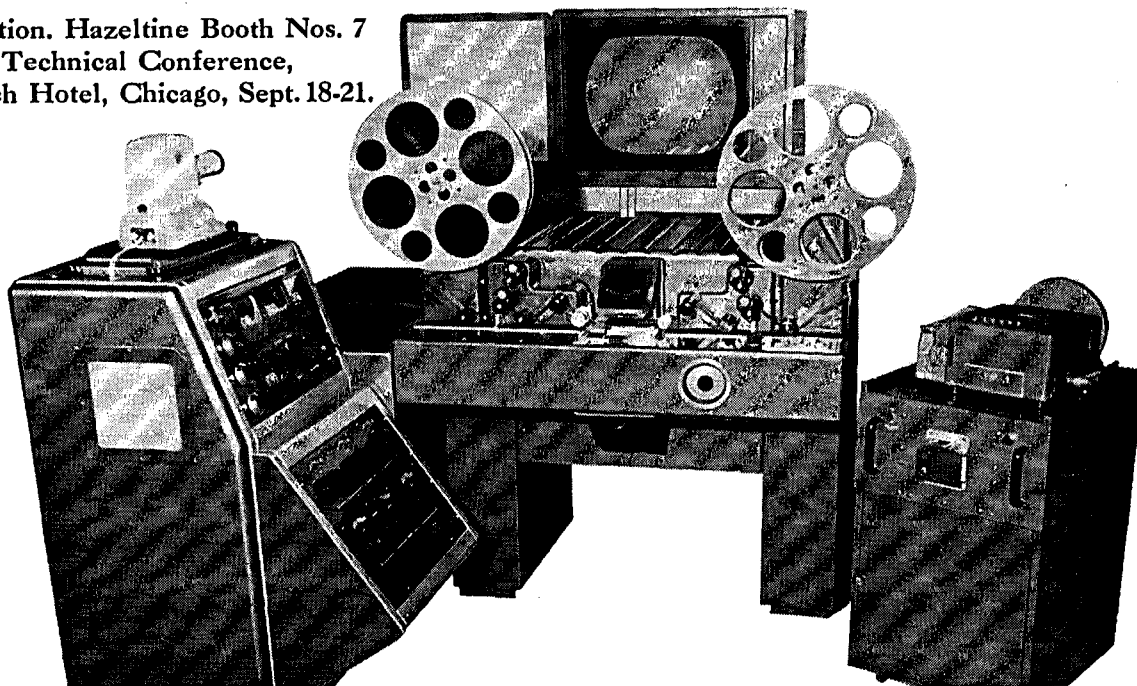
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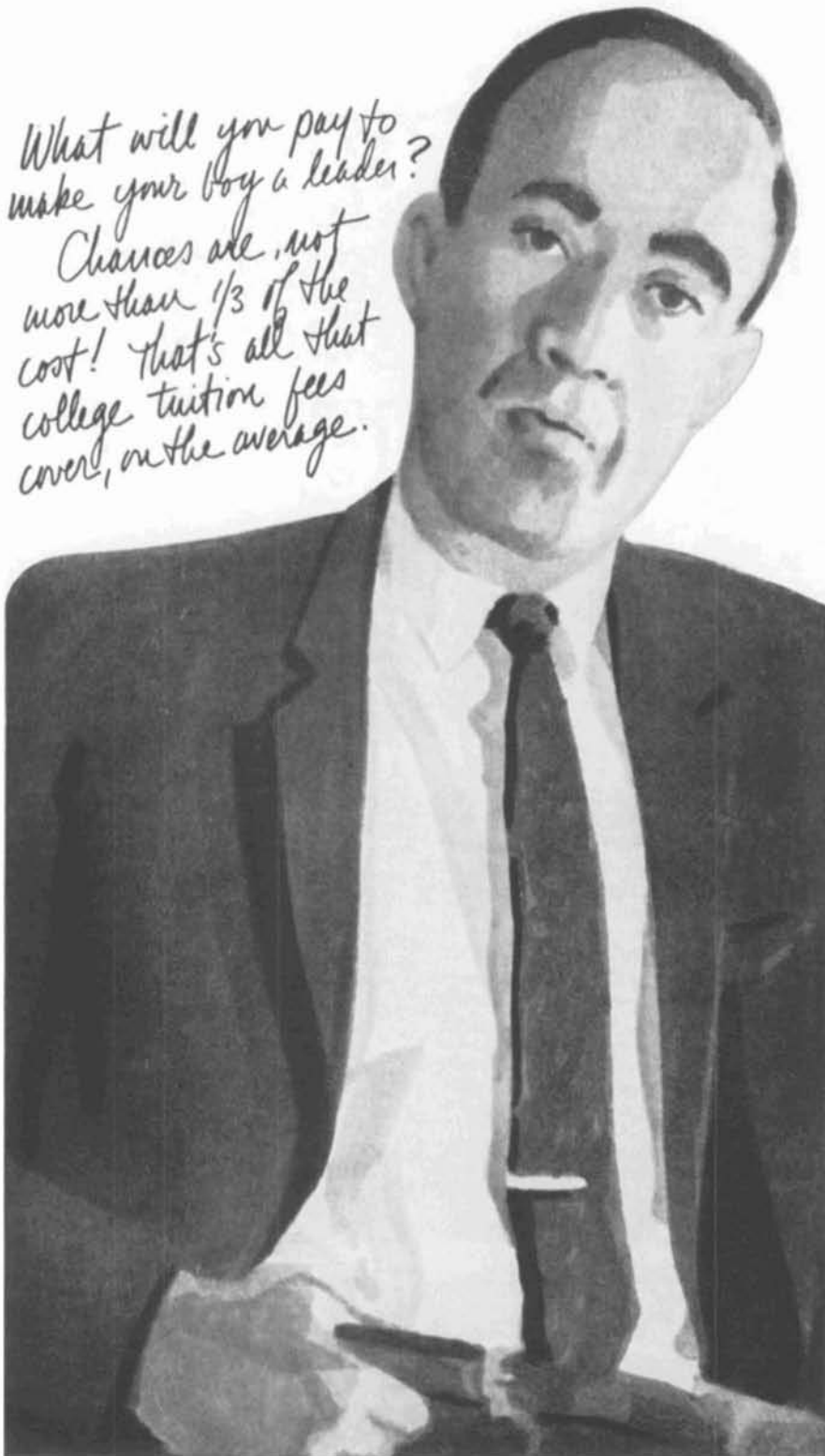
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Television; Solid State Power Control; Antennas; Computers (Automatic Processing and Time Sharing); Instrumentation; Bio-Engineering; Satellite Communications; Telecommunications Systems; and others. Program highlights will include an address by the Hon. Robert H. Winters, Minister of Trade and Commerce, Government of Canada, and showing of informative films dealing with electronic research and electronic products.

The Society of Photographic Scientists and Engineers has announced election of officers with two-year terms beginning in July. New President of SPSE is Richard W. Swenson. Other new officers are: Executive Vice-President, Ira R. Kohlman; Science Vice-President, Heinz F. Nitka; Education Vice-President, C. B. Neblette; Secretary, Howland Pike. Officers elected for three-year terms are: Engineering Vice-President, Frank Scott; Publications Vice-President, Russell H. Gray; Conference Vice-President, Howard J. Hall; Membership Vice-President, Robert J. Kohler; Chapters Vice-President, Gilbert Stark; and Treasurer, George T. Eaton. SPSE headquarters are at 1330 Massachusetts Ave., N.W., Washington, D.C. 20005.

The Illuminating Engineering Society held its third annual Theatre, Television and Film Lighting Symposium May 14-16 in Los Angeles. Eleven technical papers were presented and three panel discussions were held. A highlight of the program was a demonstration by Carl Gaiti of WNEW-TV, New York, and Laird Davis, CBS-TV, Los Angeles, on "Overcoming the Pitfalls Surrounding the Color Lighting of TV News Programs." They designed two light plots, one showing the problems and the other showing the corrections. Panel discussions were held on the subjects of "Theatrical Lighting and Design"; "Motion-Picture Lighting: Past, Present and Future" and "The Influence of Lighting on Makeup, Costume Design and Art Direction." One of the panel members was Edith Head, the famous costume designer now with Universal Studios. Moderator was Herbert Lightman, Editor of *American Cinematographer*.

Titles of the papers and their authors were: "Frustrations in Lighting for Color Television" by G. T. Howard; "Studio and Television Luminaire Performance Utilizing Tungsten-Halogen Lamps" by T. M. Lemons and R. E. Levin; "Design of TV Lighting Systems for CBC Color Studios" by C. William Shearer; "Lighting Control Systems for Color Television at Los Angeles Network Facilities" by Thomas L. Pincu; "The Use of Low Lighting Levels for Motion Picture Work in Color" by T. Fogelman; "Lighting System Design Data for High School Stages" by N.J. Sonnenfeld; "Development of an Educational Theatre Building and Its Lighting" by Don W. Powell and Hunton D. Scilman; "Present and Future Technological Advances in Control of Theater, Television and Motion-Picture Lighting Equipment" by J. L. Halvorsen; "The Metal Halide Lamp as a High-Intensity Source for Color Television Floodlighting" by Melvin C. Unglert; "Light Source — A

Comparative Survey" by W. Frederick; and "Shadow Characteristics of Luminaires for Theater, Television and Film Applications" by Charles J. Neenan. The program closed with a demonstration, "Importance of Color Temperature" by Sal Bonsignore, and a Lighting Progress Show of new developments in light sources, luminaires and lighting applications. The narrator was Imero Fiorentino.

Illuminating Engineering Society headquarters are at 345 E. 47 St., New York, N.Y. 10017.

The International Organization for Standardization met June 14-18 in Moscow, USSR. Attending as a United States representative on the Technical Committee for Cinematography Standardization was John J. Kowalak, Vice-President and member of the Board of Directors of MoviLab, Inc. The ISO meeting brought together experts from 50 national standardization bodies to establish uniform standards throughout the world.

The Hungarian Society for Optics, Acoustics and Film Technics, V. Szabadság tér 17, Budapest, Hungary, has announced its 4th Conference on Film Techniques to be held March 19-23, 1968, in Budapest. Conference papers and discussions will deal with new developments in film technology with special reference to procedures with nonsilver base. Topics will include new methods for the production of release prints, new directions in the development of projection techniques, technical interaction of television and film, sound recording and sound reproduction, and others.

The Instrument Society of America (ISA) will hold its 22d annual conference and exhibit September 11-14 in Chicago. Theme of the conference will be Instrumentation in the Service of Man. Some 350 companies will exhibit instrumentation products in the Chicago International Amphitheatre Exposition Hall. The technical program will include 94 sessions of some 300 individual papers. ISA Conference Program Coordinator is John E. Jacobs, Professor of Electrical Engineering and Executive Director of the Bio-Medical Engineering Center, Northwestern University. Advance programs are available upon request from: Public Relations Dept., Instrument Society of America, 530 William Penn Place, Pittsburgh, Pa. 15219.

The American Film Festival was held May 10-13 under the auspices of Educational Film Library Association, 250 W. 27 St., New York, N.Y. 10019. More than 300 16mm films were screened for the Blue Ribbon Awards competition. Highlights of the Festival included a luncheon address by Willard Van Dyke, Director of the Film Library of the Museum of Modern Art, who spoke on "The Museum Film Department and the Community," and a panel discussion on "The Uses of Animation." Panel members included Philip Stapp, Grant Munro, Carmen D'Avino and Les Goldman. Discussion program topics included "Do Public Library Film Librarians Need

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The Council on International Nontheatrical Events (CINE) has announced selection of 157 Golden Eagle films to represent the United States at foreign film festivals during 1967. The winners range from a 3-min experimental subject to an 80-min TV documentary. Including the Cine Eagle (amateur) films 11 motion pictures were animated. Two films, *Discover America* and *Discover Hawaii*, made by Reid H. Ray film industries for United Airlines, were both filmed entirely from the air. Among the Golden Eagle films were several Oscar nominees, plus *Herb Alpert*

and the *Tijuana Brass Double Feature* by John and Faith Hubley, which was awarded the short subject Oscar this year.

The Reid Ray films were made in the aerospace process which combines filming from a helicopter and special handling in the editing of the sequences.

Paul Golding, a 23-year-old senior in the Department of Cinema, University of Southern California, is the first recipient of the first annual \$5,000 Cole and Kate Porter Memorial Graduate Fellowship in the Arts. A straight-A student and a member of Phi Beta Kappa, he was chosen by a committee of faculty members representing all divisions of the School of Performing Arts (music, drama and

cinema) and the School of Architecture and Fine Arts. Mr. Golding began making films while still in high school in Troy, N.Y. His first attempt to adapt one of James Joyce's short stories to film with a part of Mahler's 10th symphony as the soundtrack ended in failure when he discovered that his 8mm camera ran at only half speed. He obtained a refund and began an hour-long film of T. S. Eliot's *Waste Land* of which 45 min was completed. He has been "doing better," the announcement stated, since coming to USC. His 3-min film *Wipeout*, "dealing with sex, racial issues, overpopulation, war, conformity, religion, socio-economic themes, status-seeking and fish," was awarded a Cine Gold Eagle.

Nineteen films produced by students in the University of Southern California have earned a total of 54 honors in national and international film festivals during the 1966-67 academic year. Two of the films, each of which received a dozen various honors, are *Homage to Muybridge* and *Poem of Rodia*. *Homage to Muybridge* has been selected by the Museum of Modern Art, Lincoln Center, New York, for its permanent collection. Among the honors accorded *Poem of Rodia*, a photo study of the Watts Towers, is the National Film Festival Award of Merit and designation as a Selected Film by six festivals, including the Mannheim International Film Festival in Germany. USC's Division of Cinema has an enrollment of more than 325 students, 80% of them working at the graduate level.

Arthur C. Hardy, Professor of Optics and Photography, Emeritus, Massachusetts Institute of Technology, has been awarded the honorary degree of Doctor of Laws by the University of California. The degree was conferred during the University's 104th Commencement on the Berkeley campus. Dr. Hardy was graduated from the University of California in 1917 and then enlisted in the Photographic Branch of the Signal Corps. In 1920 he became an instructor in Massachusetts Institute of Technology where he remained for 40 years of an active teaching career (*Biographical Note, Journal*, 564-566, July 1961). A Fellow of the Society, he became internationally known mainly for his contributions to the science of color. He is the inventor of the recording spectrophotometer and is also an authority on many other phases of optics. Among his industrial consulting assignments was one from 1926 to 1931 with the General Electric Co., for which he helped develop sound recording on film for motion pictures.

G. Carleton Hunt predicted a greatly extended use for audio-visual communications in an address delivered June 21 before a meeting of the International Council of Industrial Editors. He said that recent technical developments in motion picture and television will result in audio-visual communications becoming an essential part of company contact with customers, employees and their families. He said that undoubtedly industrial editors of the future would rely on motion pictures and television tapes to tell the

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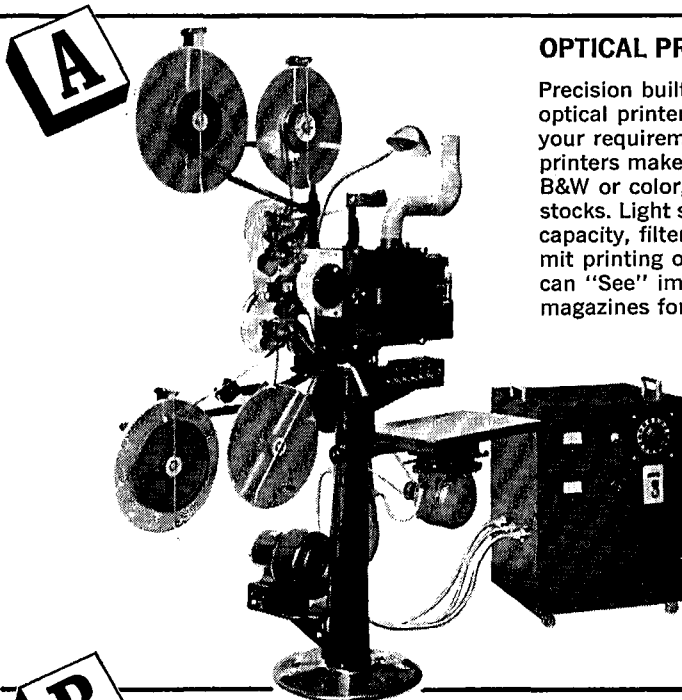
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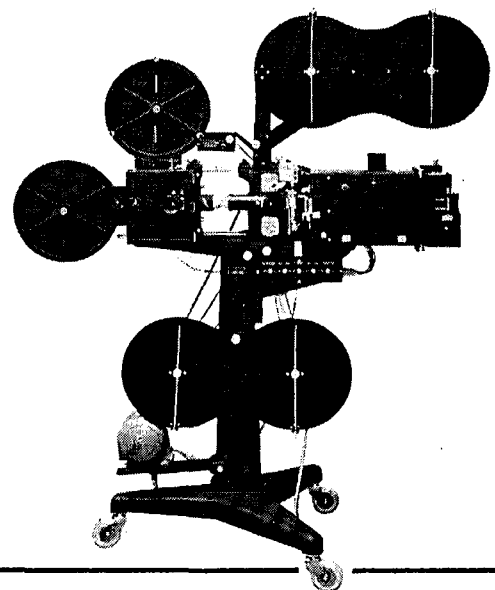
Techniscope	to Cinemascope
Cinemascope	to 35mm
35mm	to 16mm
35mm	to Regular 8mm
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16mm	to Regular 8mm
16mm	to Super 8mm

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company story to its various audiences. Mr. Hunt said that the recent development of cartridge-loaded super 8 sound motion pictures is one of the first developments that can make audio-visual communications take over the communications role now played by company magazines and newspapers. He pointed to the future when homes with three-dimensional wall television in color would be a means of getting the company message across to its employees.

Establishment of an electronic world patent search system by 1975 was predicted by RCA Chairman David Sarnoff in an address delivered June 7 before an international patent conference held in

Frankfurt, Germany. During the same conference, General Sarnoff was presented with NAM's 1967 Modern Pioneer in Creative Industry Award.

The future world search system, General Sarnoff said, would comprise a network of national and regional patent offices linked by satellite, cable and overland circuits to a central computer. Each of the national and regional offices would maintain laser hologram files of all existing patents and patent applications in its area.

"Whenever an inventor filed a patent application in any country," General Sarnoff said, "the information would be flashed via the world network to the computer. From the computer, an automatic call would go to all offices in the

network for any information in their hologram files needed to determine the novelty of the invention. The whole process, from start to finish, would be automatic and practically instantaneous, and the inventor filing the application would know within hours whether he could obtain a world patent on his idea."

Abe M. Zarem, Senior Vice-President and Director of Xerox Corp., delivered the commencement address at Illinois Institute of Technology graduation ceremonies. He spoke on "How to Succeed in Business by Really Trying." An alumnus of IIT, Dr. Zarem founded Electro-Optical Systems of Pasadena, Calif., which is now part of Xerox Advanced Systems Divisions. He is the inventor of the Zarem camera, an electrooptical shutter capable of photographing 100 million exposures/s.

Some 565 students received degrees, including 340 BS, 175 MS, and 50 PhD degrees. The annual IIT Excellence in Teaching Award was presented to Darshanlal T. Wasan, Assistant Professor of Chemical Engineering. Dr. Wasan's major field of interest is fluid dynamics and heat transfer.

The Illinois Institute of Technology Research Institute (IITRI) (formerly Armour Research Foundation) is described as a "think tank" in a story by Richard Reeves in the June 15 issue of *The New York Times* (p. 42). According to Mr. Reeves, the IITRI had its real beginning in 1939 when "... a shy engineering student named Marvin Camras walked into the basement offices of the Armour Research Foundation and asked the dozen engineers there to look at the wooden box he was carrying." The "wooden box" is now regarded as the prototype of the modern magnetic recorder. Mr. Camras, now a "bulky, gray-haired man of 51," has worked on developments leading to 300 patents that form the basis of the tape recording industry. He is presently developing a home video-tape recorder, Mr. Reeves said.

IITRI presently has 650 laboratories with some 1,100 projects underway and has about 1,800 employes. According to E. H. Schultz, IITRI Director, about 10% of the work is basic research, 60% applied research, and 30% development.

Reid Ray, of Reid H. Ray Film Industries, Inc., 2269 Ford Parkway, St. Paul, Minn. 55116, his wife Roxanne, and cinematographer Chris Slagter of Toronto, embarked in June for a six-week film production trip during which they will visit Turkey, Iran, India, Lebanon and Kenya and Uganda. They will embark for South America from Dakar. Three locations are on the schedule in Brazil. Rio de Janeiro will be the first stop, followed by Brasilia, Brazil's new capitol. They will then film a highway under construction from Brasilia to Belem in northern Brazil. A fourth member of the crew, scriptwriter William Bernal, left earlier to do research on the various locations to be filmed.

John O. U. Richmond, Industrial Relations Director of DeLuxe-General Lab-



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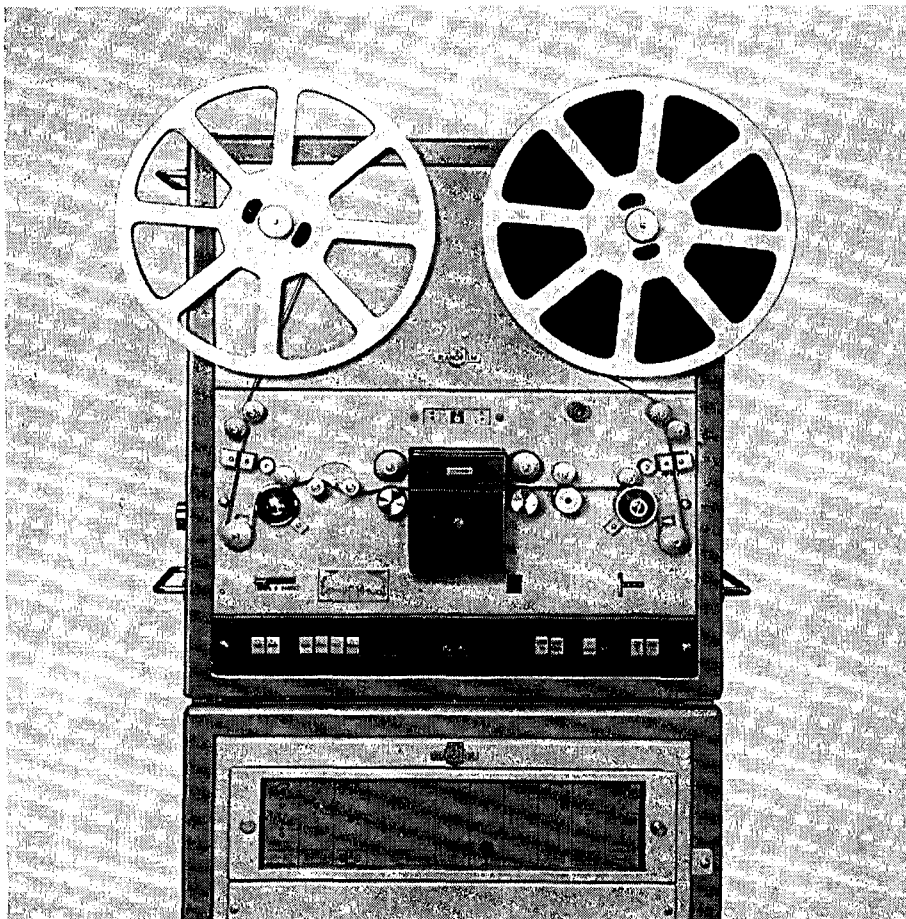
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mechanism ■ Equipped with magnetic sound recording and reproducing amplifiers according to the SITRAL technique ■ Triple head assembly (erase, record and reproduce) with wrapping rollers ■ Magnetic heads optionally for center – and/or edge track ■ film capacity 2000 ft. ■ Drive with three-phase power sync motor 220 v ■ Available for 16 mm or 17.5/35 mm film.

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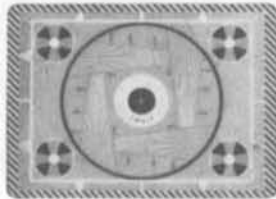
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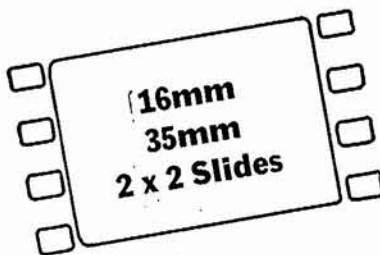
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- qualitative picture analysis



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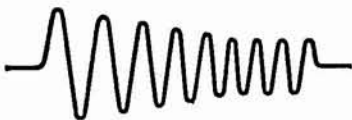
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- shutter timing (travel ghost)
- framing • focusing
- aperture alignment



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- azimuth and focus of sound optical train
- signal level and balancing, output
- flutter
- scanning beam illumination



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atories, Hollywood, has been honored by Laboratory Technicians Union, Local 683, for his service to the union. He was given a special gavel award during an appreciation ceremony because of his constructive representation of union-management problems.

A "light knife" that guides the beam from a laser source through a hollow jointed arm to a small probe which is held like a scalpel has been developed at Bell Telephone Laboratories to help the medical profession evaluate laser surgery. The probe is about the size of a fountain pen and can be used easily in any direction. It can also be attached to a surgical microscope for extremely delicate operations. The beam is transmitted through the microscope. The light-knife arm consists of an alternating series of six hollow tubular sections and six hollow blocks. The tubes are connected to the blocks at right angles to each other so that they form an elbow. Prisms within the blocks bend the laser beam around each 90° corner. After the light zig-zags through the tubes, the light exits through the handheld probe. A lens at the tip of the probe focuses the light to a pinpoint a few inches away.

Discovery of a composition of niobium, aluminum and germanium which becomes a superconductor at 20.1 K (+0.1°) has been announced by Bell Telephone Laboratories. This is believed to be the highest known temperature at which a material becomes superconducting. In 1954 scientists at Bell Telephone Laboratories raised the transition temperature from between 16.9 and 17.1 K to 18.05 K (± 0.1°). The 10% rise in superconducting temperature shows that what was thought to be the maximum superconducting temperature (18 K) can now be exceeded. The discovery also opens the possibility of building superconducting magnets that can produce higher magnetic fields than ever before, and also eases the problem of refrigerating the superconductor because this can be done for longer periods with less coolant.

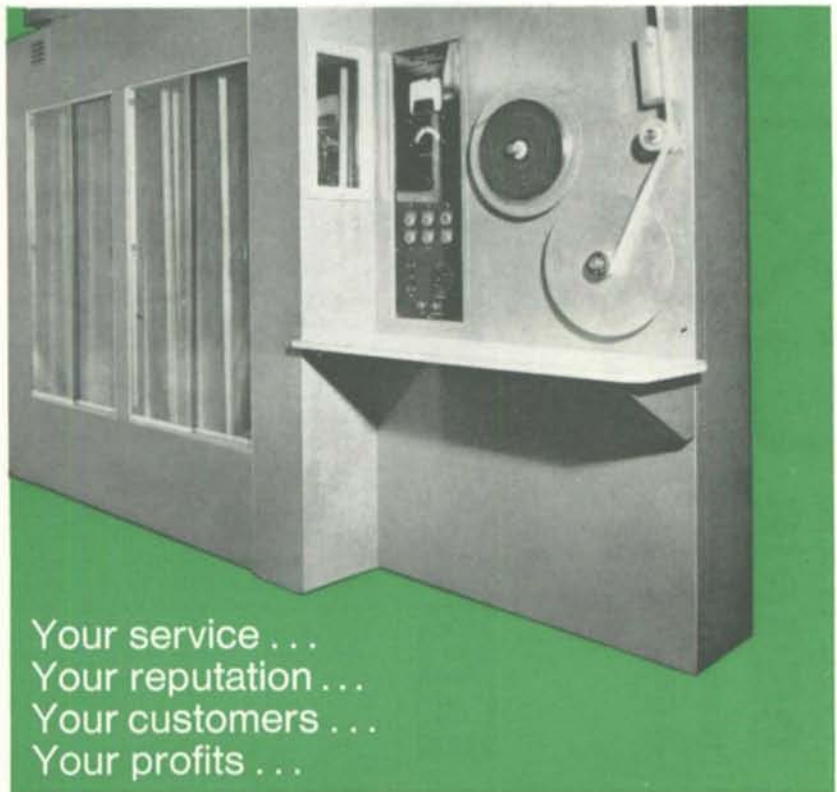
A superconductive magnet said to produce magnetic fields 280,000 times stronger than the earth's and to store enough energy to turn on 20,000 100-W light bulbs simultaneously has been announced by Radio Corp. of America. Described as "the world's most powerful superconductive magnet," its construction involves an RCA-developed process of vapor-depositing niobium-tin on a stainless-steel substrate to produce ribbons that can carry enormous currents and generate extremely high magnetic fields while in the superconductive stage. The superconductive ribbon is called Vapodep. The magnet, developed for National Aeronautics and Space Administration, weighs 1,320 lb. It has 22 modules and has a clear bore of 6.0 in. More than 50 miles of superconductive ribbon comprise the windings of the magnet coil. Flux density at centroid is 140,000 G (14 T). Inductance is 995 H and stored energy is 2×10^6 J. It is expected that superconductive magnets and superconductors will have important scientific and commercial applications.

Development of a practical field-effect transistor made of gallium arsenide has been announced by Radio Corp. of America. Reported as a "first," it was pointed out that gallium arsenide transistors are superior in certain ways to those made of silicon. For example gallium arsenide transistors have higher transconductance (more than double that of silicon metal oxide semiconductor devices) and have the ability to operate at temperatures up to about 350 C. In devising the transistors, silicon nitrate insulation was used in conjunction with that of gallium arsenide grown by a hydride-vapor synthesis technique developed by RCA Laboratories in Princeton, N.J. The gallium arsenide technology is expected to lead to the development of integrated solid-state electronic circuits that combine light emission and control functions to form a flat illuminated display composed of a single chip of semiconducting material.

An experimental system that can broadcast printed copy into the home together with standard television programing has been developed by Radio Corp. of America. The system works by converting printed copy into a series of electromagnetic signals which are blended at the transmitter with those of regular TV programs by means of an electronic "hitching" technique. The blended signal is broadcast for reception by standard TV home antennas. The signal is fed from the antenna to the printer without affecting home TV reception. Experimental printers currently under evaluation for this application produce the equivalent of a page from a standard paperback book every 10 seconds.

A miniature high-range resistor was described in a paper by Rudi Urlau and Robert Wagner presented at the Electronic Components Conference held in May in Washington, D.C. Dr. Urlau is Associate Director of Research and Development and Mr. Wagner is Senior Development Engineer for IRC, Inc., 401 North Broad St., Philadelphia, Pa. 19108. In the paper the two scientists discussed in detail the fabrication and characteristics of a high-stability, low-temperature coefficient resistor that has external dimensions of 0.130 by 0.100 by 0.050 in. It is designed for use with field effect transistors and other high-input impedance applications.

A number of English translations, including figures and tables, of technical articles in Russian, Japanese, Azerbaidzhanian, Ukrainian, Croatian, Romanian, Polish and Hungarian, as well as Western European languages, are available from Associated Technical Services, Inc., P.O. Box 271, East Orange, N.J. 07019. Among the more than 150 new listings are included RJ-4691, "Sensitometry of Photosensitive Polymers," K. Lyalikov, et al., *Zh. Nauchn. i Prikl. Fotogr. i Kinematogr.*, 10: No. 3 (1965) (\$13.25 for first translation, \$2.35 for each additional copy); RJ-4685, "Method of Making Electrophotographic Paper," N. N. Markevich, USSR Patent 171,262 (Nauchno-Issledo-vatel'skii Institut Elektrografii, June 11, 1965) (\$2.00 first translation, 75 cents, each additional copy); RJ-4697, "Photoelectrochemical Method of



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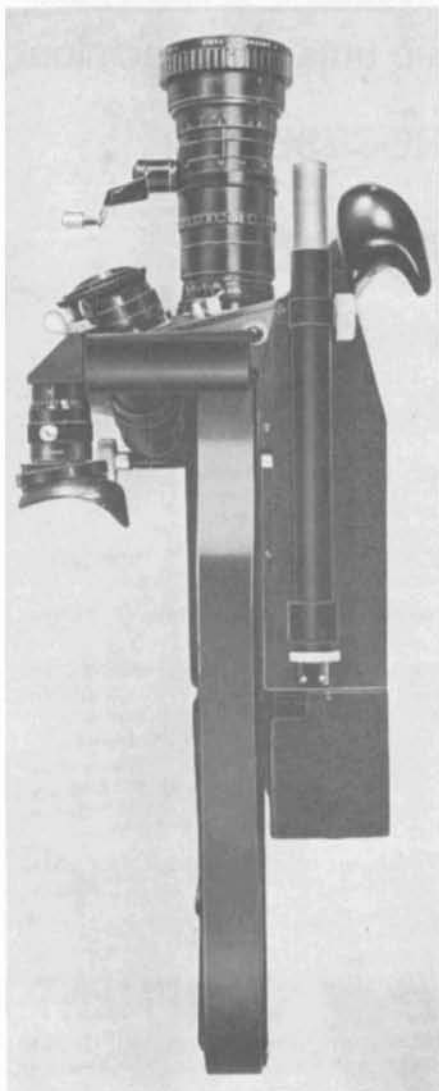
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Obtaining Bimetallic Images and Offset Printing Plates," V. I. Ginsburg, *Zh. Nauchn. i Prikl. Fotogr. i Kinematogr.*, 10: No. 3 (1965) (\$10.95 for first translation, \$2.30 for each additional copy); 1187-DU, "Device for the Reproduction of a Photograph," Dutch Patent Appl. 6,413,480 (A. B. Dick Co.) (May 20, 1965) (First translation, \$11.50, additional copies, \$2.15 each).

The TV Commercial Experimental Laboratory is a newly created unit of Torricelli Productions, Inc., 249 Central Park West, New York, N.Y. 10024, formed to adapt film techniques developed by Ugo Torricelli to commercial production. Many of Dr. Torricelli's short films have won international awards, including two CINE Golden Eagles, one for *La Farfalle*, shown at the Singer Pavilion at the New York World's Fair, and the other for *Danze Cromatiche*. Both films have received various other awards at international film. *Danze Cromatiche*, in which form, color, motion and music are used with stunning effect, was shown at the Society's 94th Technical Conference held in Boston in 1963. The film was also shown at the New York Film and TV Festival and the Venice Film Festival where it received awards.

The artistic and technical achievements represented by his earlier films, Dr. Torricelli believes, can be used with good effect in television commercials. He noted that since the emphasis in his films is first of all on form that they can convey a message equally well in black-and-white as in color. In discussing his approach to television commercials, Dr. Torricelli said, "The penetration of emotions expressed through graphics, abstractions, specially devised techniques and a well calculated integration of sound have more convincing power and more lasting effectiveness."

More than 400 projection screens of various sizes and types have been supplied to Expo '67 by Andrew Smith Harkness Ltd., Elstree, Herts, England. The largest display is probably in the section, Man and His Resources, with six screens, each measuring 100 by 70 ft. A special screen used for the Eidophor television display in the Quebec Pavilion enables a live television picture measuring 30 by 40 ft to be projected in color. A number of the screens used in exhibitions are of the rear-projection type. Another type is the blue screen used for the traveling matte process.

Manufacture of immense screens presents "formidable problems," the announcement stated. Strips of PVC are laid on long tables and a welding machine runs on rails, welding the sections together. The screen is then sprayed with appropriate coatings — microscopic crystals for Perlux theater screens, a frosted coating for translucent screens, while blue screens are finished with a deep blue dye. An optical projector and measuring instruments travel along the area of the screen to check the entire surface. The largest screens may weigh over a ton.

Expansion of processing facilities has been announced by General Film Laboratories, 1546 N. Argyle, Hollywood 90028. Part of the expansion program includes installation

of a 5,000-gal stainless-steel tank which will contain ammonium thiosulfate solution. The solution will flow directly to mixing facilities through a system of conveyer piping to increase processing efficiency by eliminating several steps formerly required.

For the 1966-67 television season, Reeves Sound Studios participated in the production of more television entertainment specials than any production source except one network, it was recently announced. The firm offers a full range of services to producers both on location with the Airmobile-Video System or in any studio. It offers post-production services including video editing studios. It also offers reverse motion video tape, separate 16mm or 35mm magnetic audio tracks and black-and-white and color Videofilm (video tape to film transfers).

The National Academy of Television Arts and Sciences presented an Emmy award to Ampex Corp. of Redwood City, Calif., for the development of high-band color video-tape recording. The system, introduced by Ampex in 1965, permits multiple generation copies of color tapes with little degradation of picture sharpness.

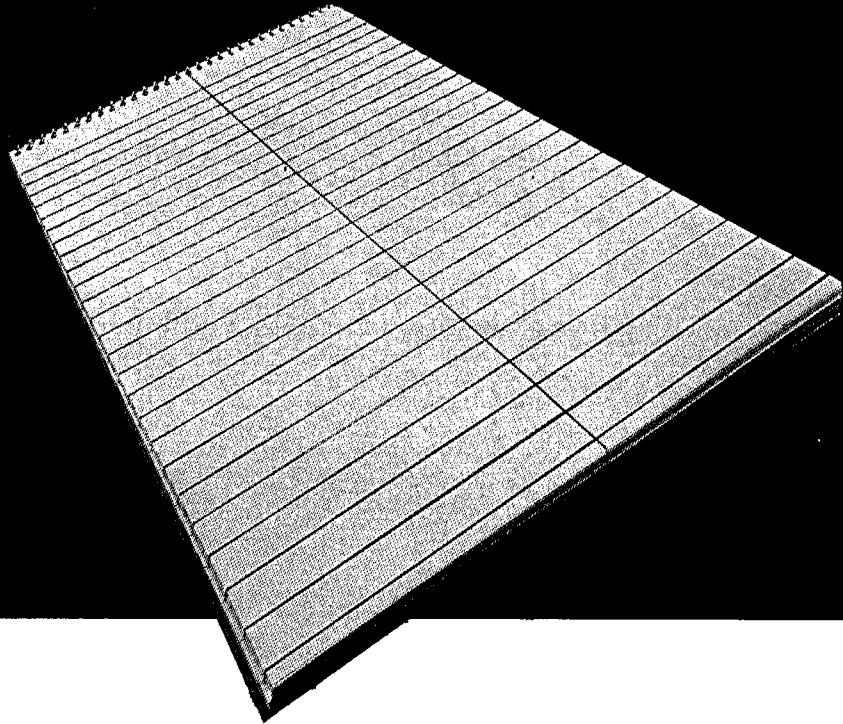
Amphicon Systems, Inc., is a new firm formed by Dalto Electronics Co. to specialize in the development, manufacture and marketing of large-screen, high-resolution television systems for educational applications. The new firm is located at 38 Oak St., Norwood, N.J. 07648. One of the products developed by the new firm is the Amphicon projector which has 1000-line resolution with variable scan rate and high brightness.

The Photographic Illustration Division is a newly created division of Keitz and Herndon and will be located at 1389 Crampton St., Dallas, Tex. The new division will handle still photographic services. Announcement of the new division was made following the firm's acquisition of the physical assets of Creative Photo Arts Studios. J. A. Barbarick has been appointed General Manager of the new division.

Mecca Film Laboratories, which recently expanded into the color printing and processing field, has taken over the entire third floor of the Film Center Building at 630 Ninth Ave., New York, N.Y. Two custom-built 35mm and 16mm color processing machines for Eastman negative-positive color prints are in operation. New additive color printers, contact and reduction are being used. The color laboratory is presently operating on two shifts, the announcement stated.

Plans to acquire Continental Graphics, Inc., a group of three Los Angeles companies, have been announced by Republic Corp., 9601 Wilshire Blvd., Beverly Hills, Calif. The group, composed of Economy Lithographic Co., Economy Blueprint and Supply Co. and John F. Mawson Typographers, occupies 14 buildings in three locations with a total floor space of about 110,000 ft². Continental will continue to

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operate as an autonomous division of Republic Corp. under its present General Manager, Curtis F. Bourland.

The 70th outside television broadcast vehicle constructed by Marconi Company, Ltd., Chelmsford, Essex, England, has been sold to Rediffusion Television. The unit will operate with four Marconi Mark V black-and-white cameras and more cameras may be added if desired. Eventually the vehicle will operate with Marconi Mark VII color cameras. The design features "hands-off" operation of the television cameras so that two men can control four camera channels.

Capital Film Laboratories, Inc., 470 E St., S.W., Washington, D.C. 20024, has announced expansion of its laboratory facilities at Studio City, Miami (*Jour.*, p. 122, Feb. 1966). The building will be made larger and high-speed printing and processing equipment will be installed to triple its present capacity. The firm has also installed new Ektachrome processing equipment and new printers in its Washington, D.C., laboratory as part of an overall expansion program.

Fred J. Scoby has been appointed Engineering Vice-President for DeLuxe Laboratories, Inc., 850 Tenth Ave., New York, N.Y. 10019. He has been with DeLuxe Laboratories since 1963 as Plant Superintendent. He joined General Film Laboratories, Hollywood, in 1955 as Chief Engineer and Technical Director. He served with the U.S. Air Force as supervisor of the Lookout Mountain Motion Picture Laboratory. He has also been associated with Technicolor Motion Picture Corp. and Paramount Picture Laboratory Division.

Gene A. Carr has been appointed Vice-President in charge of Production for the Calvin-DeFrenes subsidiary of Calvin Productions, Inc., Kansas City, Mo. The Calvin-DeFrenes subsidiary is located in Philadelphia, Pa. In his new post Mr. Carr will direct expansion of facilities and operations to serve the East Coast production and processing markets. The Philadelphia facility has complete film production facilities, including sound stage and sound production, camera and lighting crews, set-building, art and animation and film editing.

Eric Mitchell has been appointed Director of Telecommunications for Altec Lansing, a division of LTV Ling Altec, Inc., 1515 Manchester Ave., Anaheim, Calif. 92803. He was previously Chief Engineer of Telephone Products. Responsibilities of his new post will include liaison with other Ling-Temco-Vought subsidiaries to aid in coordinating telecommunications programs.

David A. Dever has been appointed Technical Sales Representative for ColorTran Industries, Inc., 1015 Chestnut St., Burbank, Calif. He will service ColorTran dealers in the nine southeastern states with headquarters at 3701 Mt. Vernon Ave., Alexandria, Va. Prior to this appointment he was associated with Klicic Bros., where he was a sales engineer in the Television Department.

James Noble has been appointed Director of Engineering for Altec Lansing, a division of LTV Ling Altec, Inc., 1515 South Manchester Ave., Anaheim, Calif. 92803. He was previously Chief Engineer for Electronics. In his new post he will have all the design engineering responsibility for Altec products in the public address, motion-picture theater, telephone and high-fidelity fields. He has been with Altec Lansing since 1941.

Gordon O. F. Johnson has been elected President of LogEtronics Inc., 500 E. Monroe Ave., Alexandria, Va. He succeeds Richard N. Johnson who will continue as Chairman of the Board and Treasurer and who will also remain in active management as Chief Executive Officer. Before joining LogEtronics at its formation in 1955, Gordon Johnson was with the Economic Cooperation Administration and Office of the Chief of Naval Operations.

Kenneth K. Kaylor has been appointed Western Regional Sales Manager for Philips Broadcast Equipment Corp., a subsidiary of North American Philips Co. His headquarters will be at 23323 Los Encinos Way, Woodland Hills, Calif. 91364. Mr. Kaylor was formerly with CBS Television in Hollywood as technical director. More recently he was with Fairchild Camera and Instrument Corp. where he was responsible for designing closed-circuit systems for military and industrial applications.

George W. Boemler has been appointed Director of Sales for Rapid Color, Inc., Glendale, Calif. In his new post he will have responsibility for coordination of sales activities of the firm's five divisions in San Francisco, Hawaii, Buena Park, Calif., and Glendale. Mr. Boemler has had 30 years experience in the photographic field and has held technical sales and marketing posts with General Aniline and Film Corp. and Kalvar Corp. of New Orleans.

New appointments and transfers have been announced by General Electric Co., Visual Communication Products Dept., Electronics Park, Syracuse, N.Y. 13201. Robert L. Manahan has been named District Sales Manager for the West Coast with headquarters at Pasadena, Calif. He was formerly District Sales Representative at Palo Alto. Lloyd V. Morris and Mathew S. Ceterski, district sales representatives, have been transferred to Pasadena from New York. District engineers, Robert E. Schenke and Philip S. Weisel will continue at Pasadena headquarters and William A. Brant will maintain an office in Seattle, Wash.

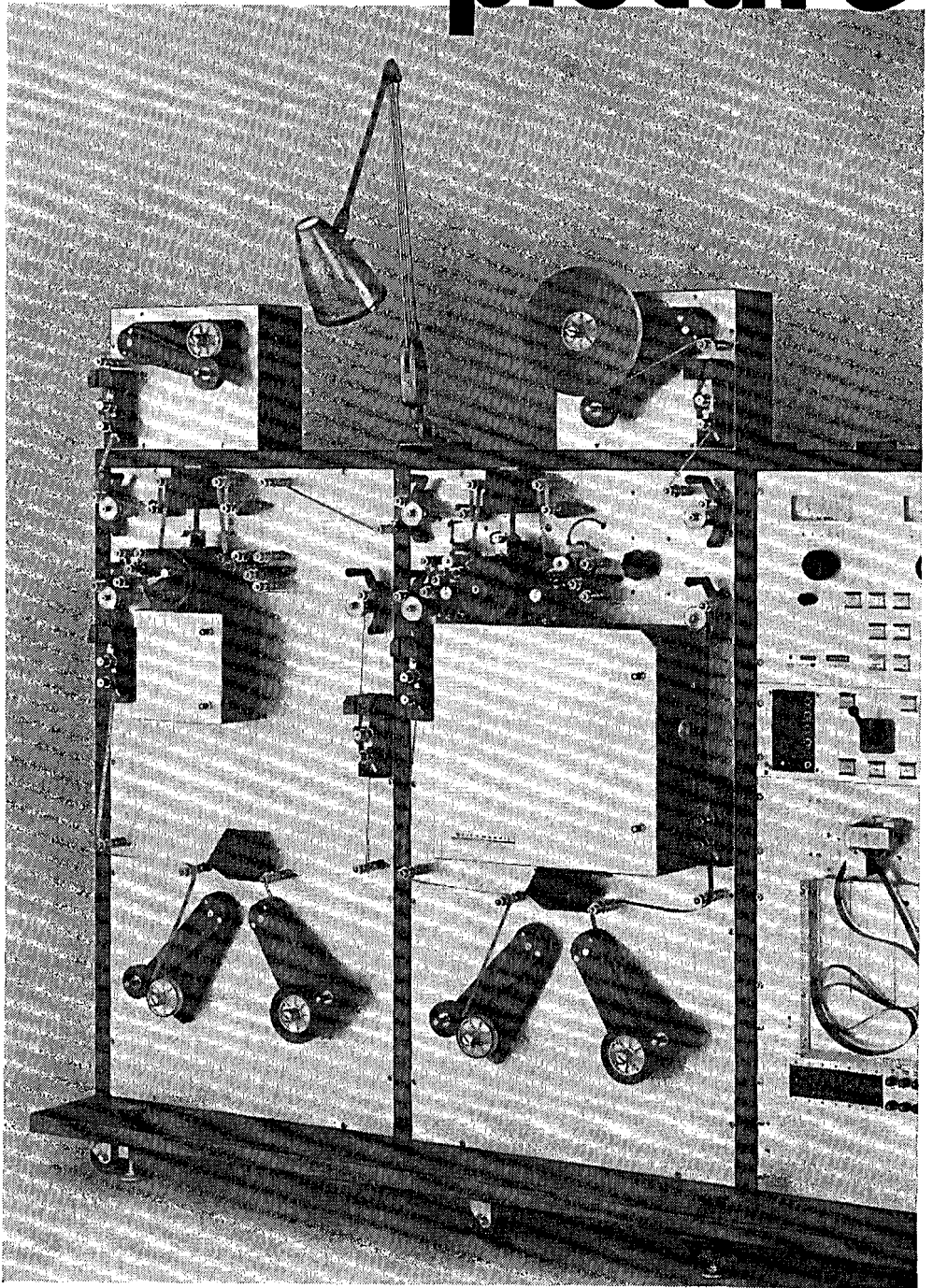
Richard B. Falk has been appointed Manager of Manufacturing, Computron Inc., 122 Calvary St., Waltham, Mass. He was formerly responsible for research and development in the Magnetic Materials Section, Product Dept., Chemical Div., General Electric Co., Bridgeport, Conn. Computron Inc. is jointly owned by the BASF Group and General Electric Co. It will open a new magnetic tape manufacturing facility in Bedford, Mass., later this year.

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Douglas C. Harvey has been appointed Manager, Commercial and Professional Products, Apparatus & Optical Div., Eastman Kodak Co. He has been with Eastman Kodak since 1939. Since 1961 he has held the post of Associate Director of Research and Engineering. In his new post he will be responsible for design and manufacturing engineering, product assembly and product quality control.

Recent appointments at DeLuxe Laboratories West Coast Div.: Al Blanco was named Customer Services Manager of DeLuxe's Western Ave. plant. He was formerly on the sales staff of General Film Laboratories, a division of DeLuxe. Ray Gaul was appointed Plant Superintendent of General Film Laboratories in Hollywood. He was formerly Assistant Plant Manager. Bill Medlin has joined the production staff of DeLuxe. He was formerly the production manager of Allied Laboratories in Detroit.

Joseph F. Fichera has been appointed to the new position of Merchandising Supervisor for the Photolamp Operation of Sylvania Electric Products, Inc., 730 Third Ave., New York, N.Y. 10017. Fichera joined Sylvania in 1962 and has been a sales representative in the Chicago district. He formerly was with Argus Inc. Fichera has a BBA degree from Pace College and has done graduate work at the

University of Michigan. He also attended Brooklyn College and Pratt Institute.

Y. Frank Freeman has been elected a Life Trustee of the University of Southern California. Mr. Freeman, who is Vice-President of Paramount Pictures Corp., has been a member of the USC Board of Trustees since 1949. USC now has five Life Trustees. The others are Bishop James C. Baker of Claremont, William C. Mullendore, Elvon Musick, and Franklin S. Wade, all of Los Angeles. Mr. Freeman is Chairman of the Board Emeritus of the Association of Motion Picture and TV Producers. He was Honorary President of the Freedom Documents Foundation in 1964-65.

Otis E. Finley, Jr., former Executive Director of the Community Action Program for Rochester and Monroe County, N.Y., has joined Eastman Kodak as Marketing Associate with the Director of Education Markets Development. In this capacity he will work on the development of ideas, products and programs to expand Kodak's activities in the field of education. He will assist in establishing contacts with principals in educational fields and in continuing broad exploration of the education markets. Mr. Finley was formerly Associate Director of the National Urban League in New York (1961-65) where he directed the League's national program in education and youth motivation.

Books Reviewed

Professional Engineers Examination Questions and Answers (Rev. 2d ed.)

By William S. La Londe, Jr. Published (1966) by McGraw-Hill Book Co., 330 W. 42 St., New York, N.Y. 10036. 589 pp. + index. Diagrams. 5 3/4 × 8 in. Price \$9.95.

A high rate of growth in the number of professional engineering registrants has been apparent in the last few years as a result of the increased importance and significance attached to registration by industry and management. Since the first registration law for engineers was enacted in 1907, the number of registrants increased at an average annual rate of 400 per year up to 1940; 7,000 a year during the 40's and 50's; and the current rate is approximately 10,000 new registrants annually. The total number of registered professional engineers is approaching 300,000 in the United States. A number of refresher courses in book form have been published on basic engineering subjects as an aid to engineers preparing for their state examinations. The La Londe book is one of the first books of that type. It consists essentially of a compilation of typical problems and solutions of the type asked in the examinations; 80% of the questions are taken directly from actual examinations in states throughout the country.

The book is divided into three parts. Part I provides the information needed on legal registration, addresses of Registration Boards and suggested experience qualification guides. The second part of the book is devoted to typical examination questions listed by categories. Virtually all broad fields of engineering are covered, including mechanical, electrical, civil, sanitary, chemical and land surveying. The third part provides answers to the questions.

The intent of the La Londe book is to encourage the user to answer the questions himself, thus providing the basis for a comprehensive critique of his engineering background. No attempt is made by the author to review the basic engineering principles required to solve the problems. The book may be considered deficient in this respect.

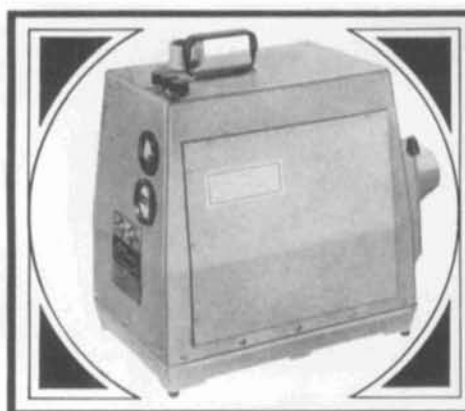
There is other published material of interest especially for subject areas and in specific states, such as:

Aidlin, Samuel S., *Professional Engineering Economics and Practices—Review Course for the Engineering License Examination*, New York State. 1st ed., Kings County Chapter, New York State Society of Professional Engineers, 117 Remsen St., Brooklyn 2, N.Y.

Illinois Society of Professional Engineers, *Professional Engineers Examination Questions*, 4th ed. \$1.50. (Available from the Executive Secretary, Illinois Society of Professional Engineers, Association Building, 612 S. 2nd, Springfield, Ill.)

Missouri Society of Professional Engineers, *Refresher Course*. Paperbound. \$1.00. (Available from the Missouri Society of Professional Engineers, P.O. Box 365, Jefferson City, Mo.)

Pennsylvania Society of Professional Engineers, *Sample Questions From Examina-*



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