Assisting Mr. Elmer as Associate Chairmen are **William G. Hyzer,** Consulting Engineer, Janesville, WI, **Robert D. Shoberg,** Red Lake Labs, Santa Clara, CA, and **John H. Waddell,** McDonnell-Douglas Corp., Fountain Valley, CA. **Max Beard,** Naval Ordnance Lab, Silver Spring, MD, is U.S. Delegate to the International Committee for the planning and conduct of High-Speed Photographic Congresses. Deputy Chairman of the Congress is **Tryggve Ramqvist,** who served as Chairman of the 8th International Congress in Stockholm during June 1968. The SMPTE Board of Governors Liaison Committee consists, in addition to these chairmen noted above, William G. Hyzer, Max Beard, E. B. McGreal, **Rodger J. Ross,** Canadian Broadcasting Corp., Toronto, Canada, and **Deane R. White,** E. I. du Pont de Nemours and Co., Parlin, NJ. The Society of Photo Optical Instrumentation Engineers is also cooperating in the preparation of program material.

In reviewing plans for the Congress, Chairman Elmer said, "I am pleased that four Past-Chairman of the SMPTE's Engineering Committee on Photo-Instrumentation have offered to undertake these major functions of the Congress. Mr. Hyzer also serves as the Society's Vice-President for Photo-Instrumentation Affairs; Mr. Shoberg has just completed his term as Chairman of the Engineering Committee in this field; Mr. Waddell was the primary force in organizing and conducting the first such international congress in 1952; and Mr. Beard served as Chairman for the 5th Congress in 1960. With the services of these four men and committee members assisting them in their functions, plus the support and interest of the SMPTE as a whole, I feel that the Denver conference of 1970 will reflect great credit upon the U.S.A., as the host country."

A number of activities have already been planned for the Congress. Registration will begin on Saturday, August 1, and continue on Sunday. The Equipment Exhibit will open on Sunday at noon with an Exhibitors' Open House and Cocktail Party. On Sunday evening an Opening Banquet will feature a keynote popular lecture by an outstanding authority in the field, a presentation of interest to both delegates and the members of their families accompanying them. Technical Sessions begin on Monday and run through Friday. On Wednesday, August 5, an excursion to Colorado Springs is planned; and Thursday evening will feature a dinner dance preceded by a cocktail party. In addition, a varied Ladies Program is being planned.

The Denver Hilton Hotel as seen from the Civic Center in downtown Denver.

Arrangements are being made for simultaneous interpretation of papers, preprinting of papers and printing of the *Proceedings* of the Congress in book form.

Rapid growth of this field of scientific and engineering technology has focused interest throughout the Western Hemisphere on this Congress, which comes to this part of the world only once each decade.

EDUCATION INDUSTRY NEWS

Erratum: The address of Photo Electronics Corp. is now Fairfield Drive, West Palm Beach, FL 33407. The firm now occupies a new building covering 21,000 ft² which gives added space for research, development and manufacturing. The address (Byram, CT) given in the New Products column of the March 1969 issue of the *Journal* (p. 242) is no longer the correct address.

Reid H. Ray has been re-elected President of CINE (Council on International Nontheatrical Events). Newly elected CINE officers are Willis H. Pratt, Jr., Vice-President for Information, and O. S. Knudsen, Secretary. New members of the Board of Directors are David Shefrin, Henry Herx and James Damon. Other officers re-elected include Alfred E. Bruch, Treasurer; Harold E. Wigren, Coordinating Director; James H. Culver, Managing Director and Peter Cott, First Vice-President. Other Vice-Presidents include Charles A. Bemant, Charles Dana Bennett, Otto H. Coelln, Ralph Creer, Anna L. Hyer, Emily S. Jones and Rev. David O. Poindexter.

Mr. Ray, who is serving his second term as CINE President, is President of Reid H. Ray Film Industries, St. Paul, MN, producer of nontheatrical films. One of the firm's prize-winning productions is *Discover America* which was filmed in aeroscope and which has won numbers of prizes at foreign film festivals. The firm was founded in 1911 and is known as the nation's oldest operating film production firm.

The Society of Photo-Optical Instrumentation Engineers will hold its 14th Annual Technical Symposium August 11–14 in San Francisco. Theme of the Symposium will be Photo-Optical Instrumentation Applications and Theory. Papers will be presented covering the theory and practical applications of photo-optical instrumentation, including the sensing, recording, processing and recovery of scientific and engineering data. Further information is available from Harold L. Kasnitz, Technical Program Chairman, SPIE Symposium, P.O. Box 288, Redondo Beach, CA 90277.

Antioch College will offer a three-day seminar on video-tape recording to be held June 25–27. The course will be co-sponsored by Dayton Communications Corp., Dayton, OH. Emphasis will be upon techniques and applications for education, industry, medical and related fields. The program will include "hands-on" experience and small group activities. Further information is available from Edward Clark, Antioch College, Yellow Springs, OH 45387.

The University of California, Los Angeles, Business Administration Extension Dept. will produce an initial group of small business administration courses in EVR cartridge format. Course material will utilize lecture, instructional and case history approaches, aimed at audio-visually aiding owner-managers of small businesses taking adult extension courses at UCLA. Particular emphasis is expected to be placed on small businesses in economically underprivileged areas. Production is planned for next year by UCLA's Extension Media Center which supports the University's continuing education programs throughout Greater Los Angeles with film and television production planning facilities.

Universal Studios and the University of Southern California's Division of Cinema have three summer programs for: (1)

undergraduate students, (2) graduate students and (3) high school teachers of film study courses. They are being held January 23 – August 1. The programs will be conducted mainly on the Universal lot with evening sessions at USC. On the Universal lot, students will observe soundstage procedures and will attend seminars with studio executives, discussion groups and film screenings and will take part in question-and-answer sessions. Only students with demonstrated superior academic achievement will be accepted for the program. Further information is available from Director, Universal-USC Summer Cinema Programs, Division of Cinema, University of Southern California, University Park, Los Angeles, CA 90007.

Brigham Young University has announced the third Audio/Recording Seminar to be held July 14–18. Topics to be covered include Legal Aspects of Recording and of Performances; Business of Recording; Recording Studio Designing and Remodeling; Auditorium Acoustics; The Art of Sound Reinforcement; Magnetic Tape — State of the Art; Multichannel Recording — Art or Science; Synchronous Sound Recording Techniques; and The Fine Art of Sound Recording. An Equipment Exhibit will be held as part of the seminar with presentations by the manufacturers. Further information is available from Special Courses and Conferences, Room 242, Herald R. Clark Bldg., Brigham Young University, Provo, UT 84601.

A course in Color Technology for Management will be given August 21–22 at Rensselaer Polytechnic Institute as part of the fifth annual summer program in color sponsored by the Institute's Color Measurement Laboratory. The course, offered for the first time, is intended to aid executives responsible for research, production, or sales of colored products to arrive at correct management decisions based on the principles of color technology. Other courses given as part of the summer program include Principles of Color Technology (August 11–15) and Advanced Color Measurement (August 25–29). Further information is available from the Office of Continuing Studies, Rensselaer Polytechnic Institute, Troy, NY 12181.

The 6th Annual Audio-Visual Institute for Effective Communication will be held November 9–14 at Indiana University. Sponsors are National Audio-Visual Association and the Audio Visual Center of Indiana University. The Institute is intended for industrial training directors and training specialists and consists essentially of an intensive course in the use of audio-visual materials and techniques. Further information is available from NAVA/IU Institute, 3150 Spring St., Fairfax, VA 22030.

A course in Applied Optics is being given June 16–20 at the University of Wisconsin. The course will include lectures and discussions on the general topics of Reflection/Refraction; Gaussian Imaging; Practical Imaging; Energy Distributions and Color; Waves (Scalar Aspects); Waves (Polarized); Instrumentation and Spectroscopy and Current Developments. Further information is available from David P. Hartmann, Short Course Coordinator, University Extension, University of Wisconsin, Department of Engineering, 432 North Lake St., Madison, WI 53706.

The Engineering Foundation, 345 E. 47 St., New York, NY 10017, has announced an Engineering Research Conference to be held August 4–8 at Proctor Academy, Andover, NH, on the subject of Technology Assessment. (Technology assessment is defined as "the process of identifying and studying the social, economic and environmental consequences of the application of science:") The objective of assessment is "to replace reactive and symptomatic management with anticipatory and adaptive guidelines for applied science," the announcement stated. Conference Chairman is Richard A. Carpenter, Senior Specialist, Library of Congress.

World Microfilms, 125 Tottenham Court Rd, London W1, England, has announced the publication of the Microfilm Card Index of the Information Department at the British Film Institute. The index records details of some 100,000 films produced throughout the world since the inception of the cinema and is available on 16mm microfilm. Since 1933 materials from every available source including over 200 international film periodicals, have been collected and documented by the staff of the B.F.I. The information is entered on index cards and these are updated whenever further information becomes available. The Index is also a comprehensive survey of all the leading international film periodicals, publication details of which appear at the end of the microfilm.

The Greater Miami Film and Television Council is being formed as a first step in unifying Florida's film industry. The Council intends to set forth unified goals for the area's film industry. Their stated objective is to encourage a good financial climate offering every inducement to film producers in establishing permanent operations in Florida.

The Corporation for Public Broadcasting has announced plans for a special study of expanding educational opportunity for the nation's adults. The study, to be completed in early September, will be conducted for the Corporation by the National Instructional Television Center (NITC). The CPB is an independent, nonprofit Corporation established under the Public Broadcasting Act of 1967. It is financed by both Federal funds and private contributions to help develop public radio and television broadcasting through program and station support and establishment of interconnection systems.

Movielab, Inc., has announced the introduction of a fully automated, electronic back-up projection system for the Movielab Preview Theatre. Under the new system, the start of the film can be controlled from the projection booth or at the Preview Theatre's console by simply pushing a button. In addition, the film can be stopped at any time from the theatre console, and by pressing the "reverse" button, the film can run backwards. The same stop and reverse patterns can also be performed by the projectionist in the booth. The automated back-up system will enable producers, directors, sound engineers, musicians and editors to stop a film being previewed at any point to determine appropriate insertions, cuts, trims or other changes.

Visual Electronics Corp. and Colorado Video Inc. have announced an exclusive marketing agreement whereby Visual will direct all the sales, installation and service of the CVI line of video converters to be marketed under the Visual Electronics name. The present converters known as the VC201B Transmitter, and the VC220B Receiver, convert by means of sampling techniques standard 525-line television signals to audio bandwidths for transmission over ordinary telephone lines. The VC220B Receiver stores these samples on a magnetic disc reconstituting a standard 525-line picture which can be viewed on an ordinary TV monitor. The time of transmission of a single TV frame varies from 4 seconds to 2 minutes. These systems will be marketed through Visual's own closed-circuit TV subsidiaries and through its franchised distributors in this country:

Alan Gordon Enterprises Inc. is now distributor for standard and custom ruggedized lens supports and precision camera mounts manufactured by Winter Engineering Co. The lens supports are designed for maximum performance under extreme environmental conditions. All mounts are furnished with positive locking devices which feature ease of adjustment and firm support with no possibility of lens coming out of the camera or out of adjustment. The precision camera mounts feature adjustment for both azimuth and elevation and are ruggedly designed for use with 16mm, 35mm and 70mm cameras and are capable of withstanding static loads up to 12,000 pounds.

An agreement was recently concluded between Ben and Harry Teitelbaum, co-owners of Hollywood Film Company, and Ken Summer, Vice President of Treck Photographic Inc., whereby Treck becomes the exclusive U.S. distributor of HFC's line of patented film processing splicers which include 16mm, 35mm, 126, 120, 127, 620 and 70mm models, to the Photo Finishing Industry. Treck is the new organization which purchased the assets of the Eastman Kodak Stores and has 40 marketing centers in the U.S. and Canada to service various photographic markets.

Canon Camera Co., Inc., Japan, has changed its name to accommodate the diversity of its current and projected product lines, to: Canon Inc. The company was originally established as a manufacturer specializing in cameras. For the past several years, the company has also manufactured office equipment and optical products including electronic desk-top calculators, electrostatic copying machines, a complete

line of micro-filming equipment, TV lenses, a signature verification system for banks, and medical equipment.

Opcon Associates, Inc., 1011 High Ridge Rd., Stamford, CT 06905, is a new firm of consultants in optical system design organized by Jan Hoogland, Ellis I. Betensky and John L. Mogey, all formerly with Perkin-Elmer Corp. The new firm will specialize in projects involving the design of optics for volume production as well as one-of-a-kind optical systems. State-of-the-art computer techniques are available through a direct tie with an IBM 360/67. The firm has available the services of a group of consultants for mechanical and other related problems.

Ingenuics, Inc., has tripled its office and laboratory space in its move to a modern factory/office building, consisting of about 10,000 ft² in Gaithersburg, MD. The company will occupy approximately half of the building initially, and during the next year occupy the remainder of the space. According to Dwin R. Craig, president, the new space will provide for expansion of its office facilities, a larger display and demonstration area, and particularly give the firm 3,500 ft² for larger photographic and electronics laboratories as well as a manufacturing and assembly area.

Harry McCune Sound Service, San Francisco, has announced the opening of its newly built recording studio at 915 Howard St. The new facility will offer a professional recording service for all applications. Among the services offered are video-tape recording, sound effects library, stereo reverberation (echo) chamber, Anhydrous Sync-Stop Overlay, phonograph record manufacturing and motion-picture, TV and slide projection. Harry McCune Sound Service has been in operation in San Francisco since 1931.

Photo-Pic Systems, of New York, an authorized distributor for Macbeth Corp., Newburgh, NY, maintains a factory-authorized repair shop for Macbeth products including reflection densitometers, transmission densitometers, soundtrack densitometers and other electronic instruments for close tolerance operation. Before a repair facility is designated as a factory-authorized repair station, technicians are required to attend an extensive training seminar conducted at the Macbeth factory.

William Szabo, President of Will Szabo Associates Ltd., 121 Wellington Ave., New Rochelle, NY 10804, has announced that the firm is audio-visual consultant for the United States Pavilion at Expo '70 in Osaka, Japan. Services include on-site engineering and supervisory activities relating to audio-visual systems design, installation and operation. Mr. Szabo's experience includes Expo '67, HemisFair '68 and New York World Fair 1964–65.

DFI Communications, Inc., has announced acquisition of Wid's Films and Film Folk, Inc., publishers of *Film and Television Daily*. Charles Alicoate, owner and co-founder of Wid's Films and Film Folk, Inc., will continue as publisher of *Film and Television Daily*. The company will operate as a subsidiary of DFI.

Sanders Associates, Inc., Daniel Webster Highway South, Nashua, NH 03060, has acquired Diffraction Ltd. Sanders Associates specializes in the development of electronic systems and products for defense/aerospace and commercial electronic data management and data communications markets. Diffraction designs and manufactures optical systems and components. The firm will continue to operate in Bedford, MA, under the direction of Willem Brouwer. Dr. Brouwer is known for the development of military lens systems and optical instrumentation for metrology.

Walter Reade Organization, a motion-picture company with interests in wood veneers and real estate development, will acquire Pyramid Publications, Inc., in accordance with the terms of a recently announced agreement. Pyramid is a publisher of paperback books and magazines.

WRS Motion Picture Co., 210 Semple St., Pittsburgh, PA 15222, has announced that liquid gate printing is now used in its Optical and Title Department. According to WRS President, F. Jack Napor, "liquid gate is especially important when making optical blow-ups." Liquid gate printing is accomplished by immersing the original to be printed in a solution of the same density as the film base and emulsion. The solution flows into the abrasions and eliminates the refraction of light as it passes through the original in the printing process.

The Color Center, Inc., a subsidiary of Electrographic Corp., has been established at 410 E. 62 St., New York, NY 10021 to provide all types of production services under one roof. The Center is contained on one floor covering 21,000 ft². Services are provided for filmstrip and slidefilm including negative photography, answer and release prints and cutting, canning and vacuumating. Optical services include special effects, camera animation and CinemaScope and Techniscope unsqueezing. The motion-picture laboratory is equipped for 8mm, 16mm and 35mm. Video-tape services include editing and mixing, duping and tape distribution.

Varo, Inc., a Texas-based electronics company has acquired PEK Labs, Inc., Sunnyvale, CA. PEK manufactures both xenon and mercury lamps as well as flashlamps for laser applications. The firm will be operated as a division of Varo.

Electrodyne Corp., 7315 Greenbush Ave., North Hollywood, CA 91605, is installing a custom-designed audio control system in the Morman Tabernacle in Salt Lake City. The installation has 24 inputs and five outputs and uses integrated circuit modular components. The installation will handle all audio functions within the 37,500 ft² structure including the recording of the 375-voice Morman Tabernacle Choir as an audio feed for the Choir's network radio and television broadcasting and the public address system within the Tabernacle.

Philip A. Hunt Chemical Corp. has announced the acquisition of Marvel Photo Co. and its affiliated companies which have their principal offices in Harrison, NJ. It is planned to operate Marvel Photo Co. as a subsidiary of Hunt, it was announced by Jerome S. Coles, President. Advantages of the acquisition will include use of a color processing laboratory, Dr. Coles stated. Harold W. Edelberg and Michael Wolfson, President and Vice-President of Marvel will continue in those positions.

Modern Teleservice, Inc., 619 W. 54 St., New York, NY 10019, has announced a new facility to load 8mm and super 8 film cartrides. The operation, which holds a license from Technicolor, Inc., is available to all laboratories with Technicolor, Fairchild, Jayark and Bohn Benton cartridging. The facility is engineered particularly for dust abatement and temperature and humidity control.

The Holographic Test Facility maintained by Itek Corp., Lexington, MA 02173, provides a real-time test technique for examining the deflection behavior of large optical glass blanks under simulated environments. In effect, a mirror blank subjected to heat or mechanical stress is continuously and simultaneously compared with its state before the application of heat or stress, and the changes in surface contour can be examined by an observer. The complete deformation history of the test object under environmental changes can be observed during one experiment in as little as 15 minutes after preparation.

Basically an application of laser holographic interferometry, the technique incorporates Itek design innovations, such as symmetrical illumination and the use of retro-reflective paint, allowing much larger mirror blanks to be tested than would otherwise be possible. Surfaces as large as 45 in. in diameter can be examined. The facility is located in Burlington, MA.

A new subscription service called Selective Dissemination of Microfiche (SDM) has been announced by Clearinghouse (152.12), U.S. Department of Commerce, Springfield, VA 22151. Subscribers can order, from any of several hundred basic categories, unclassified reports and translations of foreign technical literature sponsored by more than 100 Federal agencies and other organizations. The documents are grouped by field of interest and orders can be placed by subject category by originating agency, or by subject category within an agency collection.

Scientists, stock brokers, architects, statisticians and many others who use computers may soon have a practical, fast and inexpensive way of converting data in a computer's memory into three-dimensional pictures and graphs. With a process devised at Bell Telephone Laboratories, it takes only a few seconds of computer time to turn equations, formulas, statistical data and other information into a form suitable for the making of holograms. Viewed under

ordinary light, the holograms produce three-dimensional pictures that can display a full 360-degree view of the object shown. Holography records a subject through the interference of two laser beams on a photographic plate. One beam is aimed directly at the plate and the other reaches the plate after being transmitted through, or reflected by, the subject being "photographed."

In the BTL method, the original subject exists only as a group of numbers or coordinate points in three dimensions, for example, in the computer's memory. The hologram is made in two steps. First, the computer is programmed to construct a series of two-dimensional pictures, or projections, each showing the 3-D data from a precisely defined unique angle. A microfilm plotter, connected to the computer, produces a microfilm frame for each picture. In the second step, a holographic transparency is made. The frames of the microfilm are used as subject to make very small holograms (1 to 3 mm across), which are positioned sequentially on a holographic medium. The composite hologram is made up of a series of small holograms, each of which is formed with a two-dimensional image. But the composite image appears three-dimensional, and shows a 360-degree view of the object. The viewer can see the object rotating through a full cycle by simply moving his head from side to side in front of the hologram.

Dr. Peter Goldmark, President and Director of Research of CBS Laboratories, a division of Columbia Broadcasting System, Inc., recently addressed the Annual New York Film Council Luncheon on the subject of "Technology and the Future." Dr. Goldmark developed the first successful color television broadcast system and the long-playing phonograph record. He has recently spearheaded the new technological advance known as Electronic Video Recording (EVR) which broadens the application of television for education.

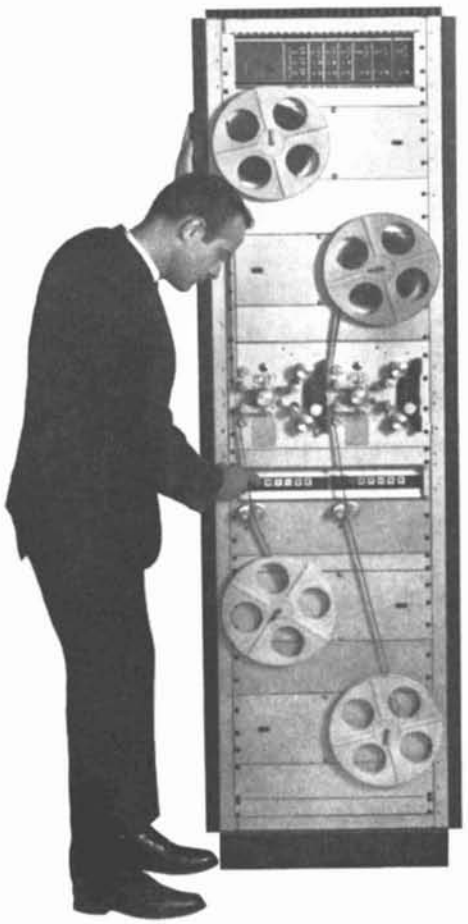
The New York Film Council is a nonprofit association which attracts a broad membership of individuals and metropolitan area organizations involved in the nontheatrical motion-picture field. It sponsors monthly meetings from September through June.

Ivor B. M. Lomas has rejoined Film House Ltd, 22 Front Street West, Toronto, Canada, as Director of the Laboratory. Mr. Lomas was awarded the Fellowship of the Royal Photographic Society for his original work in color masking kodachrome prints. He is the author of more than 20 published technical articles and appears often as a lecturer and speaker. He was engaged by the National Film Board in Canada as a color control consultant and was awarded a Fellowship in the British Kinematograph Society. Mr. Lomas was formerly U.S. Manager of Motion Picture Technical Services for the 3M Company.

A. P. Lofquist, Jr., has been named to the new post of Director of Technical and Quality Control of Berkey Photo, Inc. Lofquist will be responsible for all technical and quality aspects of the photographic organization, with special emphasis on the company's film processing operations. Well-known for contributions to the motion-picture industry, Lofquist was associated with Technicolor for 23 years in various executive positions. He developed significant processes and innovations for the company. Mr. Lofquist is affiliated with the Academy of Motion Picture Arts and Sciences, Society of Photographic Scientists and Engineers, and the SMPTE.

Barton Kreuzer, Vice President and General Manager, RCA Commercial Electronic Systems Division, has received the Distinguished Alumnus Award of the Polytechnic Institute of Brooklyn, from which he was graduated in 1928 with a bachelor's degree in electrical engineering. The award was presented at the annual Alumni Association banquet, and cited Mr. Kreuzer for exercising "leadership in those civic and professional activities that are essential to a democracy."

Paul Jaeger has been appointed general manager of Du Art Film Labs new sound department, it was announced by Irwin Young, Du Art President. Jaeger will head the operation of the laboratory's complete optical and magnetic sound transfer facilities offering services to motion-picture and television producers. Jaeger was recently chief engineer in charge of sound recording and designing for Theatre Sound, Inc., of New Haven, CT.



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PROMISE

RCA Film Recording

Ron Shipway has been appointed Assistant to the Director of Telecommunications, Altec Lansing, Anaheim, CA. He has been with the firm for two years, during which time he served in Hawaii as Regional Manager for Giant Voice public address systems and for Altec products throughout the Far East and Asia.

Peter J. Rabow has been appointed Producer for Reela Films Educational Film Unit, a division of Wometco Enterprises, Inc., 306 North Miami Ave., Miami, FL 33128. Prior to joining Reela Films, Mr. Rabow was Writer/Producer, Educational Unit, Universal Studios, Inc. His new post was established originally by Marian Kley who produced the first award-winning films in the Reela Films educational marine biology motion-picture series.

William S. Halstead has been appointed Vice-President for Engineering of RTV International, Inc. 405 Park Ave., New York, NY 10022, a firm of consultants in communications. Mr. Halstead has been with RTV for five years and he has conducted engineering studies in Nigeria, Jordon and Cyprus. He was planning consultant to Nippon Television in establishing the first commercial television service for Japan in 1963. He also planned the national television network for Uganda. His paper, "The NARCOM Plan for Transatlantic Television and other Wide Band Telecommunications Services," appeared in the Journal in March 1958.

Photo-Electronic Imaging Devices is the subject of a course to be given July 28–August 8 at the University of Rhode Island. According to the announcement, continuing efforts have been made to establish a program at graduate level, in the Electrical Engineering Department, covering optical properties of solids and photoelectronic imaging devices. Funds from agencies of the Department of Defense have been used to establish a laboratory to facilitate studies of imaging devices as well as other types of research. The summer course is intended to provide a concentrated tutorial course in image tubes. The lecture program begins with discussions of the solid-state applicable to understanding electronic processes in materials such as photosensors, photoemitters, secondary emitters and phosphors, followed by discussions of intensifiers, scanning electron beam devices, analysis and applications. Further information is available from Prof. S. Nudelman, Electrical Engineering Department, University of Rhode Island, Kingston, RI 02881.

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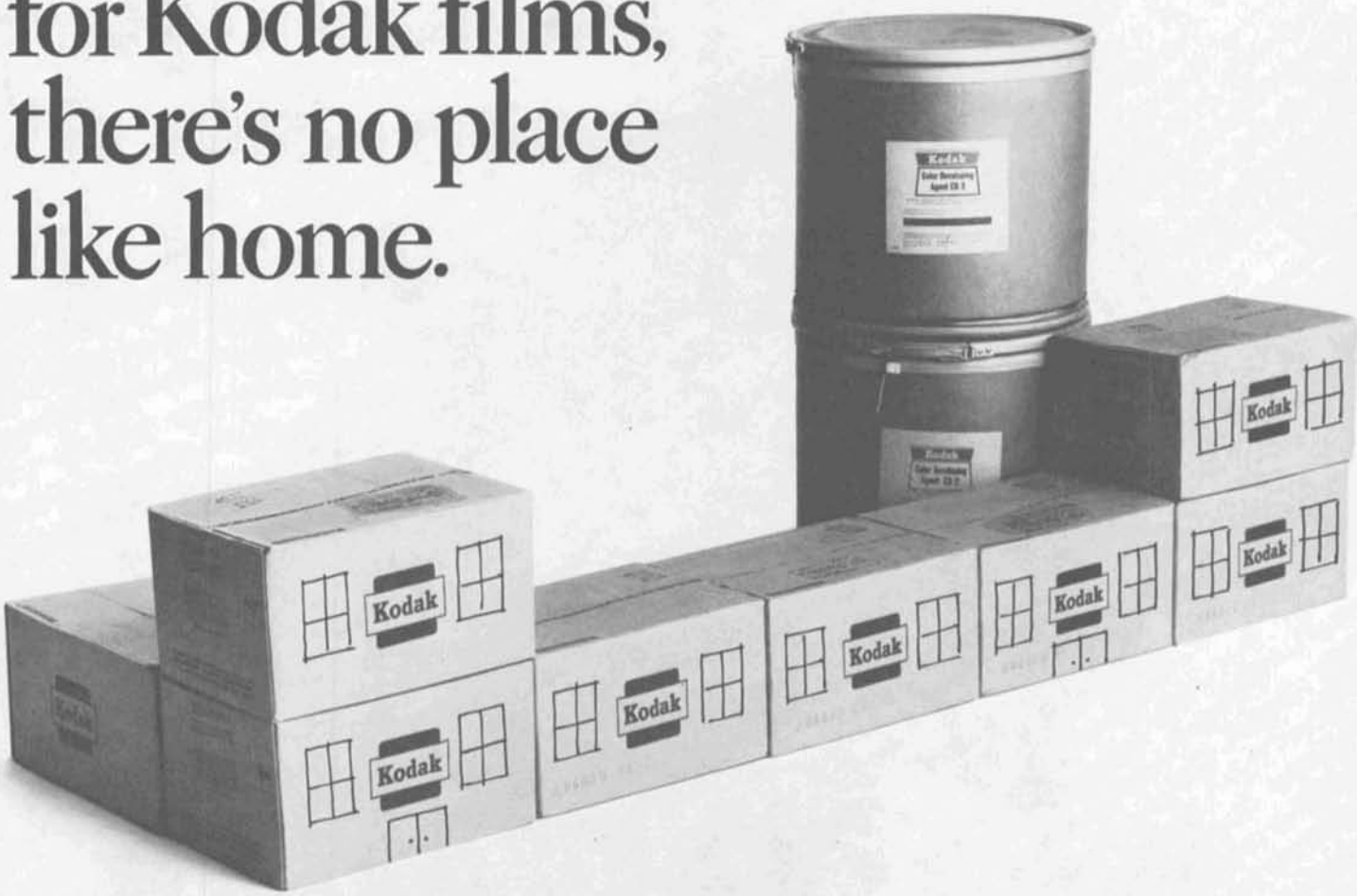

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No matter how you're using the 16BL, you've got the advantage of the full roster of world-famous Arriflex features: mirror-shutter reflex viewing system; accurate tachometer "on-speed control"; frame and footage counter; Arriflex Quick-Change magazines, and all the others. And, you've got all the rugged reliability that has made Arriflex the cameraman's first choice, the world over. Send for your copy of the 10-page Arriflex 16BL brochure, and find out what's really moving in 16mm motion picture production.

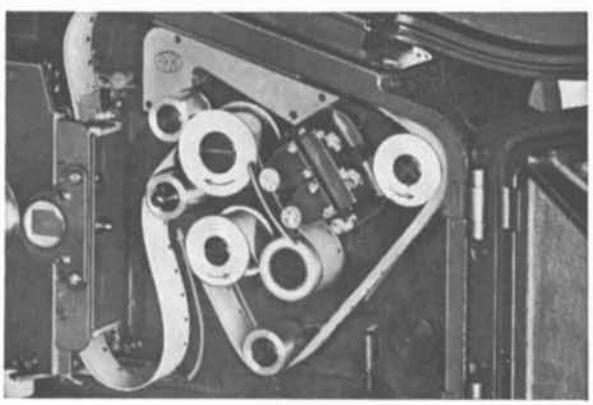

Illustration shows Arri Single System Sound Module installed and simplified film path. Module features separate record and playback heads and high inertia fly-wheel.

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