Canadian Marconi Wins SMPTE Exhibit Award

At the 98th SMPTE Conference in Montreal last fall the SMPTE Exhibit Award was won by Canadian Marconi Co., Montreal, for its outstanding display featuring a Marconi Mark V transistorized image-orthicon camera channel, a Marconi V321 vidicon camera channel and a Marconi V322B vidicon camera, all in live operation. The Exhibit Award is given at each SMPTE Exhibit to the display judged by the Award Committee to excel in effectiveness and attractiveness, regardless of size.

Presentation of the award plaque was made at a meeting of the Montreal Section on March 15 at the CBC Studios in Verdun, Que. The picture left, which was used extensively in Montreal newspapers at the time, shows on the left the Exhibit Chairman, H. Patrick Dickey, Anglophoto Ltd., Montreal, presenting the plaque to A. W. Marshall, Television Equipment Sales Supervisor, Canadian Marconi. The event was covered by CFTV and broadcast in the network's news programs.

Color Science and Color Photography is the subject of the 21st Hurter and Driffield Memorial Lecture delivered by David L. MacAdam on May 10 in London before the Royal Photographic Society of Great Britain. The lectures, instituted in 1918, are given biennially in memory of the late Ferdinand Hurter and Vero C. Driffield, in recognition of their valuable investigations in the chemistry and physics of photography. In his speech Dr. MacAdam discussed the latest developments for verifying

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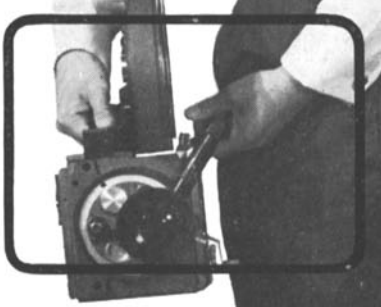

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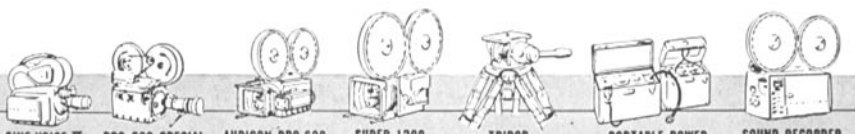

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color matches based on the applications of James C. Maxwell and Frederic E. Ives' fundamental principles of three-color photography.

Dr. MacAdam, who has been with Eastman Kodak since 1936, is internationally known as an authority in the field of color science and photography. Recently he developed a series of color formulas that can be programed on modern computing equipment to speed the verification of color matching, replacing the former color card system (*Journal*, p. 128, Feb. 1965). He has engaged in research resulting in the extension of color photography based upon the characteristics of human vision and spectrophotometric characteristics of dyes and pigments. He has also investigated visual sensitivities to small color differences and the influence of visual adaptation to color on perceptions of color in color photography and color television.

An international Colloquium on the Photographic Interaction Between Radiation and Matter will be held October 26–29 in Washington, D.C. Co-sponsors are the Society of Photographic Scientists and Engineers (SPSE) and the Air Force Office of Scientific Research, Directorate of Chemical Sciences. The program will consist of theoretical and experimental papers on the interaction of radiation and matter to yield a memory. Radiation is restricted to the electromagnetic spectrum and matter is restricted to those materials which retain a memory of the interaction of radiation. Papers will be presented by invitation only. Chairman of the Colloquium is Dr. James E. LuValle, Director of Basic Research for Fairchild Space and Defense Systems Div. of Fairchild Camera and Instrument Corp. Further information is available from: William S. Dempsey, Publicity Chairman, Houston Fearless Corp., 1413 K. St., N.W., Washington, D.C. 20005.

The Human in the Photooptical System, a seminar-in-depth, sponsored jointly by the SPIE Photo-Optical Sciences Institute and the U.S. Army (Gimrada) was held April 25–26 in New York. Host to the seminar delegates was the SPIE New York Chapter. Cooperating Societies were American Society of Photogrammetry (North Atlantic Region) and Optical Society of America (Greater New York Section). The keynote address was delivered by Capt. John K. Sloatman, Commanding Officer and Director of the U.S. Naval Training Devices Center. Some 17 papers were presented at four sessions. Session topics were: Visual Requirements in Photooptical Systems; Methods of Visual Presentation; Methods of Visual Enhancement; and Decision Making From Image Presentations. The Society of Photo-Optical Instrumentation Engineers (SPIE) from time to time conducts seminars-in-depth planned to provide workers in photooptical instrumentation engineering and its allied fields and opportunity for intensive investigation of a single subject area in an atmosphere of mutual interest. The Proceedings of each seminar is published after the meeting. SPIE headquarters is located at 205 Ave. I, P.O. Box 288, Redondo Beach, Calif. 90277.

The Society of Photo-Optical Instrumentation Engineers, 205 Ave. I, P.O. Box 288, Redondo Beach, Calif. 90277, has announced a Seminar-in-Depth on Filmed Data and Computers to be held June 13–14 at the Sheraton Boston Hotel in Boston, Mass. The meeting will be cosponsored by U.S. Air Force Electronic Systems Div. Maj. Gen. J. W. O'Neill, Commander, ESD, Bedford Air Force Base, Bedford, Mass., will deliver the keynote address.

Biomedical Communication: Problems and Resources was the subject of a conference held April 4–6 in New York. The conference was cosponsored by the U.S. Public Health Service Audiovisual Facility at the Communicable Disease Center, Atlanta, Ga., and the New York Academy of Sciences. The conference was highlighted by a 35mm sound and color film produced by the PHS Audiovisual Facility to stress the need for good communication, particularly in medical fields where students, physicians and research scientists are required to absorb a constantly growing volume of medical knowledge. Unusual sound effects, such as the sound of a patient's heartbeat, and other dramatic photographic devices were used to intensify the film's message.

A new automatic method for organizing and disseminating technical information is discussed in a report prepared by the University of Colorado for the Air Force. The new method, called Attribute-Space, is based on the premise that the principles by which technical people select and use information are complex and multidimensional and that possibly the reason other indexing systems have failed is that they are unidimensional. The major principle that has been used for classifying text has been to organize it in terms of different subject matter or different fields of knowledge. The new method is used to organize information according to conceptual content, i.e., the kind of information found in the document. Copies of the report (No. AD-625 905 *Dissemination Research*) are available from Clearinghouse, U.S. Department of Commerce, Springfield, Va. 22151, at a price of $3.00 (microfiche 75 cents).

Another report (Pb-169 405 *A Serials Data Program for Science and Technology—Results of a Feasibility Study*) also available from the Clearinghouse (Price $5.00, microfiche $1.00) was prepared by Information Dynamics Corp., Reading Mass., for the National Science Foundation to show the feasibility of establishing a continuing National inventory of the world's scientific and technical serials. The most practical approach, the report indicates, is via a controlled well-planned program of file development which balances the program objectives with the real operational limitations and demands that exist.

Wide World of Audio was the theme of the Audio Engineering Society's 13th annual convention held April 25–28 in Hollywood. Technical session topics included: Loudspeakers; Solid State Amplifiers; Magnetic and Disc Recording; Recording and Broadcast Studio Applications; Microphones; Audio Measurement; and Audio Applications (three sessions). About 50

papers were presented at the nine sessions. An exhibit of the latest professional audio equipment was held in conjunction with the convention, for which an attendance of 5,000 persons had been anticipated. The Audio Engineering Society was organized in 1948 for the purpose of advancing the theory and practice of audio engineering and related arts and the dissemination of information in the field.

Instructional Television and Radio was the subject of an Inter-Mountain Drive-In Conference held May 6–7 at Brigham Young University, Provo, Utah, under the auspices of Western Radio and Television Association (WRTA), 633 Battery St., San Francisco, Calif. 94111. Conference discussions were guided by Dick Bell, Associate Director of the NAEB National Project for the Improvement of Televised Instruction and Executive Director of the NAEB Instructional Division; June Dilworth, ITV Director, KCTS-TV9 and Chairman, WRTA Media Utilization Committee; and Harold Wigran, ETV Consultant to NEA.

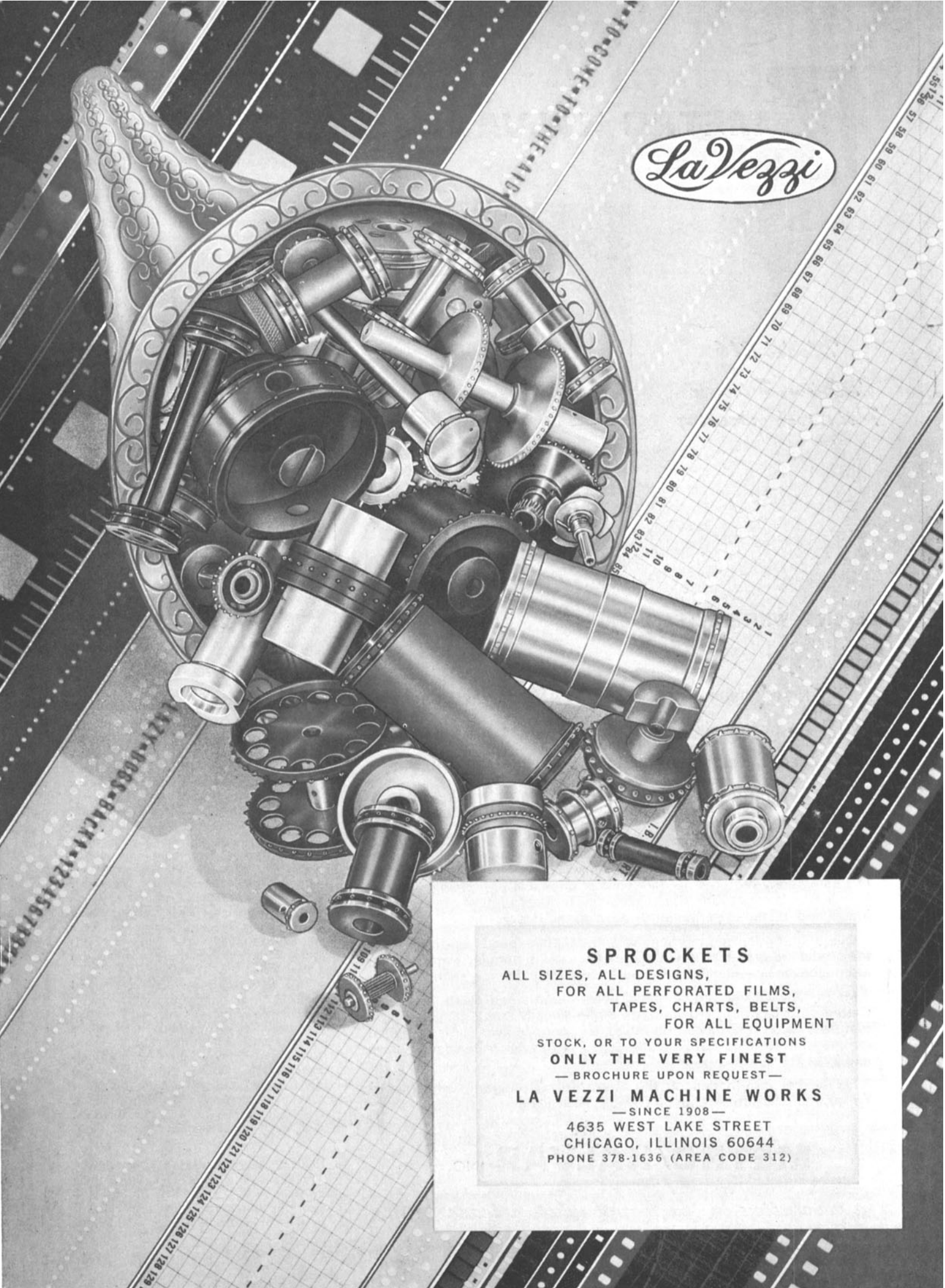
Guidelines for Specification and Selection of a Video-Tape Recorder for Educational Applications, developed by Western Radio and Television Association (WRTA), in cooperation with the Society's Hollywood and San Francisco Sections, were presented for discussion at the WRTA Conference, February 3, 1966, at a joint session co-sponsored by the Society and WRTA. General Chairman was Howard Stucker of Los Angeles State College. Associate Chairman was R. A. Isberg, Universtiy of California, Berkeley. Participants at Los Angeles were Ralp Grover, UCLA; John Scales, Armed Forces Radio and Television Service; and Pete Wood, Acme Film Laboratories. Participants at San Francisco were Roger Frye, University of California, Berkeley; Victor Vaio, San Francisco City College; Jean Morrisson, Fremont Union High School District; and David Wiseman, San Francisco State College. The Guidelines are available as a draft for discussion in written form from WRTA, 633 Battery St., San Francisco, Calif. 94111.

An organizational meeting of the International 8mm Film Institute, 2 E. 45 St., New York, N.Y. 10017, was held April 12 and two committees were elected to activate the newly formed group. Members of the Organizational and Bylaw Committee are: Steve Green, Fairchild Camera and Instrument Corp.; Everett Hall, Cine Magnetics; Preston Holdner, McGraw-Hill's Text Film Div.; Alan Rogers and Hal Weiner, both of Port-A-Films Presentations. Members of the Finance and Membership Committee are: Sam Bunchez, Vacuumate Corp.; Ralph Dele Coro, Modern Talking Picture Service; Bernie Drayton, Magno-Sound; William Howard, Color Service Lab; and Ben Peirex, Viewlex Corp. Officers elected pro tem to coordinate the work of the two committees are: President, Alan Rogers; Vice-President, Sam Bunchez; and Secretary-Treasurer, R. S. Smith. Main purpose of the new organization is to make available complete and up-to-date information on all aspects of the commercial 8mm field. Immediate plans include regular publication of a newsletter and special reports.

The 14th Annual Columbus Film Festival will be held October 7–9 at the Fort Hayes Hotel, Columbus, Ohio, under the auspices of the Columbus Film Council. Highlight of the festival will be the Chris Award Banquet on the opening day of the festival. Public screenings of the award-winning films will be held on the following days. The films will be grouped in six categories: Educational-Information; Business-Industry; Health-Mental Health; Religious; Travel; and Special Fields and Feature Films. President of the Film Council of Greater Columbus is Daniel F. Prugh, 280 East Broad St., Columbus, Ohio 43215.

Progress in Information Science and Technology will be the theme of the American Documentation Institute's 1966 National Convention to be held October 3–7 in Santa Monica, Calif. Tutorial sessions will be conducted by Robert M. Hayes of the University of California Los Angeles. Dr. Hayes, a past-president of ADI, is a recognized authority on applications of data processing.

A study of the goals of engineering education (called Goals Project) is being conducted by the American Society for Engineering Education (ASEE), Dupont Circle Bldg., 1346 Connecticut Ave., N.W., Washington, D.C. 20036. Three reports on various phases of the study have appeared in *Engineering Education*, the ASEE monthly



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journal. "The Engineer in Industry and Government," a 37-page report on the educational needs and goals of graduate engineers as reported by engineers and their employers, appears in the March 1966 issue of *Engineering Education* together with a companion report, "Comments of the Boards of Analysts." An earlier report, "Educational Institutional Views of Undergraduate Goals of Engineering Education," appeared in the February issue. The reports are available from ASEE at a price of $1.00 each.

Audio-visual aids, closed-circuit television, individual studios and laboratories and a large revolving stage are among the teaching aids used at the Winona School of Professional Photography by instructors in the 27 photography courses given during the summer session June 13–Aug. 26. The courses, sponsored by Professional Photographers of America, Inc., 152 W. Wisconsin Ave., Milwaukee, Wis. 53203, cover commercial, industrial, portrait and general photography. The courses are of one- and two-week duration and are intended for experienced professional photographers as well as for beginners.

A course dealing with the processing and printing of Agfacolor materials is being conducted by Egon A. Dittman, owner of Egon Productions-Laboratories, 854 El Pintado Rd., Danville, Calif. The course is being held in Acalanes High School, Lafayette, where a darkroom has been provided. Color prints are used to show the points being explained, Mr. Dittman said. Previously he conducted a course on Motion Picture Production.

Alden H. Livingston has been elected President of CINE (Council on International Nontheatrical Events), 1201 16th St., N.W., Washington, D.C. 20036. He succeeds Willis H. Pratt, Jr. Newly elected CINE Vice-Presidents are Ralph P. Creer, John Flory and Reid H. Ray. Re-elected Vice-Presidents are Charles Dana Bennett, Thomas W. Hope, Dr. Anna L. Hyer, J. Edward Oglesby and Brig. Gen. (ret.) Willard Webb. Peter Cott was elected Secretary and Dr. Harold Wigren was re-elected Coordinating Director. James H. Culver was re-elected Treasurer and was also appointed to the newly created position of Managing Director. One new member was added to the Board of Directors. He is Alfred E. Bruch, President of Capital Film Laboratories, Inc., Washington, D. C.

In a separate release CINE announced that 120 films had been selected to receive the Golden Eagle Award which entitles them to be shown as United States entries at international film festivals. The two United States entries for the Cannes International Film Festival held in May are *The Boudoir* by Ezra Baker Films, Inc., New York, and *Skaterdater* by Byway Productions, Los Angeles, released by United Artists. Both are 35mm color short subjects.

Cholera Today: Bedside Evaluation and Treatment, a film photographed at the Pakistan-SEATO Cholera Research Laboratory in East Pakistan, has been released by the Public Health Service Audiovisual

Facility in Atlanta, Ga. The film was produced by the PHS Audiovisual Facility in cooperation with the Southeast Asia Treaty Organization Cholera Research Program of the National Institutes of Health and the Agency for International Development. The film documents cases as they are admitted to the Cholera Research Laboratory. It illustrates the patient's symptoms and shows his physiological and facial reactions to treatment. The need for immediate treatment of cholera victims is emphasized and the necessary skills for satisfactory emergency treatment are presented. Proper site of vena punctures are shown as well as drug therapy and use of intravenous fluids.

Golf With Sam Snead is a color television series produced by Henry Ushijima Films, 1101 Harrison Ave., P.O. Box 394, Park Ridge, Ill. 60068, for Sam Snead and Independent Sports, Inc. The series, shown over NBC, is sponsored by Firestone Tire and Rubber Co. The 13-week series of half-hour shows, directed by Henry Ushijima, is intended to show the beginning or average golfer how to improve his game. Filmed at the Firestone Country Club in Akron, production problems included the necessity for wireless sound recording equipment to assure perfect freedom of motion for the golfers. Four portable Eclair cameras with specially engineered 110-V synchronous motors were used. The cameras had to operate in synchronization and slow motion was used extensively to demonstrate teaching points. Generator location was critical to avoid background noise. The course is heavily shaded by trees and shrubbery so lighting was an important consideration. A battery of large reflectors was used to insure adequate front lighting.

Humphries Film Laboratories, one of England's largest film processors, has acquired the DeLuxe interest in Pathe-DeLuxe of Canada Ltd., it was recently announced. The reorganized company will be known as Pathe-Humphries of Canada Ltd. and will be operated jointly by Pathe Laboratories, Inc. of New York and Los Angeles and Humphries. The main purpose of the merger, according to the announcement, is to establish complete color motion-picture processing facilities in Canada to coincide with the launching of color television in October. Equipment relating to 35mm and 16mm Eastman color and 16mm Ektachrome processing has been ordered. The firm will continue as a black-and-white film laboratory and sound recording company.

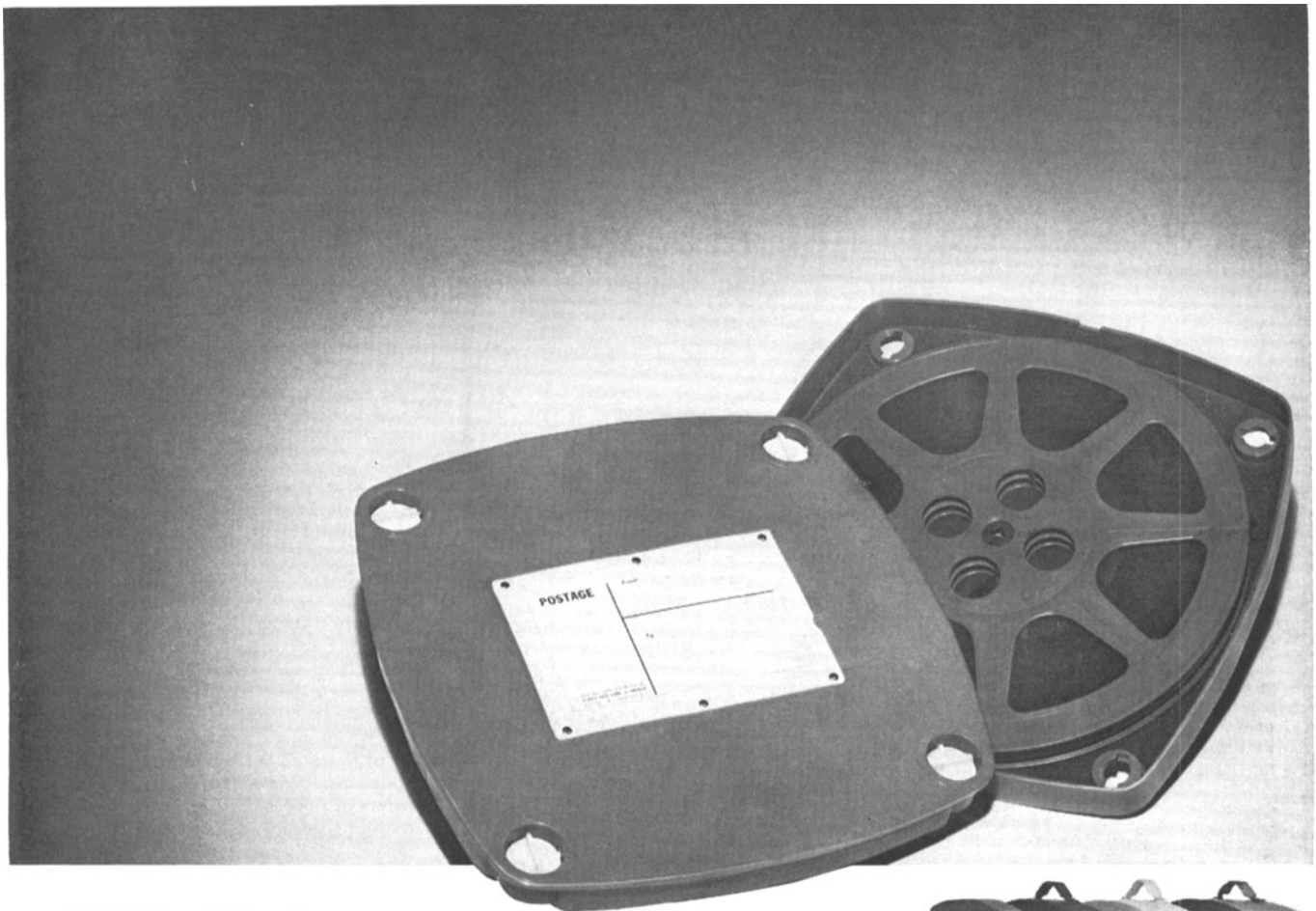
Roger Beaudry, formerly Vice-President and General Manager of Pathe-DeLuxe, will remain in the same capacity with the new company. C. Evans, Executive Vice-President of Pathe Laboratories, New York, is the new President.

Establishment of an International Division has been announced by Theatre Network Television Inc. (TNT), 575 Madison Ave., New York, N.Y. 10022. Purpose of the new division is to serve the closed-circuit communications needs of companies engaged in international trade, the announcement stated. Headquarters are in New York. Managing Director of the new division will be Mark Foster who was formerly with Radio New York Worldwide where he was Vice-President for Business Development. Activities of TNT in the closed-circuit field include the first closed-circuit telecast between the United States and Canada in 1953. The firm was selected by American Telephone and Telegraph Co. to be in charge of the closed-circuit telecast to the Telstar satellite on July 10, 1962. It has also acted as closed-circuit consultant to various European companies.

Same-day service for processing 16mm color reversal original and work prints is available from Precision Film Laboratories, 21 W. 46 St., New York, N.Y. 10036, it was recently announced. New high-speed color developing machines have been installed, and a new process, called M E 4, is used, the announcement stated. The new service is expected to be especially useful in color television applications such as spot commercials, newsreels and documentaries.

ColorTran Industries, Inc., located at 1015 Chestnut St., Burbank, Calif., has been acquired by Berkey Photo, Inc., according to a recent announcement. ColorTran, which manufactures quartz-iodine lighting equipment for motion-picture and television applications, will continue operations at its present location, the announcement stated.

F &B/Ceco, Inc., 315 W. 43 St., New York, N.Y. 10036, has been named exclusive distributor in North and South America for the Doiflex 16mm motion-picture camera



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Now you can ship 'em two, three or four at a time in handsome Plio-Magic molded cases. New improved Plio-Magic material makes them even more durable, lighter in weight than ever before. And you get moisture and dust-resistant protection, **without the need for cans.** What's more, Plio-Magic can't rust, crimp, bend, chip or discolor. And there's a new gentle-action to the exclusive Plio-Magic Positive Locking System. Just a twist of the wrist eliminates unwieldy belts and buckles forever.

Plio-Magic cases are supplied in 1, 2, 3, and 4-reel sizes for 1600 foot reels; 1 and 2 reel sizes for 1200 foot and 2000 foot reels; and in 1-reel size for 400, 600 and 800 foot reels.

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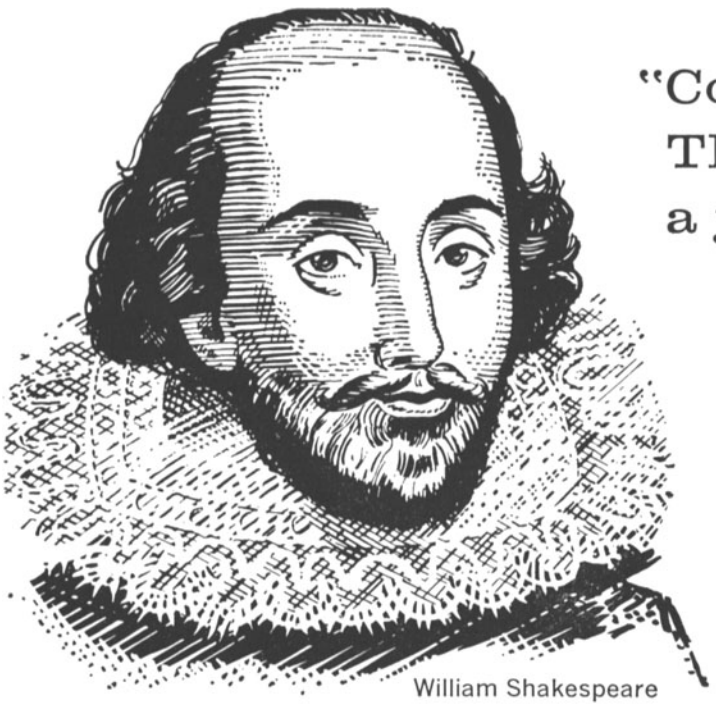
produced by Doi Works Ltd. of Tokyo. The camera features a through-the-lens viewing system and a registration pin pull-down claw movement. A variable-speed motor with rheostat is electrically driven by a portable 8-V battery.

A rosy picture of the progress of 8mm (both standard and Super) in Europe is displayed in a report from Austria by Eumig Industries. According to the report, sales of 8mm cameras manufactured by Eumig increased in 1965 21% over those of the previous year and sales of 8mm projectors increased 6%. Ninety per cent of the firm's equipments are exported to 108 countries, the report stated. The number of employees rose from 2,900 in 1964 to 3,300 in 1965. There are five Eumig plants in Austria, sales agencies in Switzerland and Germany and a recently established service and sales office in Sweden. The report points out that Eumig is an entirely private enterprise still in the hands of the two families of its founders.

Gotham Audio Development Corp. is actively entering the export field, it was recently announced. The firm, located at 2 W. 46 St., New York, N.Y. 10036, is exclusive importer and sales agency for such European firms as Neumann, EMT Wilhelm Franz, Tuchel, Danner and Beyer for transformers and other European manufacturers of professional recording and broadcasting equipment. Among equipments exported by Gotham are the Teletronix LA-2A Leveling Amplifier and the Gotham/Grampian Disk Cutting System. The LA-2A is said to combine the advantages of peak limiter and compressor to achieve a virtually instantaneous gain reduction of up to 40 dB.

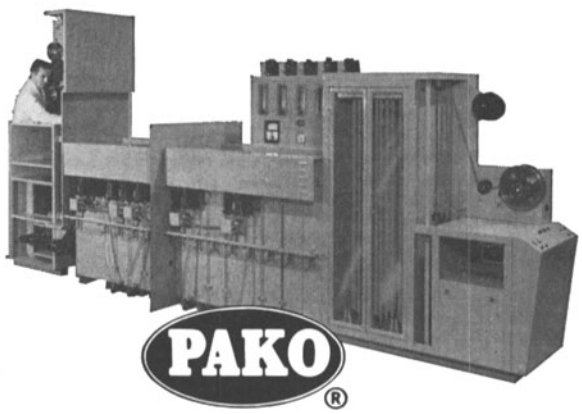
Improved photographic plates developed at Kodak Research Laboratories are used in the study of the astronomical curiosities called quasars. The name "quasar," derived from "quasi-stellar radio source," describes a class of objects astronomers believe may be the brightest and most distant celestial bodies ever observed in the universe. One of the difficulties in the study of these objects is that it is difficult to distinguish them from the faintest stars that also appear on photographic plates. Kodak Special Plate Type 087 has increased the ability to detect very faint images in the presence of the much stronger light in the night sky. It also permits astronomers to distinguish more accurately between stars, which are millions of light years away, and quasars, billions of light years distant. Kodak Special Plate Type 080-81 has cut by half the exposure time needed to trace certain objects, thus allowing astronomers to spend more time at the telescope.

Technology and Urban Needs, by James Alcott of the Midwest Research Institute, Kansas City, Mo., a report on the 1965 Engineering Foundation Research Conference on "The Social Consequences of Technology," explores the "major paradox of our society," defined as "the growing disparity between our ability as a nation to create a highly sophisticated program for space exploration and our inability to deal successfully with community and human needs."



William Shakespeare

"Consistency: Thou art a jewel!"



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William Shakespeare admired consistency. His personal output was consistent—and of high quality. If he personally were committing his own works to film today, we are confident he would use a Pako Ciné/Strip Processor—as television stations and motion picture processors are already doing.

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Pako Ciné/Strip Systems offer advantages not found in other processing systems. Solutions are replenished automatically. Tempering, circulation and filtering systems are included. Programmed turbulation in developers, together with precise metering of replenishers and exacting temperature control, produces unusually consistent sensitometric results. Bottom gear drive protects film by maintaining uniform—extremely light—tension.

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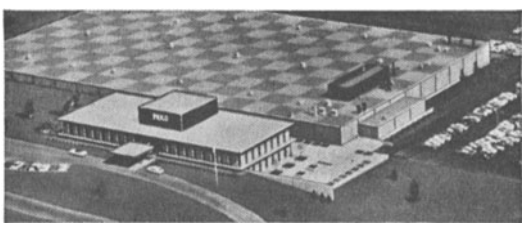

Pako Corporation is the world's most experienced manufacturer of film processing systems . . . over 54 years. A Pako system is not just equipment. Pako will work with you from the planning stage right on through the in-and-operating stages. Pako products are backed by Pako Distributors who maintain parts inventories and factory trained men. Also, Pako provides user factory training programs in equipment operation and maintainance. Financing available to qualified buyers.

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Tank sections are constructed in modules. First benefit is fast installation (3 weeks compared with months for other large systems). Longer range, they prevent obsolescence. When processes change, Pako Processors may be modified too.

"Light-Side" Main Controls

Flowmeters, temperature controls—chemical meters and pressure checks—are on one panel in the lighted area. Darkroom is for film loading only.

Pako Ciné Processing Systems

Film Type	Model	Process	Maximum Film Width (mm)
Kodachrome	10/40 K-12	K-12	Two strand: 16 & 35
	75 K-12	K-12	16
	80 K-12	K-12	8
Ektachrome	56EK	ME-4	16
	75EK	ME-4 & ECO-2	16
	40EK	ME-4 & ECO-2	35
Anscochrome	48AN	AR-2	16
	52AN	AR-2	35
	40AN	AR-1	35
	10AN	AR-1	70
Eastman Color	78ECP	ECP	16
	26ECN	ECN	16
Kodacolor	7KO	C-22	70
	13KO	C-22	35
Black & White	95 B/W-R	Reversal	16
	48 B/W-R	Reversal	16
	75 B/W	Neg. or Pos.	16
	40 B/W	Neg. or Pos.	35
	27 B/W	Neg.	70

Or other types of Film

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Type of film(s) to be processed: _____

NAME_____

TITLE_____

ADDRESS_____

CITY_____ STATE_____ ZIP_____

The report was prepared for the National Commission on Technology, Automation and Economic Progress and is a part of the formal Commission report to the President. The conference dealt particularly with the application of technology to unmet community and human needs in the urban context. The report points out that the engineering profession represents a principal body of technological capability and a group which should have as a vital concern the social consequences and implications of technology. Major urban problem areas, such as transportation, shelter and communication were described. It was generally agreed that existing technology is adequate, at least in latent form, to solve many of the needs.

The 24-page report contains deeply significant statements on every page, among them: "Science and technology have been applied on a massive scale to solve a number of very difficult problems involving social and political goals and issues; one of the most notable of these is the national space program. It would seem that a similarly carefully organized and well-run program could be mounted to apply science and technology in the solution of urban problems."

The report concludes with the statement, "The Engineering Foundation should sponsor a second conference on the social consequences and implications of technology which would carry forward the discussions begun in 1965 and act in part as a continuation of the work of the Commission.

A 500,000-V electron microscope has been developed by Radio Corp. of America for the University of Virginia's Department of Material Sciences, School of Engineering and Applied Science. In operation, the system's power supply accelerates an electron beam which is "fired" at the specimen under study. As the electrons emerge from an electron gun at the top of the microscope's 12-ft column, they travel at 170,000 mi/s or about 90% the speed of light. The enormous energy thus released is reported to penetrate metallurgical and other specimens many times as thick as those used in conventional electron microscopy, and with far less scattering of electrons, to create images that can be observed and photographed. The powerful instrument is expected to yield specimen images of much greater detail revealing structures that could not otherwise be clearly observed.

A "heat pipe" which permits the transfer of thermal energy from a heat source to a thermionic device for direct conversion into electricity has been developed by Radio Corp. of America, it was recently announced.

The device consists of a molybdenum metal tube containing molten lithium metal. The metal is vaporized at one end of the pipe, enabling it to aborb great quantities of thermal energy from the heat source — a nuclear reactor, a radioisotope source or a fossil-fuel burner. The vapor from the metal is transferred by thermodynamic action to the opposite end of the pipe, where it condenses and releases this energy with a negligible temperature drop. A capillary structure on the inner wall of the heat pipe, similar to a wick, returns the condensate to the boiler where the continuous cycle is repeated. Since the heat pipe is not dependent upon gravity for its operation, the device is expected to operate effectively in the weightless environment of outer space. In a 500-hr test the heat pipe delivered approximately 1,000 thermal watts to the input of the thermionic unit for direct conversion into electricity, the announcement stated.

Developed by RCA for the Air Force especially for space applications, the tube (RCA Developmental Type A-1198C) employs all molybdenum construction with ceramic used as insulation and operates at temperatures up to 1,500 C. It incorporates an emitter of 40 cm^2 to deliver up to 300 W of electrical power. Cesium is employed to enhance the operation in the arc mode.

Two ultraviolet spectrographic rocket payloads for obtaining photographic spectra of stars will be built by Perkin-Elmer Corp., of Norwalk, Conn., for Princeton University's rocket program in addition to the four systems the firm has already built for the NASA-sponsored program. Since it is not possible to observe starlight in the ultraviolet with earthbound instruments because the atmosphere absorbs it, the Perkin-Elmer spectrograph is carried high above the earth's atmosphere where it has 4 to 5 minutes of observing time. Data recorded by the spectrograph on an Aerobee rocket flight last year from White Sands Missile Range has enabled scientists to arrive at certain conclusions regarding the death of stars. Spectra obtained of the

ESTAR Base, 4 mils thick

THE MOST USEFUL COLOR AND BLACK-AND-WHITE INSTRUMENTATION EMULSIONS NOW COME ON IT. FOR QUANTITATIVE RECOVERY OF DATA, ITS DIMENSIONAL STABILITY IS COMFORTING. FOR LONGER RUNS BETWEEN ROLL CHANGES, ESTAR BASE IS THIN. FOR FEWEST FILM BREAKS DURING CAMERA RUNS, ESTAR BASE IS TOUGH. STANDARDIZE ON THIS BASE.

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KODAK 2496 RAR* Film . . . Exposure Index: 160, negative or reversal. Medium-speed panchromatic film with extended red sensitivity and the capability of reversal processing.

KODAK 2498 RAR* Film . . . Exposure Index 250, negative or reversal. Medium speed, extremely fine granularity, medium resolving power, and very high acutance. Additional antihalation layer directly under emulsion accentuates image quality. Equally suitable for negative or reversal processing.

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Kodak

giant stars in the constellation Orion, particularly the star Zeta, indicated that these giants stars enter their last phase of existence by beginning to lose their mass. This process extends over a long period of time. Dr. Donald C. Morton, head of the Princeton rocket program, estimated from the ultraviolet spectrograms that matter was being spewed out by the dying giant stars at a rate of about 4 million miles an hour. His findings may go far toward explaining the existence of so many lifeless "white dwarf" stars in the universe.

A method by which three-dimensional multicolor images can be seen by shining ordinary white light — from the sun or a flashlight — on a hologram has been developed by scientists of Bell Telephone Laboratories and the University of Michigan. Previously, hologram images could be viewed only by using one or more laser beams for illumination. Although lasers are needed to make the holograms, the white light can sift through the interference patterns formed on the emulsion of the hologram photo plate and select the information that gives the impression of depth, shape and color. (Multicolor holograms are discussed in a paper by K. S. Pennington and L. H. Lin, "Multicolor Wavefront Reconstruction," which was presented at the Society's 99th Conference in Washington, D.C.)

Previous methods of making holograms used an angle of from 30° to 90° between the two beams. The amplitude and direction of the light waves were recorded on the hologram, but the spacing between the interference surfaces was such that only a limited number of surfaces could be formed. Because of this the same laser light sources had to be used to reconstruct the image in multicolor. By increasing the angle of the object and reference beams, for example, to 160°, the interferences surfaces in the emulsion can be made closer together and thus make room for many more surfaces. This makes it possible to record enough color information so that ordinary white light can produce the multicolor, three-dimensional image.

A new system for recording computer type of information on photographic film has been devised at Kodak Research Laboratories, Rochester, N.Y. Information data of this type are usually recorded in bits similar to the code pattern of holes in an IBM card. The new system makes use of a diffraction grating pattern consisting of a series of very minute parallel lines. Such a grating has the ability to bend light passing through it and the amount of the bending depends upon how closely spaced the lines are. Instead of recording a bit as a hole in an IBM card it is recorded as a grating pattern of a certain spacing. A number of different grating patterns with different spacings can be superposed. When light passes through, each grating pattern bends the light its characteristic amount with the result that the pattern decodes itself so that the light pattern shows what information is on the film. A laser is considered to be one of the best light sources to use for this purpose. The information is recorded on film by imaging the superposed gratings directly onto it. Photographic films have been used

for storing and processing data but for very limited applications. The new system permits larger areas on the film to be used and lessens dust-sensitivity and the possibility of dirt and scratch hazards.

Maurice Levy, former President of Eastern Effects, Inc., is no longer connected with that firm in any capacity, it was recently announced. His present activities include services as a consultant to firms and individuals in the field. Present owner of Eastern Effects is Lipsner-Smith Corp.

Jerry Lipsner has been elected President of Eastern Effects, Inc. He was formerly Executive Vice President and Sales Manager and will continue to supervise sales. Rodney Friedson, General Manager; Les Price, Production Manager; and Ed Berger, Quality Control, all Vice-Presidents, will continue in their present posts.

Eastern Effects, established in 1952, recently moved from 33 W. 52 St., New York, to new and larger quarters at 219 E. 44 St., New York, N.Y. 10017.

Edgar Schuller has been appointed to the newly created position of Director of Research and Development, Cine Magnetics Inc., 202 E. 44 St., New York, N.Y. 10017. He has held administrative and technical positions with De Luxe Film Laboratories, Reeves Sound Studios and Du Art Film Laboratories. In his new post Mr. Schuller will direct the engineering and development of new systems capable of handling multirank 8mm duplication and magnetic recording.

Joseph J. Jacobs has been appointed to the board of directors of D. B. Milliken Co., 131 North Fifth Ave., Arcadia, Calif. 91006. Dr. Jacobs is also President of Jacobs Engineering Co., Pasadena. He has been responsible for the development, engineering and marketing of many new processes and products in the chemical science industry. D. B. Milliken Co. designs and manufactures high-speed motion-picture cameras and recently developed a kinescope recording camera for television.

Bruce E. Harris, assistant to Victor James, Vice-President of Arriflex Corp. of America, has been appointed Assistant Sales Manager. He joined Kling Photo Corp. in 1959 and was transferred to Arriflex, a Kling subsidiary in 1962.

William E. Smith has joined D. B. Milliken Co. of Arcadia, Calif., as field engineer. He will be based in Takoma Park, Md. Mr. Smith was formerly with NASA's Goddard Space Flight Center where he had experience in metric, instrumentation and data recording, still photography and motion-picture production.