New SMPTE Sustaining Members

Red Lake Laboratories, Inc., 2971 Corvin Drive, Santa Clara, California, 95052

Red Lake Labs specializes in the design, development, and production of photo instrumentation equipment—most notably the Hycam 16/8-mm High-Resolution High-Speed Motion Picture Camera. This instrument is available in the K2001 Model with 100-ft film capacity and the K204E Model with 400-ft capacity. The optical heads are interchangeable and feature a degree of picture quality essentially indistinguishable from that of intermittent cameras. With various optional modifications, the user can obtain frame rates from 10 pps to 20,000 pps in various combinations of full-frame 16-mm, half-frame 16-mm, or true 8-mm formats. Red Lake also supplies a line of Hycam accessories such as oscillograph attachments, streak attachments, tripods, timing-light generators, exposure meters, and speed-control power supplies.

Address inquiries to: Robert D. Shoberg, *at the above address.*

Closed-Circuit Corporation of America, 5397 Poplar Blvd., Los Angeles, Calif. 90032

CCC is engaged in the manufacture of television projectors, high-resolution vidicon TV cameras and flying-spot scanners for educational, industrial and military applications. A complete product line of related closed-circuit equipment produced by other manufacturers has been incorporated into the sales program of this specialized company. The engineering division in Los Angeles also designs and produces special systems in the closed-circuit field, and acts as consultants for special applications. The "Prizomatic" Television Projector is the key product. It is an offshoot of the original color television projection tube co-invented by Dr. Raymond and Eugene Singer, President of the company.

Address inquiries to: *the address above.*

Education, Industry News

The Society of Photographic Scientists and Engineers (SPSE) will hold its annual conference May 17–21 at the Sheraton-Cleveland Hotel, Cleveland, Ohio. The theme is Frontiers in Photography. Various fields of photographic science and engineering will be covered in the Papers Program, with emphasis on areas where significant advances are being made. The program includes such topics as Photographic Systems in Earth and Space Science; Lasers in Photography; Medical Photography; Color Aerial Photography; Cathode-Ray Tube Output; Office Copying; Improvements in Resolution; Unconventional Photographic Systems; and Unconventional Processing.

A noteworthy feature of the conference will be an Engineering Exhibit, the first of its kind to be held in conjunction with an SPSE conference. The exhibits are designated "visual papers," planned to fill a need for increased emphasis on engineering problems. The exhibits will be presented where preparation of a formal paper is not possible or warranted, but where the subject is of interest as a solution to a photographic engineering problem, presented in terms of devices, models, experimental apparatus, or reproductions, charts, or diagrams.

Chairman of the 1965 SPSE conference is Roger Ferryman. The organization's address is: Society of Photographic Scientists and Engineers, Box 1609 Main Post Office, Washington, D.C. 20013. Information is also available from: Mr. Walter E. Grashaw, SPSE Publicity Chairman, Eastman Kodak Co., 4605 Mackall Road, South Euclid, Ohio 44121.

The Society of Photographic Scientists and Engineers has appointed new officers to fill certain vacancies, it was announced by Robert E. Birr, SPSE President. Ira R. Kohlman, Conference Vice-President, was elected Executive Secretary, and Howard J. Hall was appointed Conference Vice-President to fill the remainder of the unexpired term. Mr. Hall will continue as Editor of the *SPSE News*, a bimonthly current events publication. Howland Pike was appointed Secretary-Treasurer to fill the vacancy created by the resignation of Dr. Calvin S. McCamy. William S. Dempsey has been appointed Chairman of the SPSE Publicity Committee.

A course in Engineering Photo-Optics is being conducted at the University of California, Los Angeles. John H. Waddell, Executive Advisor, Douglas Aircraft Co., is the instructor of the lecture-demonstration laboratory course on the instruments, techniques and applications of the photographic method. Classes began February 8 and will continue through May 17. The course includes an analytical study of the camera in its many forms and covers lenses, sensitized materials, light sources and filters, and processing. The course also includes an exhaustive study of the techniques of data reduction including evaluation of existing equipments and future requirements. Applications in engineering development, scientific research, manufacturing and environmental testing are stressed.

A symposium on Processing Technology will be held May 12–14 at the Institution of Electrical Engineers, Savoy Place, London, W.C. 2, under the auspices of the Royal Photographic Society of Great Britain. About 30 papers will be presented by speakers from many countries.

The first group of papers dealing with modern developing agents and developers will take up the first one and a half days of the meeting. The subject-matters will include the role of new reducing agents in modern processing and the revised economics brought about by their introduction. Trends in highly concentrated liquid developers and use-once-and-throw-away types will be included as will the modern approach to the design and use of monobath systems. The rest of the second day will be concerned with modern fixers, their formulation, action and shortcomings. The third day will be concerned with rapid-access methods and processors for use in diverse fields such as photofinishing, professional, radiographic and aerial photography.

Application forms for delegates may be obtained from Mr. C. Roberts, Research Laboratory, Kodak Ltd., Harrow, Middlesex, England. Information is also available from Mr. G. J. Rimes, Science Committee, Royal Photographic Society of Great Britain, 16 Princes Gate, Kensington, London, S.W.7, England.

Audio for the Performing Arts will be the theme of the Audio Engineering Society's 1965 International Convention and Exhibit to be held April 27–30 in Los Angeles. Technical papers will be presented at the Hollywood Roosevelt Hotel April 27–29 and a special session and private tour of the recently dedicated Los Angeles Music Center is scheduled for April 30. Highlights of the convention will include presentation of awards for outstanding contributions to the audio industry and presentation of a special honorary award and membership to Walt Disney. Further information is available from Gene Soltys, Director, Soltys Associates, 5481 Santa Monica Blvd., Los Angeles, Calif. 90029.

A film series designed to improve utilization of instructional television in elementary and secondary schools has been produced by the University of Texas Radio/Television according to terms of a contract between the National Association of Educational Broadcasters (NAEB) and the U.S. Office of Education. The series, consisting of six half-hour color films, form the basis of a teaching materials library to be operated in Washington, D.C., by the NAEB. Distribution of the films, which emphasize coordination of planning, preparation, production and use of instructional television materials, will be to teachers, administrators, teacher-training institutions and in-service workshops. Two of the six films demonstrate the use of television lessons in a single subject area and in a combination of several, including art, arithmetic, geography, history, health, literature and science, at the upper elementary level. Kites, the ocean, and *Alice in Wonderland*, are among the demonstration lesson topics. Grade levels range from third through 12th.

The Massachusetts Institute of Technology has announced a Program in Techniques in Oceanographic Instru-

mentation to be held June 21–25. The Program will be under the joint direction of Dr. J. Brackett Hersey of the Woods Hole Oceanographic Institution and Professor of Oceanography, MIT; and Dr. Harold E. Edgerton, Professor of Electrical Measurements, MIT. It will include lectures by noted authorities in the field. The Program is intended for those who wish to know more about oceanography or who wish to enter the field. Topics for discussion will include navigation aids; instruments of physical oceanography; instruments of submarine geology and geophysics; and selected topics in chemical and biological oceanography. Information is available from Director of the Summer Session, Room E19-356, Massachusetts Institute of Technology, Cambridge, Mass. 02139.

A workshop in animated film production is participated in by students attending the Horace Mann School, 231 W. 246 St., New York (Grades 8 through 12). The workshop serves the dual purpose of teaching the students the techniques of animated film production while they are producing films for use in other classes in the school.

In announcing the workshop, George H. Bouwman, Director of the Project, said, "The premise underlying the project in animation was that animation has an enormous potential for educational purpose; that this potential has not been realized because of the high costs of professional studio-produced animation; and that schools and other organizations might be able to produce animation of a quality consistent with their instructional needs. . . . In the Horace Mann project each film has a specific educational function, and its function alone determines all the technical and artistic choices in production; the film footage will be only as complex as it needs to be in its art, animation and sound (and) all non-functional and motivational material is eliminated. . . ."

Four 16mm films made in the Horace Mann workshop are available from the school. *Animation Goes to School* is a 15-min color sound film showing how animation is produced and used at the school. *The Stage Evolves* is a 16-min black-and-white sound film showing the development of the physical stage from its beginnings to the present. *Monument to an Era* is a 10-min black-and-white film which uses still photographs and drawings to show the construction of the Empire State Building. *Conic Sections* is a 10-min black-and-white film designed solely for classroom teaching. It is silent because the teacher discusses the film as it is being shown.

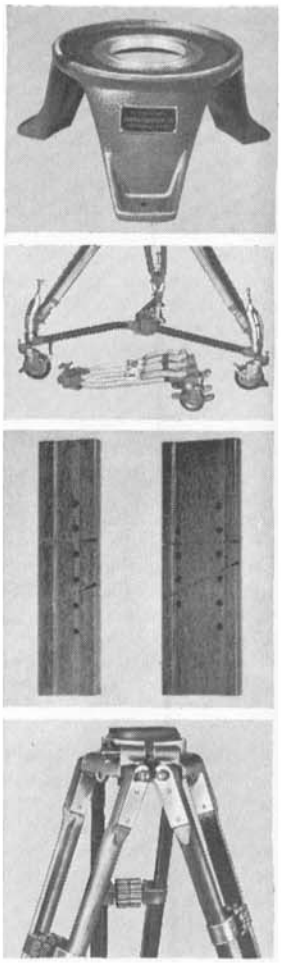
The 4th Industrial Photographic and Television Exhibition arranged by Industrial and Trade Fairs Ltd., Commonwealth House, 1–19, New Oxford St., London, W.C.1, will be held November 15–20 at Earls Court, London. Sponsor of the exhibition is *The Financial Times*. Exhibits will cover the fields of industrial photography, closed-circuit television and photography in the graphic arts, including autoradiography, cathode-ray oscillographs, cinematography, document-copying, electro-photographic processes, high-speed photography, industrial television, infrared photography, microfilming, photoelectric controlled mechanisms, photomicrography, radiography (gamma and x-ray), spectography, time-lapse photography and color photography. Previous exhibitions have been restricted to British exhibitors. The 1965 exhibition has been made international and exhibits from a number of foreign countries are expected.

Project Discovery is the name of a formal study conducted under the auspices of the Model School Division of Washington, D. C., Public Schools which will evaluate the effects of the maximum use of audio-visual materials and equipments on pupil achievement and on changes in student, teacher and teacher and parental attitudes toward the learning process. Four schools have been selected to participate in the three-year experiment. The schools, located in Washington, D.C., California, Ohio and Texas, have been selected to represent typical low, middle, high and rural socio-economic areas. Classrooms of all four schools are being totally equipped with automatic-threading, 16mm motion-picture and filmstrip projection equipment and a complete audio-visual library of more than 500 classroom films and 1,050 filmstrips will be installed in each school. Installation of equipments and arrangement of film materials will be under the direction of Andrew G. Scarborough, Educational Manager of Bell & Howell Co. and Wayne Howell, Director of Research and Development Div. of Britannica Films.

Rutgers University, New Brunswick, N.J., will offer its freshman biology students 56 different 45-min closed-circuit television lectures beginning next fall. The university is also exploring the use of television for other courses and has tentative plans for extending its broadcast area through the operation of a high-frequency television channel. Director of the university's Division of Instructional Television is Joseph W. Durand, formerly with NBC-TV and WNDT-TV in the capacity of Television Director and Production Manager. The staff includes Robert L. Rippon, Producer-Director; Edward P. Gebhardt, Chief Engineer; Robert F. Alexander, Senior Technician; Bryna Milberg, Associate Producer; and Ralph E. Ayers, Art Director.

A Medical Engineering Center is being established at the IIT Research Institute, 10 W. 35 St., Chicago, Ill. 60616, to coordinate IITRI's skills in the physical sciences and engineering to help medical researchers devise needed instrumentation. The Center will have representatives from all of IITRI's research divisions and will serve to formalize the research institute's long-standing interest and activity in medical engineering. The Institute has recently sponsored a number of programs in medical engineering including construction of a fiber-optic hypodermic microscope for a Cleveland hospital and the design and construction of a fiber-optic probe.

The 11th Annual Flaherty Film Seminar will be held August 29 to September 4 at the Arden House in Harriman, N.Y., under the auspices of International Film Seminars, Inc., 1125 Amsterdam Ave., New York, N.Y. 10025. The seminars include screenings, analysis and discussion. The spirit of quest and invention represented in the films of the late Robert Flaherty will be the starting point for discussion. Distinguished film artists from many countries will show their work and lead the discussions.



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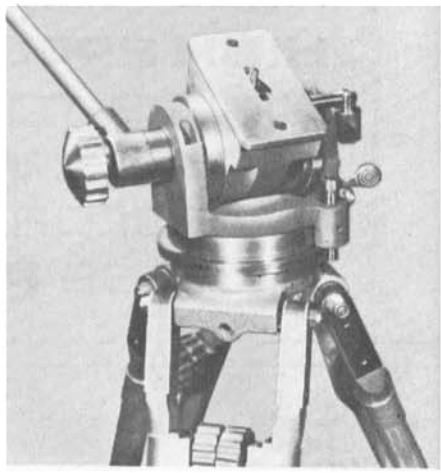

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More than $2 million will be spent by Technicolor Corp. in plant expansion in the United States, Great Britain and Italy during 1965 — its 50th anniversary. Announcement was made by Paul W. Fassnacht, Vice-President of International Operations, Motion Picture Division. In Hollywood, expansion plans include the addition of two new dye transfer color processing channels and a 3-story addition to Plant #4. Plans are also underway for reactivating and modernizing Plant #5 for additional auxiliary motion-picture services.

In England, the plant at Harmondsworth, Middlesex, will be expanded to provide continuous film processing flow lines for rapid customer services. The Technicolor Italiana plant near Rome will be expanded to increase substantially its present film production capacity. New processing equipment will be installed with building extensions.

In making the announcement, Mr. Fassnacht said that during 1964 overall employment in the Hollywood plant showed an increase of 5% and that 9% more film technicians were employed.

WPIX, Channel 11, New York, has announced the modernization of its technical facilities and the addition of new equipment including the RCA 4-tube color film camera (*Journal*, p. 652, Aug., 1963) and a newly developed film projector The station has also acquired two new 25-kw transmitters. The film system is scheduled for installation in the WPIX studios at 220 E. 42 St., New York, while the transmitters will replace the station's original transmitter in the Empire State Building. The original unit was the first commercial-type TV transmitter produced by RCA and has been in service since WPIX began broadcasting in June 1948. The new transmitters, which are capable of carrying color programing, will be used "on-the-air" alternately to permit normal maintenance on the idle unit during the broadcast day. The arrangement provides for instantaneous switching between the two transmitters.

Establishment of the RCA Television Engineering Advanced Methods Center at Purdue University's Industrial Research Park has been announced jointly by the Radio Corp. of America and Purdue University. The Center, which will be located adjacent to the Purdue campus at West Lafayette, Ind., will cover 3,500 sq ft. It will be staffed by engineers from the Indianapolis headquarters of the RCA Home Instruments Division who will be assisted by the faculty and students of Purdue's Graduate School of Engineering.

Plans for the acquisition by Itek Corp. of Lexington, Mass., of the net assets of Chicago Aerial Industries of Barrington, Ill., announced earlier (*Journal*, p. 170, Feb. 1965) have been cancelled. Announcement that Chicago Aerial Industries had decided not to sell its assets was made by Franklin A. Lindsay, President of Itek. Mr. Lindsay stated in the announcement that he understood that Chicago Aerial had received another offer from a third party. "We regret this unexpected development," he said.

A new building has been acquired by F&B/Ceco Inc., in Hialeah, Fla., as part of an expansion plan reflecting a significant increase in film production in Florida as well as the entire Caribbean area. Covering 15,000 sq ft, the building contains a preview theater and a 50- by 100-ft sound stage completely equipped with lights, cameras, dollies, etc. The staff of technicians has been enlarged and machine and maintenance shop facilities more than doubled. Mitchell, Arriflex and underwater cameras have been completely overhauled. New equipment has been added including two 1,500-amp and one 1,200-amp generators and a full complement of arc and incandescent lighting equipment. The F&B/Ceco Florida branch maintains a direct teletype link with New York. Hy Roth of the New York office acts as full-time coordinator between the two branches.

Formation of a new division to consolidate activities in the magnetic tape recording equipment field has been announced by 3M Company, 2501 Hudson Rd., St. Paul, Minn. 55119. Facilities of the former Revere-Wollensak and Mincom divisions are being assigned to the new division which has been designated the Revere-Mincom Division. Products of the new division will include the Wollensak line of

tape recorders, professional mastering equipment and high-performance magnetic tape instrumentation recorders used by the military and the aerospace industry.

Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, has been appointed exclusive rental and leasing representative for Sony CC-TV systems in the West. Principle component of Sony closed-circuit systems is a portable videotape recorder called the Videocorder PV-120 which also includes the CVC-100 vidicon camera and Micro-TV sets, for monitoring the Videocorder, and 2-in. TV tape, model V21L, available in 1800-ft reels for 63 min of recording time. Rental and leasing of the equipments will be under the direction of Grant Louks, Manager of the Rental Department.

R E A-Seven Arts is a new travel entertainment joint venture of Railway Express Agency and Seven Arts Productions (200 Park Ave., New York), producers and distributors of motion pictures. Services of the new organization will include installation, programing and servicing of advanced multiple sound and visual presentations, using tape and film cartridge systems, for airline, bus, railroad and other intercity passenger carriers domestically and throughout the world. President of the new firm is Robert C. Hendon. President of Railway Express Agency is William B. Johnson and President of Seven Arts is Eliot Hyman.

Eumig Industrie GmbH is a new firm established at Stuttgart, Germany, for distribution of products manufactured by Eumig Elektrizitäts-und Metallwaren-Industrie, Vienna. The firm of Eumig Vertriebsgesellschaft was previously established at Zurich. Manager of the new firm is Rolf Gabler.

A new movie system comprising a new Super 8, an improved Kodachrome II film, and new equipment for 8mm amateur and commercial motion pictures has been announced by Eastman Kodak Co. and plans have been disclosed for its introduction in the United States and Canada in May. It is expected that it will be introduced overseas in October. Experimental studies leading to the development of the new format were first reported at the Society's Technical Conference in Los Angeles in April 1964, and subsequently published in the *Journal* (E. A. Edwards and J. S. Chandler, "Format Factors Affecting 8mm Sound-Print Quality," *Journal*, pp. 537–543, July 1964). In the new format the size of the perforations is reduced and placed nearer the edge of the film. This results in an appreciable increase in the picture area (about 50% more projection image area than present 8mm) which can be utilized for brighter and larger pictures with increased definition and sharpness. The soundtrack is also moved to the opposite edge of the film from the perforations. The Super 8 Kodachrome II film will be supplied in 50-ft lengths in an easy-load cartridge.

Meanwhile, Bell & Howell has announced plans to introduce in May a full line of

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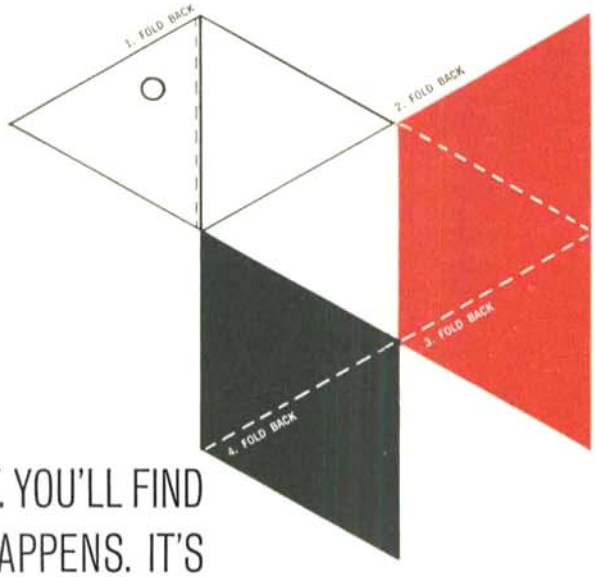

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motion-picture equipment utilizing the new film, concurrent with Kodak's planned introduction of the film.

A giant tape recorder whose reels hold seven miles of tape which hurtle through its guides at a speed of more than 60 miles an hour has been built by the Missile and Surface Radar Div. of the Radio Corp. of America for Advanced Research Projects Agency (ARPA). The machine, designed to record radar signals obtained from ballistic missiles, records on 14 of its 15 channels data on targets within the radar beam. The information can then be played back repeatedly through the entire radar system for detailed analysis of the characteristics of the ballistics devices. The usable length of the tape is five miles. A mile of tape is used to accelerate to the mile-a-minute speed and a mile of tape is required to stop the machine. One of the 15 channels is used for stability control to achieve accuracy to within two parts in 100,000 over 5 miles of tape. The tape is supported and lubricated by compressed air bearings to minimize friction at the tremendous tape speed. Mechanical tolerances on critical parts of the machine have been kept to millionths of an inch.

The recorder is being installed on the island of Roi Namur which is a part of the Kwajalein Atoll in the Pacific. It will be used in ARPA's Pacific Range Electromagnetic Signature Study.

Two lasers have been locked together for the first time by means of a feedback loop that holds the phase difference between the waves generated by two single-frequency helium-neon lasers to within a third of a degree. The frequency of these lasers is approximately 5×10^{14} cycles/sec. Phase-locking at optical frequencies will permit the use of homodyne detection — a technique that makes it possible to halve the transmitted power — in experimental light communications systems. In such a system a transmitter laser would be phase-locked with a receiver laser some distance away. Other applications might include the combining of several low-power lasers to produce one high-power beam. The Bell Telephone Laboratories' experiments also will enable scientists to study the interactions of light waves from separate sources. In the experiment beams from two lasers were combined by a half-silvered mirror which sent part of the combined beam to a screen and part to a photomultiplier. The output current from the photomultiplier is proportional to the instantaneous power of the combined light waves striking the photomultiplier surface. The current increases when the two light waves interfere constructively and it decreases when the waves interfere destructively. Thus, the value of the instantaneous current depends upon the phase difference between the two laser beams.

A "pylon" antenna system designed by the Radio Corp. of America will radiate WNJU-TV's signals when the new station for the metropolitan New York-New Jersey area begins broadcasting on Channel 47 this spring. The system is undergoing a final checkout under simulated operating conditions at RCA's 42-acre antenna test site near Camden, N.J. It will be installed on the Empire State Building 1,200 ft above street level. Eight tubular panels, joined electrically to produce the required TV signal pattern, make up the antenna system. Four panels will be mounted in a 52-ft vertical array on the building's north side, the other four on the south side. The pylon-type antennas radiate energy through a series of slots running lengthwise in the antenna's surface. The size and arrangement of the slots control the coverage pattern of the broadcast signal. The antenna will be supplied as part of a $1 million contract with WNJU-TV for broadcast equipment and services.

David Parkinson has been appointed to Ampex Corp., 401 Broadway, Redwood City, Calif., as Marconi Engineer. In this capacity his principle responsibilities will be in television systems engineering, equipment selection, performance and operation. Prior to his appointment to Ampex he was Head of the Established Designs Section of Television Development at the Marconi Company

Caywood C. Cooley, Jr., has been appointed Vice-President in charge of the Community Antenna Television Division of TelePrompTer Corp., 50 W. 44 St., New York, N.Y. 10036. Mr. Cooley was formerly a Vice-President of Jerrold

Electronics Corp. He has been with TelePrompTer since last October. A pioneer in the development of community antenna television (CATV) systems and equipment, he helped to install the first professionally built CATV system in the United States at Lansford, Pa., in 1951. TelePrompTer owns and operates 16 CATV systems in the continental United States and Hawaii and also owns three microwave relay companies.

Election of four new officers has been announced by Dage-Bell Corp., 455 Sheridan Ave., Michigan City, Ind. Marlen P. Roberts is the newly elected Vice-President, Manufacturing; Carl J. Wenzinger, Jr., Vice-President, Sales; M. Carlos Kennedy, Vice-President, Engineering; and James B. Kelly, Controller and Assistant Secretary. Prior to election to their new posts, all four men were with Dage Television Co., division of Dage-Bell Corp. Mr. Roberts was General Manager; Mr. Wenzinger was formerly National Sales Manager; Mr. Kennedy, formerly Manager of Engineering; and Mr. Kelly was formerly Division Controller for the division.

Chuck Austin has been appointed consultant to the marketing activities of Pathé Laboratories in New York. Mr. Austin is an active Director of Photography with worldwide business experience gained with the Mitchell Camera Corp. during a 15-year tenure.

Lloyd F. Ryan has been appointed Assistant to the Director of IIT Research Institute, 10 W. 35 St., Chicago, Ill. 60616, where he will be engaged in administrative work related to the organization's planning and future development. Dr. Ryan was formerly Business Development Specialist for the Radio and Television Division of General Electric Co., Syracuse, N.Y. A veteran of the U.S. Air Force, where he was engaged in research and development, and technical intelligence, he left the Air Force in 1960 with the rank of Colonel. While with the Air Force he received the degree of Ph.D. in aerodynamics from the Swiss Federal Institute of Technology, Zurich. Before World War II he was Manager of Sales Engineering for Bell & Howell Co.

The Department of Theater Arts, University of California, Los Angeles, has been given a large collection of early photographic and motion-picture apparatus. The collection contains more than 80 cameras, most of them from the late 19th century. The donation was made by Mrs. Joyce Primrose Shaw-Kennedy in memory of her father, Hugh Vernon Primrose Shaw-Kennedy. According to Raymond Fielding, Associate Professor of Theater Arts, the collection will be of great value to scholars and students of photographic and motion-picture history. All of the pieces are scarce and some are very rare. The collection includes not only cameras but very early exposure meters, lenses, flashguns, arc lamps, stereoscopic viewers and developing apparatus. It even includes unopened packages of photographic film and chemicals.