

**The Chicago Section**, at its February 9 meeting, had an audience of 59 to hear a series of papers describing "The Application of Motion Pictures to Medical Teaching and Research."

Three prominent men in the medical profession interestingly described the bringing together of medical research, motion pictures and specialized equipment design to accomplish remarkable advances in their respective fields. George Shambaugh, Jr., M.D., Chairman, Department of Otolaryngology, Northwestern University Medical School, discussed "Cell Division in Relation to Research on Hearing, Surgery of Inner Ear, Details By Camera." Paul Moor, Ph.D., Director, Laryngeal Research Laboratory, William and Harriet Gould Foundation, Northwestern University, discussed "Hi-Speed Analysis of Function of Human Vocal Cords." Paul Holinger, M.D., Professor of Broncho-Esophagology, University of Illinois, discussed "Studies of Human Bronchii and Esophagus, Motion Picture Studies." James Brubaker, Northbrook, Illinois, Moderator of the Discussion, explained the "Design and Construction of Ear and Bronchii Camera."

Mervin W. LaRue, Sr., Merwin W. LaRue, Inc., Chicago, and Ralph P. Greer, Associate Director, Division of Communication, American Medical Association, introduced the speakers. The Chicago Section has expressed its gratitude to Mr. LaRue, Sr., distinguished proponent of the use of motion pictures for medical research, for his help in arranging this program.

Prior to the meeting, the speakers were guests of the Chicago Section at a dinner in the Gibraltar Room of the Prudential Building, which was attended by twenty-eight. Following the meeting, there was a coffee session arranged through the courtesy of Wilding Picture Productions of Chicago.—William H. Smith, *Secretary-Treasurer*, Lakeside Laboratory, Gary, Ind.

**The Chicago Section**, at its March 3 meeting, featured two papers on "Visual Aids Production" and attracted a capacity audience of 88 to the Section's Prudential Building meeting room.

In answer to the requests of many Chicago Section members who were unable to attend the Fall Convention, the entire meeting was devoted to two excellent papers presented there by Norman R. Salmons, Manager, Audio Visual Service, Sales Service Division, Eastman Kodak Co., Rochester, N.Y.

Mr. Salmons' first paper, "Visual Aids Production," described some of the methods used in producing relatively low-cost visual aids for business and industry. Both art work and still photography were discussed, and excellent examples were given showing the preparation and proper utilization of each of these types of materials.

In his second paper, the author presented a suggested mode of operation and an outline for plant, personnel and equipment requirements necessary for the production of the visual aids previously described.

The suggested techniques applied to an in-plant photographic department within

industry and emphasized the inclusion of the person making the ultimate presentation as a vital part of the planning "team." Many of the examples given were the result of Mr. Salmons' personal experiences and demonstrated the practicability of such an approach.

Between papers, Film and Recording Services hosted the coffee and coke session which has become a welcome part of each of our section meetings. Members and speakers enjoy the opportunity to talk informally and we find that our question and answer periods are correspondingly more lively.—William H. Smith, *Secretary-Treasurer*, Lakeside Laboratory, Gary, Ind.

**The Dallas-Fort Worth Section** met on March 18 at the Dallas Public Library Auditorium. An audience of 45 heard a discussion of the career of Robert Flaherty, which included descriptions of his filmmaking techniques and his philosophy of cinema, by Mrs. Frances H. Flaherty. Mrs. Flaherty's talk was illustrated by perfectly preserved film clips of "Nanook of the North," "Moana," "Man of Aran," and other trend-setting documentaries.—P. W. Wygant, *Secretary-Treasurer*, 6021 Plants Ave., Dallas 12, Texas.

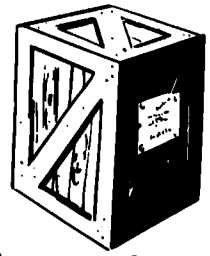
**The New York Section**, on April 29, in cooperation with the National Television Film Council, held the concluding phase of the two-part program "Operation Video Film—Better Films For Television," at the television studios of the American Broadcasting System in New York City. Scenes shot during the Section's March meeting were shown over closed-circuit television to an audience of 270 at two sessions.

A black-and-white print of eight scenes from a 35mm duplicate negative was telecast. These particular scenes were selected to demonstrate various factors in relation to the limitations of the brightness range of the television system. John Stott of Eastman Kodak Co., Chairman of the Panel in charge of the presentation, summarized the previous photographic session. Peter Keane, Screen Gems, outlined the suggested density requirements for film in television and E. Hamilton, ABC-TV, discussed the generation of the television signal and the use of the waveform monitor in relation to film density.

By means of superimposing the waveform monitor and the film scene on the television monitor, the audience was able to see the relationship of film densities to "black-and-white reference" of the television system. The brightness readings on the set, the density recommendation for television prints, and correlation of these items with the television waveform monitor were thoroughly explained on both a-c and d-c coupled monitors, simulating home reception.

Paul Kaufman, Du Art Laboratories, described the sensitometry of the film duplication process used to obtain the final print quality. He also showed the sensitometric and pictorial differences between a print from a good and a poor duplicate negative.

A discussion period followed each of the two sessions.—Edward M. Warnecke, *Secretary-Treasurer*, Eastman Kodak Co., 342 Madison Ave., New York, N.Y.



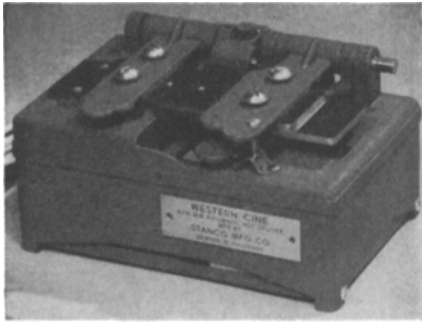
## new products (and developments)

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Further information about these items can be obtained direct from the addresses given. As in the case of technical papers, the Society is not responsible for manufacturers' statements, and publication of these items does not constitute endorsement of the products or services.

**The RCA TV Tape Recorder** has been announced as in production. Six prototypes have been operated for about a year by NBC network and one was installed at WBTV, Charlotte, N.C. The Recorder is designed for black-and-white and color. Programing features include variable-speed cuing control, cue recording channel and master erase head. Built-in devices for ease of operation include picture and waveform monitor, monitor and CRO switches and servo control track monitoring. Other features include electronic headwheel adjustment, wideband demodulator and magnetic tone wheel.

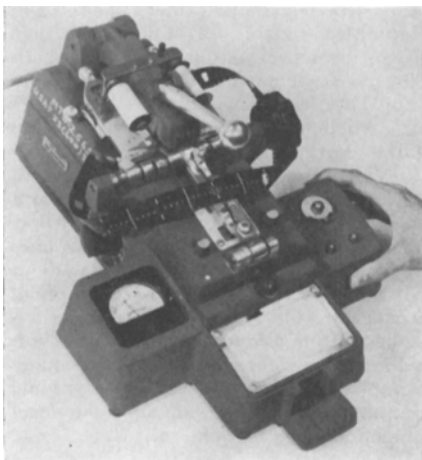
**Ampex Corporation's new model Video-tape (TM Ampex Corp.) Television Recorder, VR-1000B**, was announced in early May for deliveries in June. To improve picture quality three innovations have been made: (1) tape start in 2 sec compared with the former 5 sec, to improve "on air" program cuing; (2) automatic brake release, to facilitate threading and splicing; and (3) tape playback speed control for momentary speed-up or slow-down to permit two recorders to be lip-synchronized or to synchronize a VR-1000B with an external audio recorder. Seven changes to simplify maintenance and set-up procedures are: (1) addition of head-life indicator; (2) high-power tube metering, to check high-power tubes at 38 points; (3) controls made more accessible; (4) improved switcher and demodulator design; (5) protective circuits, with a white light indicating location of trouble; (6) a pointer behind each control knob added to show original dial setting; (7) components more accessible by a swing-out harness.

**The return of William H. Moenter** to the Electronics Dept. of S.O.S. Cinema Supply Corp., 602 W. 52 St., New York 19, has been announced. Mr. Moenter is a picture and sound recording specialist with 25 years of electronics service experience. His duties in his present post will include checking and servicing theater equipment, sound systems and recording and electronic equipment.



**An 8/16mm Automatic Hot Film Splicer** with an adjustable motor-driven rotary cutter for automatic removal of emulsion is a product of Western Cine Service Inc., 114 E. 8th Ave., Denver, Colo. After the film has been locked in the platens, a pushbutton activates the cutter which travels the full width of the film and removes the emulsion to exactly the proper depth. This automatic feature makes the splicer especially suited for darkroom use. Other features include adjustable splice width, dual film registration pins centered on the platens to permit splicing of sound stock with perforations either toward or away from the operator, and constant platen temperature of 99 F to 101 F. The splicer was described on the Papers Program of the Society's Convention at Miami Beach.

**Poly-Pak**, a plastic package design for Minit Fix, a rapid fixer for both paper and film, has been announced by L. B. Russell Chemicals Inc., 14-33 31st Ave., Long Island City, N.Y. With the new packaging a 5-gal container can be sold at the same price as four 1-gal bottles. The 5-gal package occupies approximately half the space required to store four 1-gal bottles.

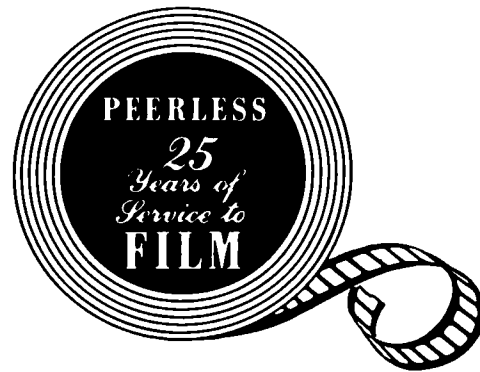


A splicer designed specifically for the instrument tape used in vertical-scale instrumentation has been developed by Prestoseal Mfg. Corp., 3727 33d St., Long Island City, L.I., N.Y., in cooperation with Bendix Eclipse-Pioneer Div., and General Plastics Corp., manufacturers of nylon-coated, glass fiber instrument tape. The splicer is reported to measure, cut and seal the tape in endless loops within precise length tolerances of  $\pm 1/1000$  in. Ends of the multilayered tape are

spliced in 2½ sec by application of pressure and temperature. The machine, called the Presto-Splicer, is said to be the only butt-weld splicer that can fuse tape or film back to its original condition, end to end.

The design of the tape package in the instrument consists of two endless tapes, one inside the other. These tapes, driven by individual sprockets, run over idlers while in the viewing area. The inner tape shows the numerals which appear in the windows of the outer tape. The outer tape is graduated. The difference in length between the tapes, combined with the numerical arrangement, causes an indexing action to occur which cannot be seen by the pilot. Any slight deviation from the prescribed length of the tapes would cause inaccurate instrument readings, therefore the utmost precision is necessary in the splicing operation.

**The Tel-Amatic 16/35 Negative/Positive Cleaning Machine** is a product of S.O.S. Cinema Supply Corp., 602 W. 52 St., New York 19. A 3000-ft supply reel is fed into a wet area where it is jet-sprayed with solvent circulated by a pump-filter-motor assembly. Before leaving the wet area, the film passes between air squeegees and the cleaning solvent returns to a storage reservoir at the bottom of the compartment. After leaving the wet area, the film passes between two nylon velvet buffers and a capstan-type drive provides the traction to move the film rapidly through the unit. A slip clutch and microswitch triggered by release of film tension automatically halt the supply reel when it is empty and act as a safety device if a splice should part. The machine is 22 in. wide, 24 in. deep and 72 in. high, and weighs 480 lb. The entire film-cleaning operation is reported as taking less than 6 min for 1000 ft of film.



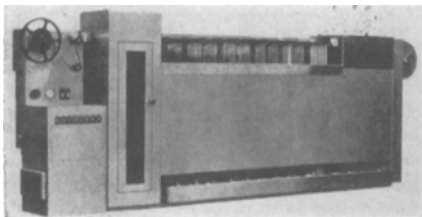
## Scratches on Film Irritate Audiences

Scratches are havens for dirt, and refract light improperly. On the screen, they mar the picture and may distract attention. If on the sound track, they produce offensive crackling.

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**The Model AC-8, a 16mm Anscochrome/Ektachrome daylight film processor,** has been announced by Filmline Corp., Milford, Conn. The machine processes 16mm Anscochrome reversal film at a speed of 480 ft/hr, or Ektachrome at 1380 ft/hr. Features include variable-speed drive and film speed indicator, overdrive film transport system, "temp-guard" system to provide automatic controls for refrigeration to the two developer solutions, and a two-stage heat control for forced warm air film drying. Approximate dimensions are 11½ ft long, 55 in. high, and 40 in. wide. Weight is 3000 lb. It is priced at \$12,700. Also available is Model AC-16, with a speed of 960 ft/hr for Anscochrome or 2400 ft/hr for Ektachrome, priced at \$21,400.

**An instrument called a simultaneous converting automatic densitometer,** used to obtain analytical color densities of films by optical-electronic means has been developed by Eastman Kodak Co. for more rapid testing of color films. The machine has not been made available commercially. It was described by Harold Holland, of Eastman Kodak's film testing division, during the annual meeting of the Optical Society of America on October 9, 1958, in Detroit. Main advantage of the new machine is that it eliminates storage and hand computation. This is made possible by feeding three simultaneous integral density values to an analogue computer that calculates the analytical densities immediately and records them in graphic form.

**The Jaro-Salford Professional Exposure Meter** has been announced by Rank Precision Industries Ltd., 37-41 Mortimer St., London W.1. The instrument, which measures either incident or reflected light, was developed by Salford Electrical Instruments Ltd. for the J. Arthur Rank Organization. The instrument comprises a selenium cell coupled to a microammeter which is calibrated logarithmically from 0 to 200 ft-c. The cell and meter are contained in separate housings for convenience in use. Two hoods make the instrument adaptable to different light ranges and to readings by incident or by reflected light. An exposure calculator is used for the latter. To adapt to either type of reading, the meter has a detachable hood which has on one side a honeycomb which restricts the effective angle to that of the average camera lens, and on the other side, an opal window. The hood may be fitted in either direction over the light-sensitive cell, so that the honeycomb may be used for brightness readings and the opal window for intensity readings.

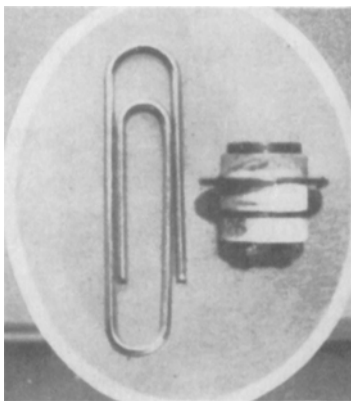
The meter is made in two sections, connected by an interchangeable bayonet catch. It is assembled either with the light receptor and the dial on the same side, or on opposite sides. The two halves of the instrument may be used at a distance and connected by a cable. The range may be extended to 2000 or 20,000 ft-c or ft-L by means of a "range change" hood. The meter is said to be extremely accurate, having a tolerance of  $\pm 12\frac{1}{2}\%$ , or 1/6 stop.

**Thimble-sized electron tubes,** expected to have important applications in miniature radio transmitters of space satellites and guided missiles were among developments demonstrated by Radio Corp. of America at the National Convention of the Institute of Radio Engineers held in New York, March 23-27. Named Nuvistor tubes, the minute tubes, now in an advanced stage of development, are based on a revolutionary new design concept. In the demonstration, the tubes were shown operating under conditions of severe shock, in an electric furnace at 660 F and in liquid nitrogen at -320 F.

Also exhibited was the newly developed diode-triode transistor. The device consists of a triode unit and alloy-junction diode unit in a single case.

To demonstrate the capabilities of developmental thermoelectric junctions, an experimental brushless and commutatorless motor was shown in operation. This motor is activated by a hydrogen-oxygen flame that heats a series of thermoelectric junctions positioned on a drum. Electrical current from the individual junctions is fed into the individual armature coils of the motor. The current in these coils crosses the magnetic field maintained by permanent magnets, thereby producing the force which causes rotation of the armature.

Other highlights of the exhibit included a developmental microminiature timing chain consisting of five micro-modules. Reputed to be the smallest unit of its type, the entire assembly is less than 2½ in. in length and about ½ in. high. It consists of a 192-k oscillator, a clipper, a pulse sharper, an output amplifier, and a multivibrator with two binary dividers.



**A miniature electronic tube called the GE 7077,** a product of General Electric Co., transmitted radio messages from the Pioneer IV, the Army's solar satellite, over a distance of 400,000 miles. An 18-ft parabolic antenna equipped with a

parametric amplifier, located on the roof of the company's Research Laboratory, tracked the Pioneer IV and recorded its transmissions.

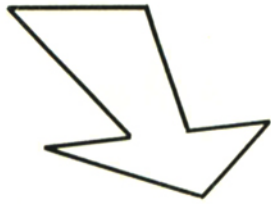
**The American National Exhibition in Moscow,** which opens in July, will be highlighted by a color TV demonstration by the Radio Corp. of America. The exhibit will feature a fully-equipped color TV studio which will originate eight hours of live and film programs daily. The program will be carried by closed circuit to 16 TV receivers situated throughout the fair grounds in Sokolniki Park. Programming will be under the direction of a production crew from the National Broadcasting Co. The Soviet government announced recently that it would begin color TV broadcasting later this year.



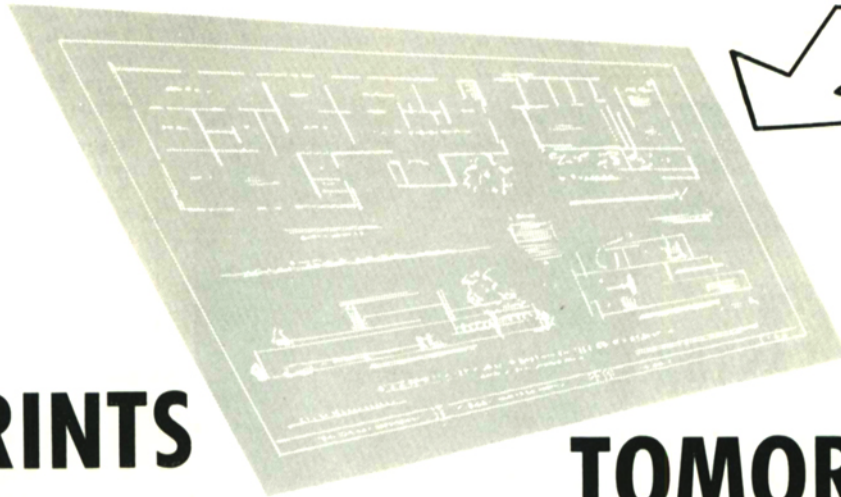
**The Tele-Tran System,** a battery-powered 4-lb television camera and 12-lb transmitter capable of transmitting live TV pictures over distances up to a half-mile has been announced by Dage Television Div., Thompson Ramo Wooldridge Inc., Michigan City, Ind. Demonstrated at the World Congress of Flight held in Las Vegas, Nev., April 12-19, the system is designed mainly for military applications where easily portable equipment for transmitting picture information to headquarters or remote locations without the use of cables or heavy power supplies is desirable. Other suggested applications include traffic control, crime detection and coverage of news events. Automatic operation is accomplished by electronic control, including automatic light level compensation by the camera.

**A tropospheric - scatter - communications system** developed for the Air Force by M.I.T.'s Lincoln Laboratory, Lexington, Mass., and General Electric's Technical Products Dept. has been tested at domestic sites over a 640-mile distance between Millstone Hill, near Boston, Mass., and Sauratown Mountain, near Winston Salem, N.C. The system comprises antennas, giant reflectors, powerful transmitters, specially-designed receivers and exciters, and a maze of filtering pipes. Although the new system is designed

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primarily for voice and teletype communications it may also be of interest in the development of transoceanic television by the over-the-horizon means of transmission.

**World-wide television**, relayed across the ocean by means of satellite stations; and thin-screen television panels were among developments predicted by Elmer W. Engstrom, Senior Executive Vice-President of Radio Corp of America, at a combined meeting of the Electric Institute and the Advertising Club of Boston held Feb. 11. These and other "remarkable advances" will be based upon "expansion of our power facilities and upon the wedding of many electrical and electronic

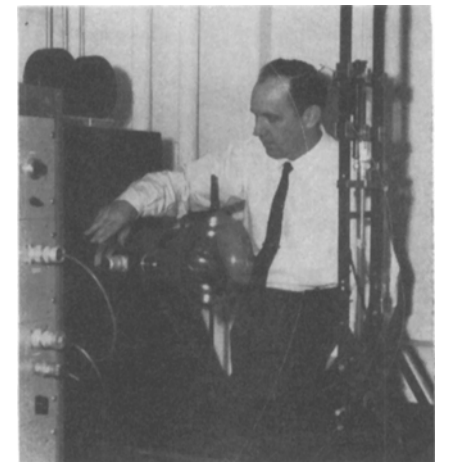
techniques..." Dr. Engstrom said. In discussing the thin-screen TV display panel he reported: "Electroluminescence is ready for specialized applications."

A vidicon measuring 5½ in. in overall length has been announced by the Industrial Tube Products Dept., Radio Corp. of America, Harrison, N.J. The design utilizes nonmagnetic parts in the front end, an optically flat faceplate and an envelope without a side tip. The tube is said to provide good color translation, color uniformity and balance when used in 3-vidicon color cameras.

A camera tube that can "see" in the dark and a compact transistorized color

TV pickup system developed by the Radio Corp. of America were among specially developed medical television equipments demonstrated at a conference on television uses in medical education held at the National Institutes of Health, Bethesda, Md., early in March. The conference was sponsored by the American Academy of General Practice and the Institute for the Advancement of Medical Communications Inc. The demonstration included a color film recording of the retina of the human eye. A wide-space image orthicon was used to permit a light level low enough to avoid disturbing the patient. Camera for the miniature pickup system weighs about 20 lb. It employs developmental half-inch vidicon tubes to pick up color images of subjects under a light microscope for display on standard color TV receivers.

A seven-channel closed-circuit television system has been installed by the U.S. Army Signal School, Fort Monmouth, N.J., and is used for instructing a student body of 6000 men. Radio Corp. of America cameras and equipment are used in the system, which is described as the "world's largest" in military use. A total of 468 receivers provide almost complete classroom coverage. Thirty-five monitors are located in the base hospital so that patients can keep up with their classmates. Big screen projectors in five central locations permit viewing of programs by larger audiences. The resources of the system permit the viewing of a single program by as many as 15,000 persons.



A speed of one million frames/sec has been achieved with a camera developed at the California Institute of Technology for the Office of Naval Research. The inventor, Albert T. Ellis, has reported that a speed "several times faster" is possible. Developed to study on film the life history of cavitation bubbles, the camera has also been used to study explosions, high-frequency fatigue in aircraft metals and other materials, and stress and strain field propagation in metals.

An extraordinary feature of the camera is that the film is stationary. It lies in a slot inside a drum (30 in. in diameter) and a spinning mirror records the images. This unusual device is necessary, otherwise the film would burn at the tremendous speed at which it would be moving.

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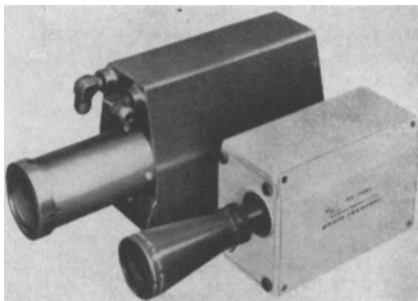
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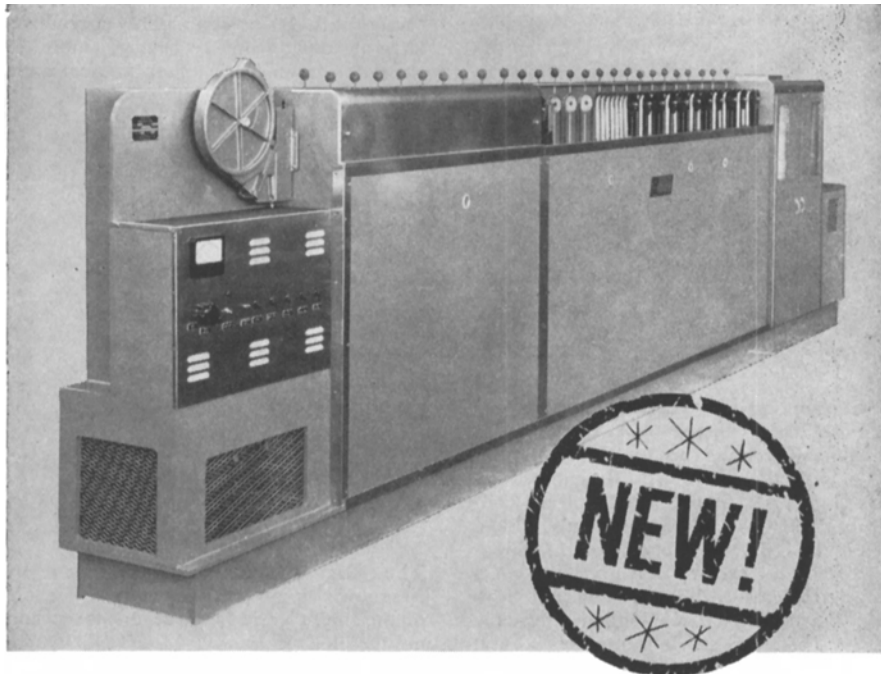
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Qualitative data on shock vibration and temperature encountered near rocket nozzles during static firings at Edwards Air Force Base have been obtained by an adaptation of the HS-16WJ camera design of the Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles 64. Because of the high temperatures involved, a standard HS-16B High-Speed Photo Recorder was reduced in size and film capacity and inserted in a stainless-steel water jacket. A continuous flow of water surrounds the camera during the rocket firing, enabling it to withstand temperatures estimated at 5000 F and velocities in excess of mach 2. The lens is protected by a stainless-steel tube with safety plate glass in front. Standard features, such as correlation switches and footage counter, are incorporated.

A 35mm. Multidata Camera, Model IV-E, which is equipped with a data chamber which records auxiliary information directly onto the film, has been announced by Flight Research Inc., Box 1-F, Richmond, Va. The recording of the auxiliary data onto the film is accomplished through the use of split optics. The optical path, which transfers to the film the image of the data panel containing the instruments which supply the needed information, incorporates a front surface mirror, a short focal length lens, and a specially designed prism. The optical path passes behind the shutter so the data recording exposure is independent of "target" exposure. The readings on the auxiliary instruments in the data chamber are recorded along one side of the film in the same frame and at the same time as the target data. The auxiliary data area is  $\frac{1}{8}$  in. wide by  $\frac{3}{4}$  in. high in each picture for the target information.



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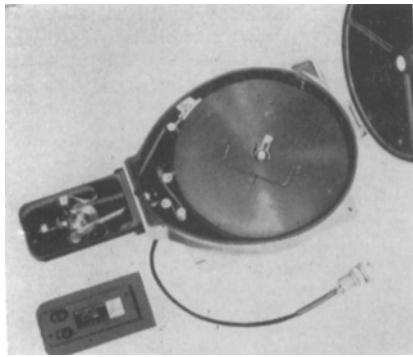
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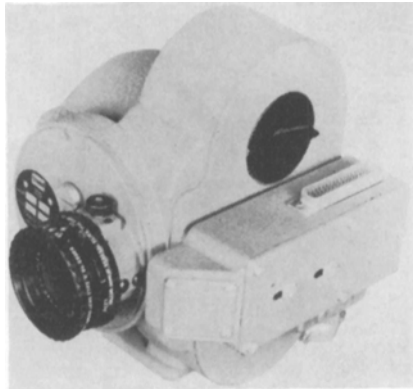
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A film magazine designed to "throw" film to the camera "on demand" is capable of holding up to 800 ft of film. It is a product of Flight Research Inc., Box 1 F, Richmond, Va., and is constructed for use with the firm's Model III and III-B Multidata Cameras. Separate feed and take-up drive systems overcome problems of differing feed and take-up torque and speed, allowing the magazine to be used for single-frame or normal motion-picture operation at speeds up to 40 frames/sec. Removable-flange daylight loading reels are supplied with the magazine. Designed to withstand harsh environmental conditions, an internal thermostatically controlled heater may be used when low temperature operation is required. An automatic cutoff switch cuts off magazine and camera at the end of the film supply. Used with the Model III-B

camera it makes possible highly specialized airborne oscilloscope recording, studies of cloud formations and other photographic instrumentation.



The Digital Recorder, developed by Magnavox Research Laboratories for use on the 35mm Traid Fototracker camera and on the Bell & Howell Model 71 Eyemo cameras has been announced by Traid Corp., 17136 Ventura Blvd., Encino, Calif. The device provides a 96-bit matrix image on each frame and correlating coded data with pictorial records in real time. Comparable in size to a postage stamp, each recorder head uses two 48-lamp assemblies to form an array of 96 1-v lamps. A prism arrangement projects the matrix image onto film. The camera can

be operated at any frame rate up to 80 frames/sec. The recorder is shown incorporated in the camera door.

Improved Kodak films for aerial photography, including films that can be exposed under varying illumination levels without adjustments in camera exposure, were described in a paper by Raife G. Tarkington, of Kodak Research Laboratories, at the annual meeting of the American Society of Photogrammetry, March 8-11 in Washington, D.C. Recent gains in the manufacture of aerial film have led to materials in which the photographic speed varies markedly with the development time while the contrast changes very little, Mr. Tarkington reported. Aerial photographs can thus be taken under varying light conditions without changing the camera setting. Mr. Tarkington also discussed a new test criterion known as "sine-wave response" — a measure of image quality that is independent of the graininess of the film.



The Stereomat, an instrument to produce maps from aerial photographs, will be manufactured by Benson Lehner Corp., 11930 West Olympic Blvd., Los Angeles 64. The instrument, which performs automatic profiling and semi-automatic contouring, has been developed by Photographic Survey Corp. of Toronto, Canada. It is basically an automatic scanning correlator which can be mounted on conventional, projection-type plotters in place of manually-operated stereomechanisms. A cathode-ray tube replaces the usual platen. Vertical movements of the tube and leveling adjustments for the projectors are controlled by servo motors. The instrument traces correct contour lines by means of a complex array of electronic, optical and mechanical apparatus.

Anso Hyscan, a film with sensitivity to the color of light emitted by cathode-ray tubes, was described by J. B. Taylor of Anso at the annual convention of the Society of Photographic Scientists and Engineers, Oct. 6, 1958, in Rochester, N.Y. The film, which is used for airborne

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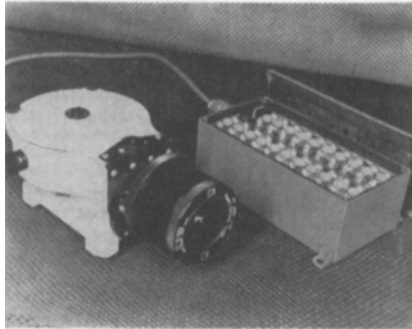
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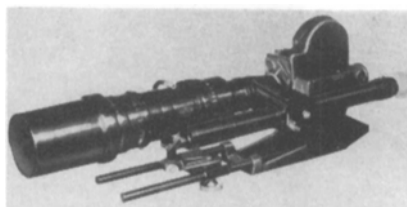


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rapid processing of radar recording film, is developed within 5 sec without stop bath or fix. Heated high-energy developer provides the developing speed. The film has a thinly coated, hard emulsion to accelerate developer penetration. The developer is squeezed off the film as it emerges from the bath. It is "self-limiting" and also contains organic materials to inhibit fog and stabilize the unfixed silver halide to light. Viewing equipment and specialized techniques employed in the rapid processing system were also described.



A wide-angle lens has been designed for missile scoring systems and manufactured by Pacific Optical Co., Inglewood, Calif., for Traid Corp., 17136 Ventura Blvd., Encino, Calif. Called the Traid 725, the lens has a speed of f/1.5 and a 110° field of view. It forms a round image of 0.297 in. diameter in the film frame and has a focal length of 0.1655 in. or 4.038 mm. A ruggedized GSAP mount, capable of withstanding accelerations as high as 50 g, is provided. The lens is shown mounted on a Traid 725 camera.

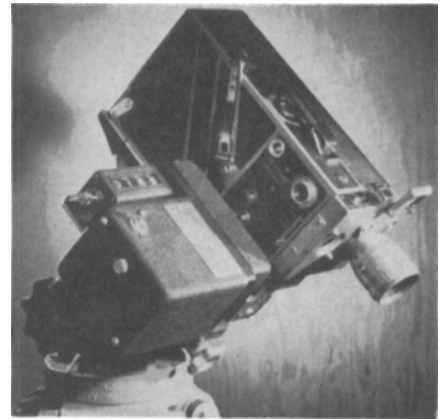


The Kinoflex Reflex Housing, an addition to the Kinoptik line of Apochromatic 16mm and 35mm lenses has been announced by Karl Heitz Inc., 480 Lexington Ave., New York 17. Designed to work with lenses of 210mm and longer focal lengths, the housing fits between camera and lens, replacing an equal section of the lens mount. Within the housing a movable prism is used for parallax-free focusing and framing the image and then removed to the viewfinder to allow all the light transmitted to reach the film. The viewfinder part is then used to frame and follow the subject. The unit is priced at \$299.00.

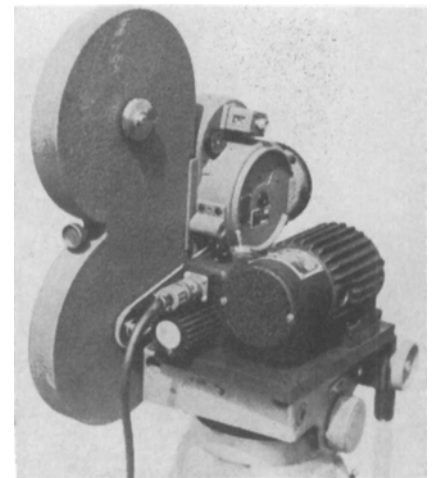
The Hyper-Gonar lens attachment for the Camex Reflex 8 is distributed in the United States by Karl Heitz Inc., 480 Lexington Ave., New York 17. The attachment can be used for both filming and projection. For filming it screws into the standard Camex 12.5mm lens to contract the image registered on the film. In projecting it is attached to the projection lens and turns 90° to expand the picture to a 2:1 wide-screen format. It is priced at \$129.00.

A camera drive unit and a time-lapse drive control are new products of Electro-Mechanical Development Co., 2337 Bissonnet, Houston 5, Tex. The camera drive, Model 1658, is made for use with Bolex H 16 cameras in the Emdeco time-lapse system. It is controlled by the timer, Model 785-T-2, or by Model 1643. An eight-conductor cable couples the drive unit to the timer which provides 120-v, 60-c power in pulses timed to operate the camera in a two-cycle system. The drive unit is energized to open the camera shutter until an exposure is made and is then re-energized to close the shutter.

The Model 785-T-2 timer has two time-lapse interval controls. A variable clock timer mechanism is used to select frame intervals between 0 and 60 sec. Other variable interval times are available upon special order.



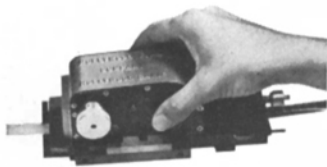
A CECO Stop Motion motor for the Cine-Kodak Special has been announced by Camera Equipment Co., 315 W. 43 St., New York 36. The new motor is equipped for 110 v a-c synchronous operation. It has a 1/3-sec exposure and can operate on both forward and reverse speeds. No special tools are required to mount it on the camera.



A motor kit for Bell & Howell 70 cameras which is designed to provide continuous or burst operation over runs of 400 ft, or more, has been developed by Traid Corp., 17136 Ventura Blvd., Encino, Calif. The new kit, called the Traid 72, has a four-speed, series-type governor controlled

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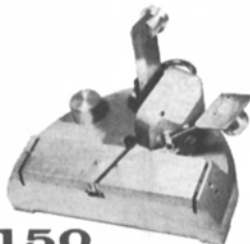
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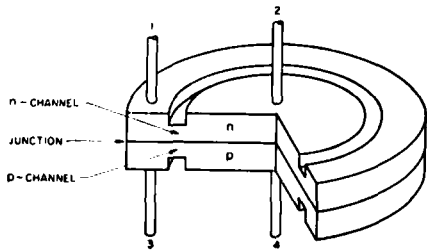


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motor, providing speeds of 16, 24, 32 and 64 frames/sec. Power requirements are 115 v a-c at 2 amp maximum or 28 v d-c at 6 amp maximum. Dimensions of camera and motor are  $8\frac{1}{2}$  in. high,  $8\frac{1}{8}$  in. wide and  $10\frac{1}{2}$  in. long. The weight is 16 lb.



**A four-terminal, semiconductor device** called a field effect tetrode has been invented at Bell Telephone Laboratories. The device, of which laboratory models have been produced, can be made to function as a transformer, gyrator, isolator, non-distorting modulator, or a short-circuit stable negative resistance. The tetrode is composed of a disk of semiconductor with a diffused junction. A circular trench is cut and etched into each face of the disk, to within about 1 mil of the junction on either side. Two leads are then attached to each face, one inside the trench, the other outside. When a voltage is applied across the junction, the thickness of the depletion layer adjacent to it is increased or decreased, depending on the

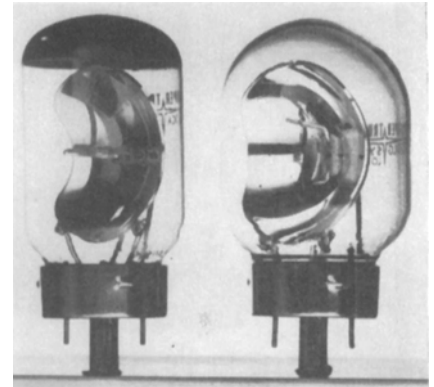
direction of the biasing voltage. This in turn increases or decreases the resistance of each "channel" between the bottom of the trench and the junction. Functionally, the device has no analog, either in electron tubes or in previous transistors.



**The Baskon Electric Eight**, an 8mm electric eye camera, was introduced by Baskon Corp., 291 S. La Cienega Blvd., Beverly Hills, Calif., at the Master Photo Dealers and Finishers Assn. Convention held in Philadelphia, March 22-26. This is the first camera announced by this company which, previously, has specialized in projectors. The company has also announced an 8mm projector weighing 9 lb described as "fastest loading." The camera features a three-lens turret, an electric voltmeter to indicate when the batteries are wearing out and a footage counter incorporated in the viewfinder. The camera is said to provide a continuous

run of over 1000 ft of film. It is priced at \$79.95. The projector is priced at \$44.95.

**An electronic dimmer control** announced by Century Lighting Inc., 521 W. 43 St., New York 36, has been installed in Yale Theatre, Yale University, New Haven, Conn. Described as "not a tube, not a magnetic amplifier," but a means of dimming large lamp loads electronically, features are reported to include instantaneous response, complete dimming to blackout and a significant reduction in size and weight. Each dimmer measures 6 by 6 by 6 in. and weighs  $4\frac{1}{2}$  lb.



**A horizontal-burning model of the Super Tru-Flector** projection lamp designed for use in the optical system of an 8mm projector featuring an  $f/1.2$  objective lens has been announced by Sylvania Electric Products Inc., 1740 Broadway, New York 19. Designated the T-14 model, the lamp was developed jointly by engineering groups of Sylvania and Bell & Howell Co. It is used in the Bell & Howell Lumina 1.2 8mm projector. The filament is mounted perpendicular to the base of the lamp to channel light through the lens with maximum efficiency. The lamp is  $3\frac{1}{2}$  in. high.

**The FloodFlash FF-33**, a high-intensity flashbulb with a reported duration of 1.75 sec has been announced by Sylvania Electric Products Inc., 1740 Broadway, New York 19. Designed for high-speed applications, a  $5\frac{1}{2}$ -in. flashbulb will expose about 37 ft of film at 1000 frames/sec or 75 ft at 2000 frames/sec. At slower camera speeds, several lamps may be flashed in sequence at 1.75 sec. It is priced at about \$2.35.

**Three-dimensional effects** are achieved by projection described as the "Wrap Around Motion Picture System" which has been developed by Jam Handy Organization Inc., 2821 E. Grand Blvd., Detroit 11. A 35mm projector is equipped with an extremely wide-angle lens which completely fills a hemispherical screen with the projected picture. The curve of the screen affords a horizon of  $180^\circ$  with a vertical scope of  $90^\circ$ . The system was introduced at the Detroit auto show and was also exhibited at the Chicago auto show. Viewers saw the "ultrarealistic" motion picture (a ride in a 1959 Chevrolet) in a theater consisting of a huge glass-fiber dome. The wide-angle lens was developed for use as a mili-

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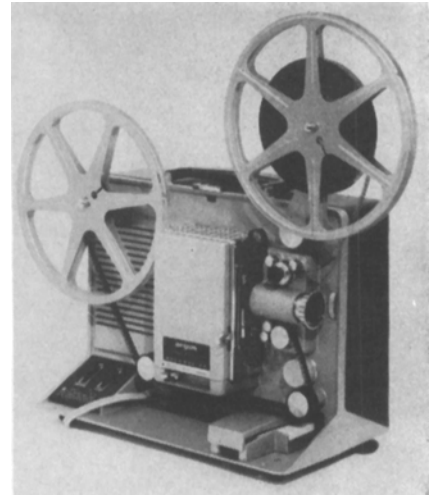
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tary training device in simulation of combat conditions. Use of the system in industrial applications is said to be feasible economically because it employs standard equipment and requires only one camera and one projector. The dome can be disassembled for shipment.

An 8mm projector, called the Lumina 1.2, which has an average screen lumen rating of 150, or more, has been introduced by Bell & Howell Co., 7100 McCormick Rd., Chicago 45. Features include automatic rewind, dial-controlled lens focusing, built-in film splicer, variable speeds from 14 to 24 frames/sec and a framing lever for control in forward or reverse. It is priced at \$159.95. The company has also announced improvements on its electric eye and meter equipped 8mm cameras including an easy-to-use film speed scale.



Two 8mm cameras and an 8mm projector have been introduced by Sylvania Electronic Products Inc. 1740 Broadway, New York 19. The Cinetronic M3 features electric-eye exposure control, turret-mounted 10mm, 25mm telephoto and 6.5mm wide-angle lenses. Dimensions are 7½ by 2½ by 4½ in. It will be available in August at a list price of \$149.95. The Match-Matic utilizes an LM3 exposure meter calibrated in simplified aperture value numbers 2 through 9. It will be available in June at a price of \$99.95. The M750 projector, shown above, which uses the Super Tru-Flector projection lamp, weighs less than 13 lb. Focal length of the lens varies from 15mm to 25mm. It will be available in May at a price of \$124.95.

The TP-400, a 16mm film projector for educational and industrial closed-circuit TV has been announced by Radio Corp. of America. It can be used in vidicon camera systems either by direct projection into the camera or via multiplexer. A multiplexer setup permits operation of two film projectors and one slide projector with a single camera. A switch is included for local or remote control, including motor start-and-stop and the projection lamp. The projector case contains an audio amplifier which can deliver 10 w of audio power. Film reels up to 2000-ft capacity are accepted by the projector.

The Type VCA-1 amplifier, a product of Adler Electronics Inc., One LeFevre Lane, New Rochelle, N.Y., is said to provide a minimum gain of 40 db on any VHF channel in the 54-88-mc frequency range. At Channel 6, the noise figure is 3 db. The amplifier also features 10,000-hr tubes for reliability and remote crystal-control monitoring. Housed in a weather-proof enclosure, the 12-lb unit may be pole-, rack- or chassis-mounted.

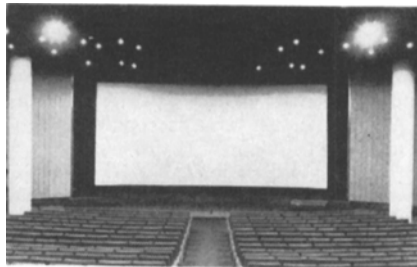


The Transmagnemite, a miniaturized, portable field recorder, has been announced by Amplifier Corp. of America, 398 Broadway, New York 13. Mechanical features include modular plug-in construction with components in a glass-fiber terminal board, high-speed rewind, adjustable alignment head mounting, high-inertia balanced orbital flywheel, balanced flyball governor, double barrelled Swiss steel spring motor, precision lapped Swiss-made worm gear system, transistorized record VU indicator, and sound-insulated and non-corrosive battery mounts. Electrical features announced are: ultra low noise in out stage, push-pull ultrasonic bias oscillator, direct-coupled three-stage sections, interlooped a-c, d-c feedback, tuned ultrasonic bias, high-Q trap, adjustable ultrasonic bias current, segmented circuit design and wide dynamic range input acceptance.

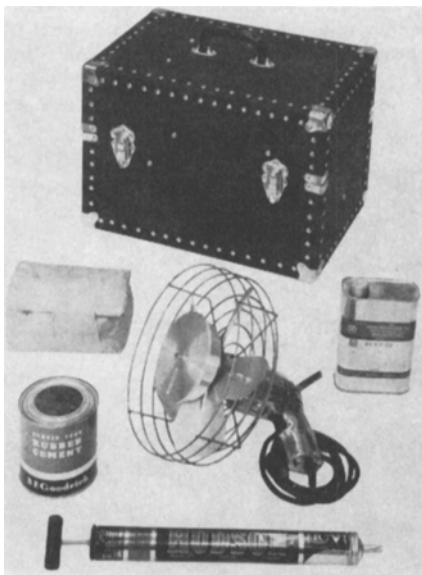
An antenna, has been built to specifications by Siemens-Halske of Munich for KPLR-TV, St. Louis, Channel 11. The transmission line consists of a cable almost 5 in. in diameter, having a copper core and protected by 60 bands of stainless steel. There are no splices or couplings between antenna and transmitter. The antenna does not require gas or fluid for dehydration, or any device for de-icing.

KPLR-TV, Channel 11, St. Louis, began broadcasting April 28. The station, owned by 220 Television Inc., of which Harold Kopljar is President, has studios in the Chase and Park Plaza Hotels. Two Ampex Videotape units are installed. The specially designed Channel 11 antenna is a product of Siemens-Halske of Munich. James L. Caddigan, former Executive Vice-President and Program Director of Du Mont network, is Executive Vice-President and General Manager of the new station.

A revolutionary projection system developed by Bausch & Lomb for the elimination of "horizon sag" was used for the first time on October 15 for the world premiere of *The Roots of Heaven* in the New York RKO Palace Theatre. The system is considered still in the process of development. A technical paper by John D. Hayes of the B&L Scientific Bureau described the system on May 5 at the SMPTE Convention in Miami Beach.



A Perlux screen, 36 ft wide and 17 ft high, that can be varied in curvature, is a product of Andrew Smith Harkness Ltd., a company within the group of Rank Precision Industries Ltd., 37-41 Mortimer St., London, W1. The screen has been installed in Columbia Theater, Shaftesbury Ave., London. For CinemaScope and wide-screen presentations, the depth of curve is 2 ft. This is adjustable through all ratios to a maximum of 6 ft for Todd-AO.

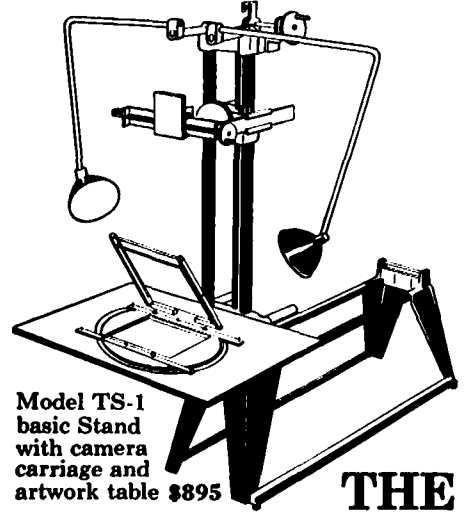


The Cobweb Spinner, first item in a new line of special effects equipment called Moleffects, has been introduced by Mole-Richardson Co., 937 N. Sycamore Ave., Hollywood 38. To spin cobwebs, the cup is filled with fluid, the cover screwed down, the machine pointed, the trigger switch pulled. A thin stream of fluid is blown out five to ten feet for placement as desired.

"High Intensity Arcs With Rotating Positive Carbons" is No. 6 in a series of booklets available from National Carbon Co., 30 East 42 St., New York 17.

A color photograph 80 ft long and 20 ft high, said to be the world's largest, has been made by Color Corp. of America, 43 W. 61 St., New York 23, and installed

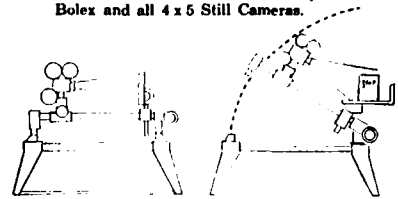
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in the Cincinnati (Ohio) Music Hall. The wall-to-wall photographic mural is a view of Waikiki Beach in Hawaii and is intended to give the illusion of a picture window looking out on the beach. Enlarged with a specially designed condenser-type horizontal projection enlarger, the print was made in 27 strips mounted on 11 sections of  $\frac{3}{4}$ -in. board with a total shipping weight of 4000 lb. The print has been coated with a special lacquer finish and sprayed with a fluorescence mixture to give the illusion of moonlight when viewed under Stroblite or black light.

**Reactivation of Problems Subcommittee 2, Color Names**, of the Inter-Society Color Council for the production of the colors representing the centroids of the 267 ISCC-NBS color-name blocks has been announced in the Council's *News Letter* for January. Subcommittee members are: Kenneth L. Kelly, Chairman; Deane B. Judd, and Miss Dorothy Nickerson. Plans are to publish a color chart to illustrate the *Dictionary of Color Names, Circular 553*. The 17 charts will be published in the form of a supplement to *Circular 553* and will be available for purchase separately until the present printing of the circular is exhausted. Subsequently, the charts will be bound with the circular. The sets consist of 6 by 10-in. glossy coated papers representing the centroid loci standards. A limited number of the charts are available at a price of \$500.00. Orders should be addressed to Norman Macbeth, Treasurer, Inter-Society Color Council, P.O. Box 950, Newburgh, N.Y.

**An acceptance control chart** developed at Eastman Kodak Co. to maintain high color print standards was described by Colby H. Chandler, Color Print and Processing Organization, Eastman Kodak Co., Rochester 4, N.Y., first at the Chemical Division Conference of the American Society for Quality Control, on Oct. 2, 1956, in Buffalo, N.Y., and later at a meeting of the Technical Association of the Pulp and Paper Industry. The new charts provide a record of the picture results of the process through plotting of actual physical values, Mr. Chandler said. They are an outgrowth of earlier Shewhart quality control charts, and apply in cases where average quality level variations are acceptable. The charts are designed to be particularly useful in applications such as batch operations, systems that operate intermittently, and continuous processes in which the raw materials are replenished in batches. An article by Richard Freund in *Industrial Quality Control* for October 1958 describes the charts and their use.

**Traid Winds**, published by Traid Corp., 17136 Ventura Blvd., Encino, Calif., contains in the March issue a section describing activities at the U.S. Naval Ordnance Test Station (NOTS), China Lake, Calif., and the "superb" technical facilities and equipments used in the laboratories. In the area of optical instrumentation "NOTS has occupied a prominent position in the development of optical instruments and techniques for

data acquisition since the early days of the Station . . . more than 120 people . . . do full-time work in the field of photography and . . . millions of feet of film records . . . are processed each year." Included in *Traid Winds* is a section on "News of the Technical Societies." Descriptions and specifications of equipments that may be purchased or rented from the company are given. Selected photographs and illustrations enhance the brief articles.

**The Perma-New Scratch Removal System** has been announced by Permafilm Inc., 723 Seventh Ave., New York 19. Reported advantages of the new system are that it does not grind down the celluloid and does not employ flammable lacquer or acetone in emulsion or base.

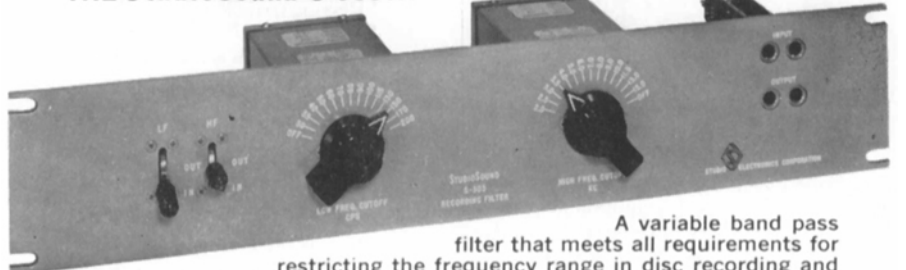
**Altec Companies stockholders** have agreed to exchange stock on a share-for-share basis for Ling Electronics stock, thus giving final approval to the merger of the two companies. Over 90% of the stockholders exchanged stock under an offer which expired April 17. Stockholders of Ling Electronics have been asked to approve a change of name to Ling-Altec with Altec companies operating as a subsidiary company. Plans have been announced for construction of new facilities on the Altec property in Anaheim, Calif., for research, development and manufacture of commercial and military equipment.

**Expanded production facilities for prototype machined ferrites** has been announced by Irvan Engineering Co., which recently moved from 13542 Ventura Blvd., Sherman Oaks, Calif., to 7933 Gloria Ave., Van Nuys, Calif. The firm has also added a special section for fast machining of prototype and experimental geometries.

**Cinema Audio Frequency Equalizers**, a 16-page catalog published by Cinema Engineering, a division of Acrovo Corp., Burbank, Calif., contains descriptions of equalizers, units and kits, and wave filters. Eight "case studies" are given, representing typical sound engineering problems with suggested solutions. The catalog is available from G. M. Smith 1100 Chestnut St., Burbank, Calif.

**The Camera Selector**, a four-page folder, illustrates and describes 27 different motion-picture and sequence-data cameras, and explains a plan whereby cameras and equipment may be rented by day, week or month. Eleven 16mm, nine 35mm, and seven 70mm cameras are described. The folder is available from Carlos Elmer, Traid Corp., 17136 Ventura Blvd., Encino, Calif.

**A Directory and Buyers Guide for Electron Tubes** is published by Metropolitan Supply Co., 1133 Broadway, New York 10. The directory lists most of the tubes made by American manufacturers. Receiving, television and special purpose tubes are listed by type number. The Directory is available without charge upon written request.



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