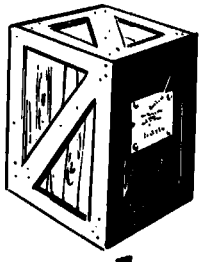


new products

(and developments)

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.

On May 8, 1960, at 5:40 A.M., Eastern Daylight Time, a command signal was sent from the 250-ft radio telescope at Manchester, England, to the 150-w transmitter on the space ship, Pioneer V, at that time more than eight million miles from Earth. It took about 90 seconds to send the command and receive back a response — an event of considerable importance in the development of interplanetary communication. The 94.8-lb space ship (or space probe) was launched from Cape Canaveral, March 11. A 5-w transmitter telemetered information daily until May 7, when it was apparent that the transmission limit had been reached. The 150-w transmitter was then energized. First, a signal was sent to the space ship which put power into a tube filament through a current-limiting resistor, thereby warming the resistor for about a minute. About four hours later this signal was repeated and a second command sent which removed the current-limiting resistor, supplying full filament heating for several minutes. The following day (May 8) the final command signal was sent, energizing an electric converter and the 150-w transmitter, both having remained idle in the "hard" vacuum of space since launch, undergoing constant radiation.

The transmitter weighs about five pounds and measures about seven by five in. It contains an amplifier tube together with capacitors, coils and resistors. Because of the enormous power drain imposed on the system by the 150-w unit, it is operated only about two or three minutes every six to eight hours. Data is received at the rate of either 8 or 64 bits/sec.

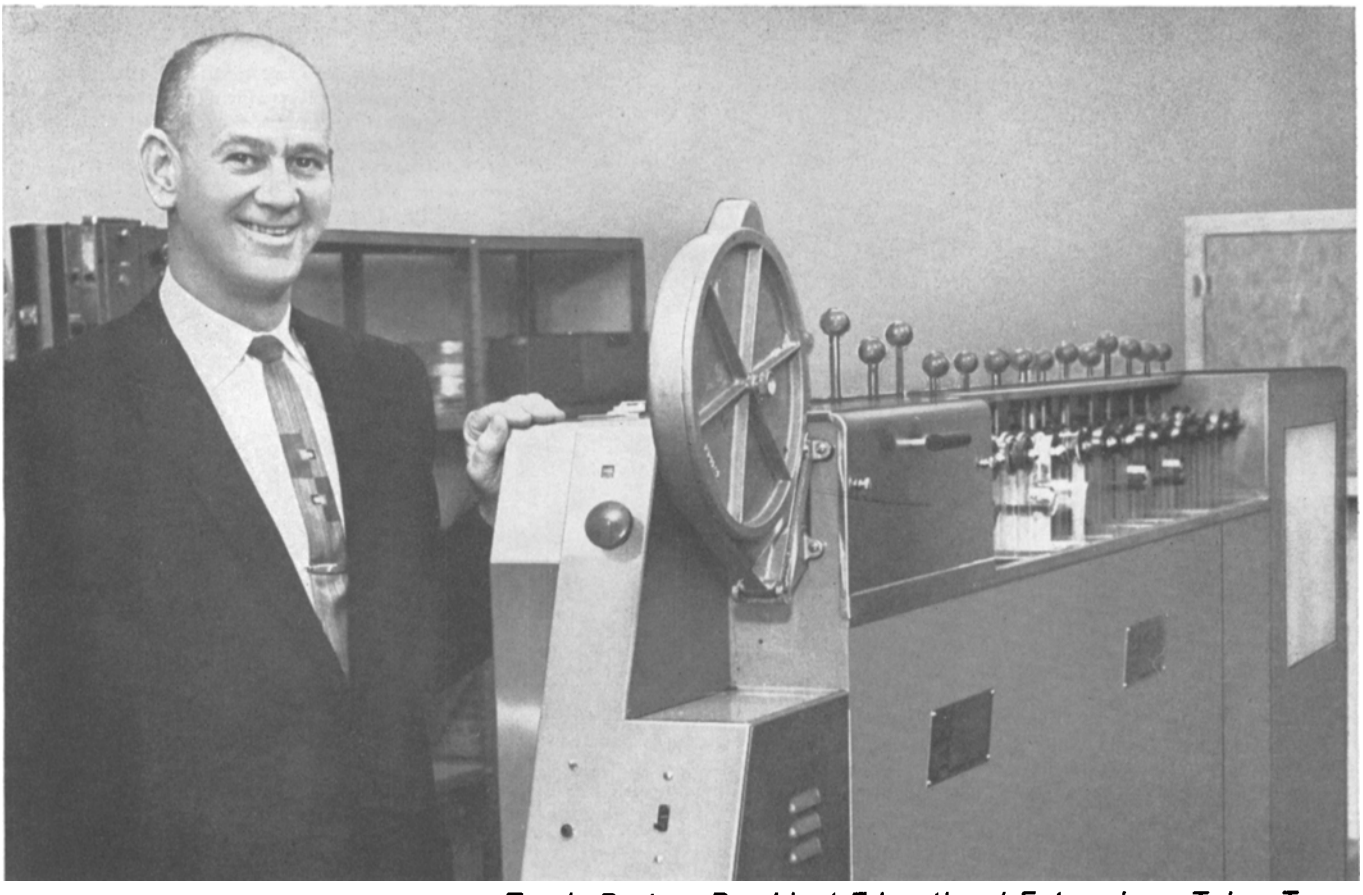
Power for the probe comes from 4800 solar cells in four arms jutting from the 26-in. spherical package. The solar cell output constantly charges 28 chemical batteries, the size and shape of standard flashlight batteries. These in turn power more than 40 lb of experiments, electronics, a receiver, transmitters, and associated logic units. Within two months after launching Pioneer V returned more than 109 hours of data on cosmic radiation, charged particle energies and magnetic field phenomena. Pioneer V was launched under the direction of NASA with executive management supplied by the Air Force Ballistic Missile Division.

A number of other contractors contributed to this interplanetary experiment as well as many scientists. A special word of appreciation was given Space Technology Laboratories, Inc., of El Segundo, Calif., by NASA administrator, T. Keith Glennan, who spoke of the "outstanding job of payload instrumentation and tracking" performed by the firm.

Experiments conducted at Bell Telephone Laboratories, 463 West St., New York 14, with a low-noise antenna and receiver combination are expected to contribute to the forwarding of work on transoceanic communication by the reflection of electromagnetic signals from passive Earth satellites. The experimental device is a horn-reflector antenna, approximately 18 ft long, coupled to a low-noise traveling wave maser that amplifies in one direction only. With the horn-reflector pointing vertically skyward an overall input temperature of 17.6 K was observed at 5.65 kmc. The ultimate sensitivity of an Earth-based communication system is limited by the thermal noise in the Earth's atmosphere. The aim of this and similar experiments is to extend the range of communication by employing low-noise amplifiers that do not pick up signals originating behind and to the sides. The report on the experiment stated that such devices could be useful in investigating interplanetary radio signals of all kinds "regardless of origin."

The inside of a living human stomach has been filmed in color for the first time by means of a technique combining the use of glass fiber optics and high-speed film. The technique was developed by Henry Colcher, M.D., and George M. Katz of the Columbia University Research Service Goldwater Memorial Hospital and the Columbia-Presbyterian Medical Center. In making a motion picture of the stomach's interior, an 8 mm camera is mounted on the eyepiece of a gastroscope and a bundle of light-transmitting glass fibers attached to the tube of the gastroscope carries light into the stomach. The illumination provided by the bundle of glass fibers is of a relatively low level but sufficient for making satisfactory motion pictures when a suitable film is used. For this "movie" special rolls of 8mm Ektachrome ER were supplied by the special sensitized products sales department of Eastman Kodak Co. in cooperation with the medical technical service center. The film was made at the rate of 8 frames/sec.

A new developmental semiconductor device called a double-emitter transistor was described in a paper by L. Plus and R. A. Santilli of the RCA Semiconductor and Materials Division presented at the IRE Convention held in New York in March 1960. The multipurpose device combines within one unit the functions of separate oscillator and mixer normally accomplished by two transistors. The multijunction, drift-field transistor has two alloyed p-type emitters, an n-type base, and one alloyed p-type collector. The two emitters are processed so that they can function independently of one another.



Travis Burton, President Educational Enterprises, Tyler, Texas

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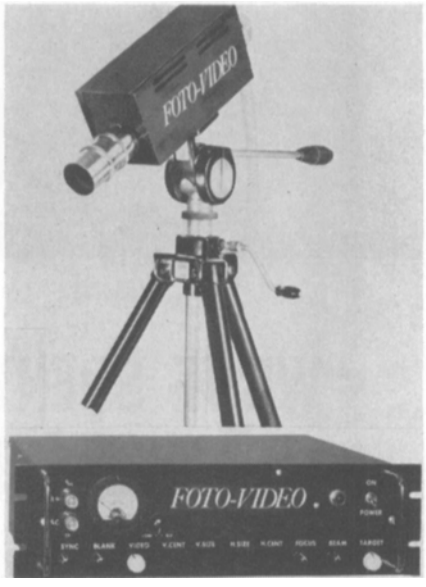
Two new Videotape* Recorders, the 1000C and 1001A have been announced by Ampex Professional Products Co., 934 Charter St., Redwood City, Calif. The "A" model, designed especially for mobile installations or studios where space is limited, is a smaller, more compact version of the "C" model. The basic unit of the "A" model occupies only 11 sq ft of floor space and the weight has been reduced from 780 lb to approximately 500 lb. Both machines can be equipped for recording color television and both machines can be equipped with a new unit for special effects such as split screen, dissolves, wipes, fades, etc. The unit also permits mixing of pretaped sequences, slide sequences etc., onto one composite tape, without splicing. Performance specifications for the new recorders include a frequency response of ± 1 db at 1.0 mc, in the range from 0.5 mc to 4 mc; down no more than 3 db at 4.2 mc. Transient response is a maximum of 8% overshoot on keyed sync pulses of 0.1 μsec risetime, of amplitude 20 to 8 IRE units; d-c response provides less than 2% tilt with standard window test signal. (*TM Ampex Corp.)

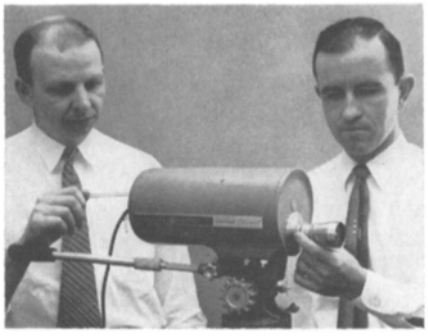
A simplified system for automatically preparing electronic data-processing programs to be used with the Honeywell 800 data-processing programs (*Jour.*, Feb. 1960, p. 147) has been announced. Known as FACT (Fully Automatic Compiling Technique) the system is designed to eliminate manual program coding by enabling the computer to translate simple statements in English into its own detailed machine instructions. A 94-page manual, "FACT—a New Business Language," is available from Minneapolis-Honeywell, Datamatic Division, Wellesley Hills 81, Mass.

A compatible stereo broadcasting system based on an acoustic phenomenon known as the "precedence effect" has been demonstrated by Bell Telephone Laboratories. A detailed description of the system has been published in the *Bell Laboratories Record* for November 1959.

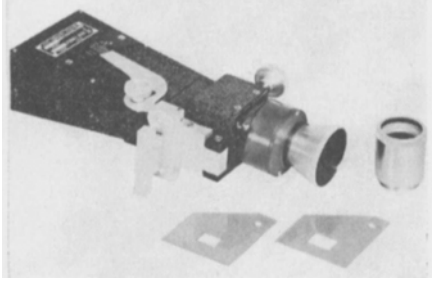


A camera system designed for military and industrial applications requiring especially rugged equipment has been announced by Foto-Video Electronics, Inc., 36 Commerce Rd., Cedar Grove, N.J. The system, called the Model V-515, consists of a vidicon camera and camera control unit. The camera head accepts all C-mount lenses including 16mm and special vidicon types. An 8-mc high gain, low noise cascode preamplifier with high peaker feeds a low impedance cable matching stage for driving the cable to the monitor control unit. Overall response is flat to 8 mc. The control unit contains an electronically regulated power supply, a video amplifier, vertical and horizontal deflection circuits. The video amplifier is provided with adjustable aperture correction for high definition. Adjustable phase correction is used to prevent smear or overshoot due to high frequency phase error. A keyed clamp is used to insure accurate d-c setting regardless of picture content. The plug-in all-transistorized synchronizing chassis provides composite blanking to the camera control unit video processing section, plus V and H drive to the deflection generators. The camera

weighs 4 lb and is 8⅜ in. long, 3⅛ in. wide, and 4 in. high. The control unit is 19 in. wide for rack mounting, 5¼ in. high and weighs 50 lb. The system is priced at $2400.



A closed-circuit TV camera, Type TE-9-A has been developed by the Technical Products Operation of General Electric Co.'s Communication Products Dept., Mountain View Rd., Lynchburg, Va., for use under extreme conditions of vibration and noise. The single-unit, transistorized camera is self-contained and is easily moved from one location to another. Cylindrical in design, it is 11¾ in. long, 5½ in. in diameter and weighs 9 lb. It uses standard 16mm lens and is equipped with a remote turret for mounting four lenses at one time. The camera is extremely sensitive and is reported to be usable down to 1.0 ft-c scene illumination. It is designed to operate over a temperature range of 80 C. It operates on a power input of 18 w. It has a rugged housing to protect it from outside electrical interference such as radar, radio transmitters and car radios. Suggested applications include military, industrial and educational fields.



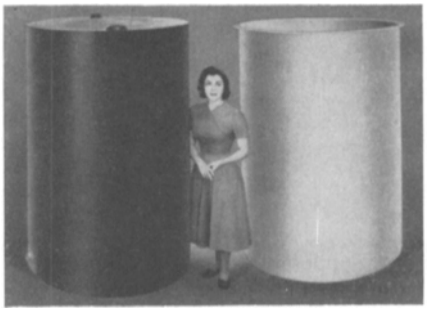
The M-H Professional Viewfinder, distributed by S.O.S. Cinema Supply Corp., 602 W. 52 St., New York 19, is designed for use with 16mm Auricon, Bell & Howell, Bolex and Cine Special cameras to provide a 2 by 3-in. image corrected from right to left. The focusing and parallax controls range from 2 ft to infinity and an engraved aperture outline with crosshairs in the center shows the field of the standard 25mm lens for 16mm cameras. A secondary magnifying lens gives an enlarged view.

Film-O-Tape, the tape-to-film transfer service offered by General Film Laboratories, 106 W. 14 St., Kansas City 5, Mo., is described in the April 1960 issue of *Rewind*. The transfer equipment includes both 35mm and 16mm equipment for film recordings from video tape; from coaxial cable or microwave relay link; from film originals projected and transmitted through the firm's closed-circuit system, or off the air. The transfer is to a composite negative or to separate picture and sound negatives for printing in either the A-wind or B-wind positions. A separate 16mm magnetic sound record may be made, or a direct positive photographic print if only one copy is desired.

A new special effects device, the Windmaker Moleffect, has been announced by Mole-Richardson Co., 937 N. Sycamore Ave., Hollywood 38. Designed for studio use to produce maximum air flow with minimum noise, a directional air stream can be obtained by the use of vanes or the air stream can be broadened by removing the vanes. Operating on either a-c or d-c the 74-lb unit consists of a three-blade fan enclosed in a steel wire guard and an enclosed motor. It is 20¼ in. in diameter and 17½ in. in length. It is priced at $492.

A new black-and-white motion-picture film, the Eastman Double-X Panchromatic Negative Film, Types 5222 (35mm) and 7222 (16mm), was introduced by Eastman Kodak Co. at the Society's 1960 Spring Convention in Los Angeles. Recommended exposure index for the new film is daylight 250, tungsten 200, which is about three times as fast as Eastman Plus-X Panchromatic Negative Film. The increased speed of the new film is said to give the cameraman better control over depth-to-field and low-key lighting situations, with little sacrifice (if any) in screen definition or graininess. At present, the new film is in limited supply.

A new print film, Ektachrome Reversal Print Film, Type 7386 (16mm) and Type 5386 (35mm), has been announced by the Motion Picture Film Department of Eastman Kodak Co. It was developed especially for producing high-quality projection prints from Eastman (or Kodak) Ektachrome ER Films (Daylight Type, E.I. 160; Tungsten Type, E.I. 125) which were released a few months ago. Standard techniques and equipment used for the ER films will process the new print material at a rate of approximately 30 to 50 ft/min. The new print film is also available in 70mm widths upon special order.

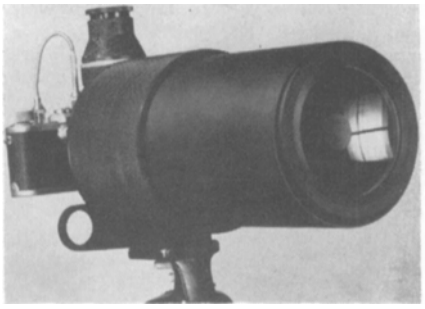


Polyethylene storage tanks of 500-gal capacity are manufactured by Delaware Barrel & Drum Co., Wilmington, Del. Several styles are available including full open head, closed head with openings, flat or conical bottoms. The tanks are molded to retain inherent characteristics of polyethylene with emphasis on permanent corrosion resistance.

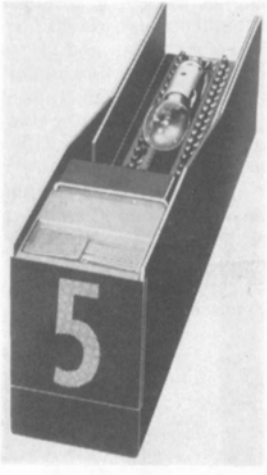
Storage equipment specially designed for language laboratory magnetic tapes has been announced by Neumade Products Corp., 250 W. 57 St., New York 19. Features include color coded subject indexing and position retaining and key locks on all cabinets. A cabinet with a 500-tape capacity is priced at $360.

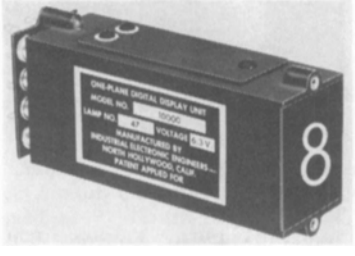
The Varotal Mark III is a TV zoom lens introduced by Taylor, Taylor and Hobson Division of Rank Precision Industries, Ltd., 37-41 Mortimer St., London W.1., and used for the first time in Westminster Abbey to photograph the wedding of Princess Margaret. The lens is 27 in. long, weighs 33 lb and incorporates 13 separate glass elements. The focal length is continuously variable within minimum and maximum focal lengths in the ratio of 5:1 and has two overlapping focal ranges, 4 to 20 in. $f/4$ and 8 to 40 in. $f/8$. The range of focusing distance goes from infinity to 12 ft. It is designed for adaptation to all types of image orthicon cameras.

A new version of the Super-Farron Lens called the Backward Curving Field Super-Farron has been announced by Farrand Optical Co., Bronx Blvd. & E. 238 St., New York 70. Designed for use with new types of high amplification image intensifiers and intensifier orthicons having curved cathodes, the lenses form an image on a surface convex to the objective having a radius of curvature of 4.00 in. The new lenses are available corrected for 16:1 and 4:1 conjugates in addition to standard infinity correction.



A Telefold lens designed to offer a long focal length system in a short, light-weight package has been announced by Atlantic Research Corp., Alexandria, Va. The lens is 10 in. long, 5 in. in diameter and weighs 10 lb. It uses a catadioptric system which permits a 42-in. focal length to be folded in a 10-in. tube with a focusing system ranging from 2 ft to infinity. Designed for use with a single lens reflex focusing camera, it can be adapted for use on television cameras and on 8mm, 16mm and 35mm still and motion-picture cameras. The lens is priced at $695.





The Slide Plate Readout, a readout display that operates directly from binary input, has been announced by Industrial Electronic Engineers, Inc., 5528 Vineland Ave., North Hollywood. Designed to eliminate the need for a decoding device to translate binary information into decimal information, it automatically decodes any BCD code up to six bits into numeric, alphabetic, or special symbol character presentation. It is used with digital computers, control equipment, instruments and other electronic or electrical test equipment, or it will work directly from teletype machines. The unit provides 16 digits or special characters and operates on a light-interference principle. Dimensions are $3\frac{1}{4}$ in. high, $1\frac{13}{16}$ in. wide and 7 in. long and the character

displayed on the front viewing screen is 1½ in. high. It weighs 2 lb 4 oz. It is priced at $40.

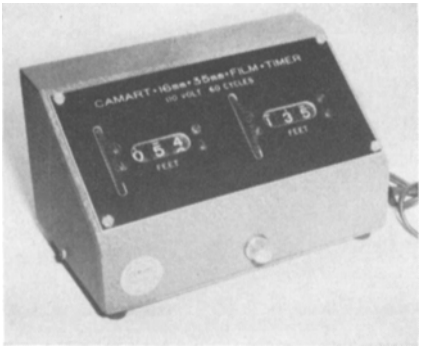
The firm has also announced an In-Line Digital Display operating on a rear projection principle. All the wiring is at the rear of the unit for ease of installation. The viewing screen is 1½ in. wide and 2 in. high. Digit or character display is 1 in. high. The unit is priced at $18.

A new line of Filmline processing machines for 8mm/16mm and 35mm Kodachrome film, which includes two economy-priced models, the 16KC26 and the 35KC-13, has been announced by Filmline Corp., Milford, Conn. Model 16KC26 is designed to process 8mm/16mm Kodachrome at a speed of 26 ft/min or 62 rolls (25-ft DBL 8mm) per hr. The basic machine is priced at $34,850. Model 35KC13 is designed to process 35mm Kodachrome at a speed of 13 ft/min or 260 rolls (35mm 20 EXP) per hr. It is priced at $35,925. Both machines are constructed of type 316 stainless steel. Control and accessory equipment for either machine is available in control units costing $8,765 to $12,925.

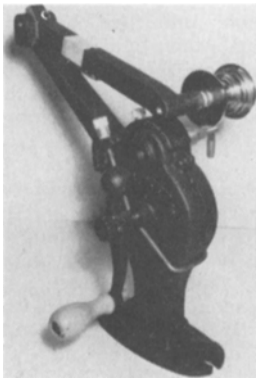
Two other new models are the 16KC60, a 16mm processor with a speed of 60 ft/min, and the 35KC45, a combination 16mm and 35mm processor, with separate racks and drive systems using common chemistry. Speed on 16mm is 45 ft/min and on 35 mm is 8 ft/min. Either 16mm or 35mm can be run interchangeably, alternately, or at the same time. Both models utilize a bottom drive with separate racks easily removed by lifting the rack from the machine without the necessity of disengaging couplings. It is replaced with an automatic drop engagement. The film rack drive is gear operated with no interconnecting chains between the drive mechanism and the racks. Other features include stainless-steel wet section with red brass bleach tank; recirculation pumps and thermistor temperature control, including heat and refrigeration, with vernier control for all five developer solutions; spray washes and solution turbulation; and other special controls. The equipment is designed to permit expansion of the machine with the replacement and addition of tanks to meet possible future changes in the Kodachrome process. Model 16KC60 is priced at $74,725 and Model 35KC45 is priced at $111,000.

A new lightweight, low-drain portable transistorized broadcast amplifier has been introduced by General Electric Co. The model was shown as part of the company's exhibit at the NAB convention in Chicago. It is designed for use on AM-FM-TV and recording audio applications and is said to be suited for broadcasts of sports events, spot news and music programs. Called the BA-26-A, the unit weighs 19.5 lb. It is 15¾ in. wide, 6¾ in. high and 13½ in. deep. It also contains a built-in tone generator for setting up signal levels.

An electric film timer, a product of Camera Mart, Inc., 1845 Broadway, New York 23, is designed for use for narration, post-recording, dubbing, or any operation involving synchronous film timing. Two synchronous timing meters and two footage



counters measure total footage and its equivalent time in minutes and tenths. A 16mm or 35mm footage counter with timer is priced at $85.



A "tightwind" which operates on a ball-bearing roller is a product of Camera Mart, Inc., 1845 Broadway New York 23. Called the Camart Tightwind, it is designed to wind film smoothly and evenly and to fit any 16mm or 35mm standard rewind. It is priced at $34.95.

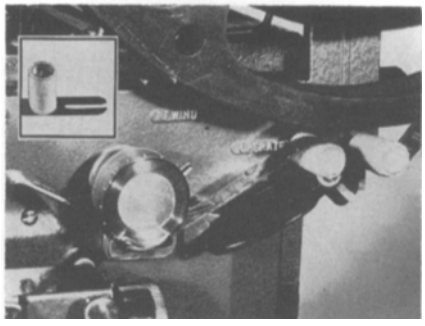
The Lectronotch delay timer, designed for laboratory use in compensating for spacing differences in motion-picture printing cue systems, is a product of S.O.S. Cinema Supply Corp., 602 W. 52 St., New York 19. The variable time delay unit is for use in laboratory situations where the problem arises of running negatives notched for a particular machine on another type of printer with a longer scene-to-notch spacing. Various methods, such as patching and renotching, have been used. The time-delay unit delays the impulse to the light-change mechanism until the correct frame is in position. Prototypes of the unit have been used in laboratories of the National Film Board of Canada. It is now commercially available at a price of $195.

An underwater communication system that enables two or more divers to converse within a radius of 150 ft at depths up to 120 ft has been announced by Electro-Voice, Inc., Buchanan, Mich. The system, called the Scubacom, is made up of two basic components, the mask-microphone, a specially designed partial face mask containing the microphone, and the speaker-amplifier which is strapped to the diver's air tank. Signal voltages from the mask-microphone are fed to the transistorized amplifier by means of a special waterproof interconnect cable. The system

is powered by two standard pressurized underwater batteries. The housing is made of expanded polystyrene (Deraspan) with an overcoating of Gel-Coat and the mask and harness are of neoprene and natural rubber. The system is priced at $210.

A device called a rapid-scan monochromator, which continuously records the intensity of infrared radiation from missile plumes over a selected waveband, is used in studies currently being conducted by Perkin-Elmer Corp. of Norwalk, Conn., under contract with the Air Force Cambridge Research Center. The 8-in. aperture infrared rapid-scan instrument is mounted under a 24-in. aperture ROTI missile tracker to make spectrometric studies of power flight portions of missile firings from Cape Canaveral. The data collected indicate, among other things, the nature and rates at which "function of time" reactions occur during powered flight. Analysis of inflight plume characteristics may yield information pertinent to the development of more efficient and more exotic fuels and engines.

FilMagic Pylon, a lubricant dispenser for lubricating strip material, has been announced by the inventors, W. Wells Alexander and Russell M. Magee, President and Treasurer, respectively, of The Distributor's Group, Inc., 204 14 St., N.W., Atlanta 13, Ga. The device is designed to protect films and recording tapes by applying a coating of fluid silicones to the moving surfaces while the reproducing equipment is operating. In operation the lubricant is filtered from a reservoir of fluid silicones through a removable sleeve onto the tape or film as it passes through the reproducing mechanism. The silicone coating sets up an invisible protective barrier against heat and abrasion, and the moving tape or film surface is used as a "carrier" of protective silicone into parts of the equipment otherwise impossible to lubricate.



The RCA Industrial Television Catalog is a 112-page catalog listing and describing closed-circuit television equipment for industry. It covers such equipment as cameras, housings, lenses, monitors, switchers, microwave equipment and tape recorder. It is available by writing on company letterhead to Radio Corp. Of America, ITV — Dept. 759, Bldg. 15-1, Camden 2, N.J.

These notices are published for the service of the membership and the field. They are inserted three months, at no charge to the member. The Society's address cannot be used for replies.

Positions Wanted

Cinematographer. 25 yrs experience black-and-white and color, 35 & 16mm; 5 yrs theatrical production in Europe; 20 yrs industrial, commercial, educational and documentary films; recently worked 12 yrs with General Motors Audio-Visual Photographic Dept.; further background information available. Desires connection with producer of industrial, educational or travel films. Free to travel; speak several languages. J.P.H., Box 375, College Park Station, Detroit 21, Mich.

Producer-Manager or Laboratory Production Supervisor. Independent producer in 16mm sound films and industrial and color still photography desires position with large company. No capital to expand plus limited market prompts move. Married, 28 yrs old. B.A. and part M.A. in communications. Experienced PR man. Ex-Marine. Best of references. Owns complete motion-picture and still production and lab equipment. Résumé on request. Write: DH, Box 118, Missoula, Mont.

Television Producer-Director. With a broad background in both educational and network level commercial television. Experience in radio production and sales, and also a knowledge of merchandising. Both B.A. and M.S. degrees. Currently employed, but willing to move to a position where hard work and ability will lead the way to opportunity. Willing to locate anywhere in the U.S. Married. Résumé and references supplied on request. Write: Richard R. Ferry, Apt. 112, 14 Buswell St., Boston, Mass.

Motion-Picture Production Associate. Univ. S. Calif., Dept. of Cinema, graduate, age 26. Experience as cameraman, editor and sound mixer with National Educational Television and Radio Center at Univ. of Illinois Math Study. One yr project ends July 1, 1960. Desire permanent position as cameraman, editor or sound mixer. Resume and references on request. John A. Werner, 317 S. Russell St., Champaign, Ill.

Assistant to Top Executive. Willing relocate or travel. Administrator-Consultant-Technician all phases photo industry USA and abroad. Production, sales and sales promotion; along with extensive processing, recording and editing experience. Planned, erected, installed and operated studios and labs in many locations. SMPTE member some 25 years 10 Brookside Drive, Apt 4D Greenwich, Conn. TOwnsend 9-5090.

Sound Recording Technician. Cuban, 30, married. Over 12 yrs experience all types mixing for radio, television, records and film; recording on tape, disk and 16mm optical; multitrack re-