

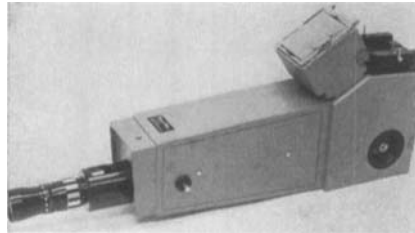
# new products

(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.

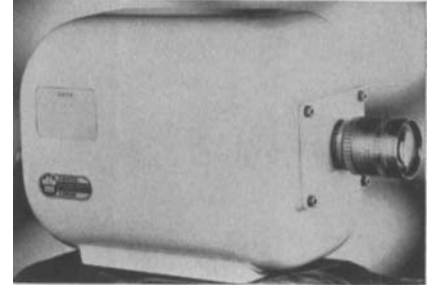
Plans for manufacturing photographic films for tracking nuclear particles, such as those in cosmic rays, have been announced by Eastman Kodak Co., 343 State Street, Rochester 4, N. Y. The films, called pellicles, consist of photographic emulsion without the usual glass or film support. The pellicles have a thickness of only 600 microns (about 3/100 in.) and are usually stacked into a block of emulsion to record the longest and most informative nuclear tracks. The pellicles are separated for processing and then reassembled to give a final, three-dimensional picture of the recorded nuclear

event from which accurate measurement may be made. Presently supplied by a British manufacturer, it has been suggested that a domestic source of supply for these unusual films would reduce damage to the film by eliminating hazards due to overseas shipment.



The Model 200 Simultaneous Streak and Framing Camera introduced by Beckman & Whitley, Inc., San Carlos, Calif., is a high-speed photoinstrument designed and constructed to record simultaneously streak and framing records of the same event, taken from the same point of view, through the same objective lens, on the same time base. The advantage of such a dual recording is that positive identification and interpretation of phenomena may be made in situations where either streak or framing records alone would be difficult to analyze. The camera provides a streak record written at speeds up to 6.9mm/ $\mu$ sec, time resolved to  $3.6 \times 10^{-8}$  sec and also a sequence of qualitative two-dimensional pictures of the same event recorded at rates up to 550,000 frames/sec.

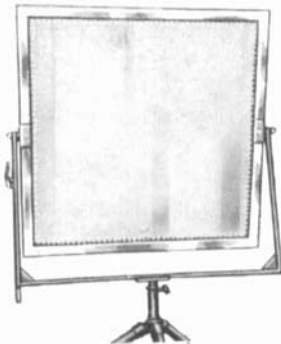
Activity between the two records can be identified with close correlation of time/space positions so that sources of infinitesimal variations in film density can be precisely determined.



A series of 16mm cameras said to be capable of speeds up to 500 frames/sec with true intermittent film transport has been announced by D. B. Milliken Co., Arcadia, Calif.

The new cameras, called Series B, incorporate an efficient intermittent film-transport mechanism which describes a perfect circle. This mechanism is designed to avoid sudden changes in direction with resultant high inertial loads. The registration pin locks the film during exposure to permit high-resolution pictures without jump or side weave at any speed. Operating on three interchangeable motors to make possible a speed range of 4 frames/sec to 500 frames/sec, the Series B requires approximately 3.2 amp for top-speed operation.

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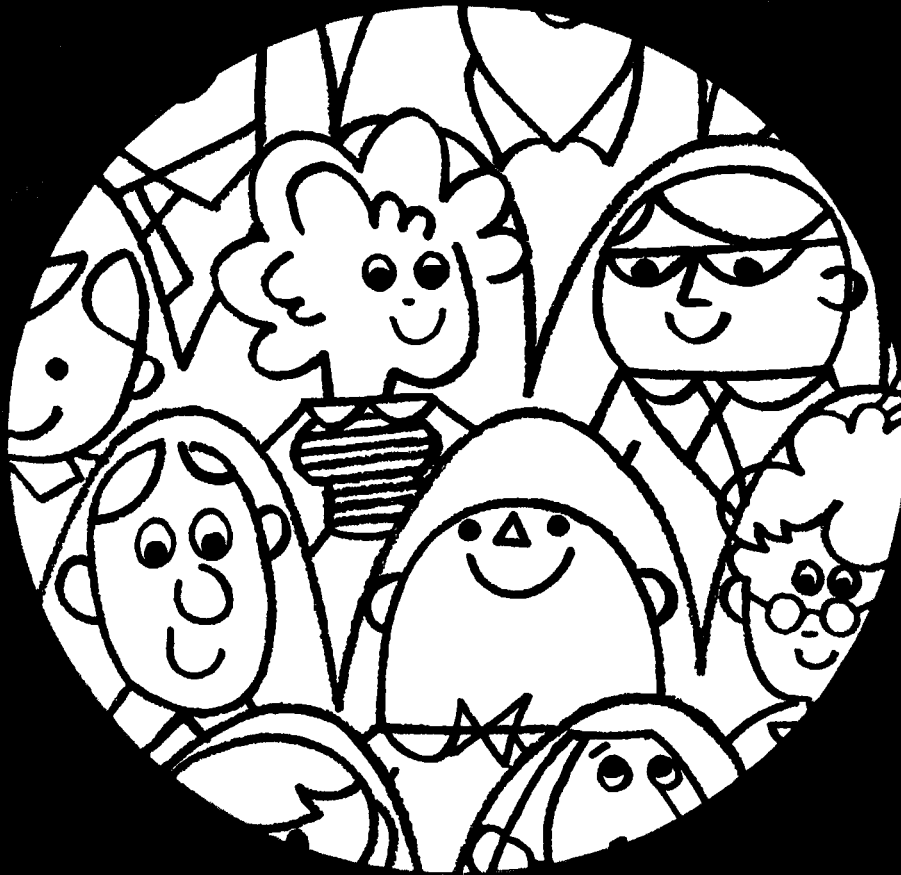
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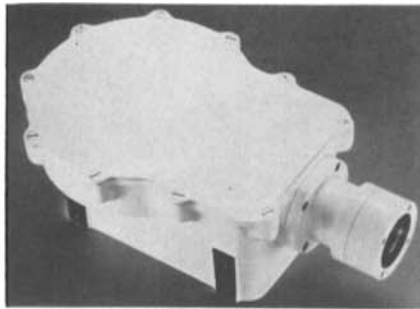
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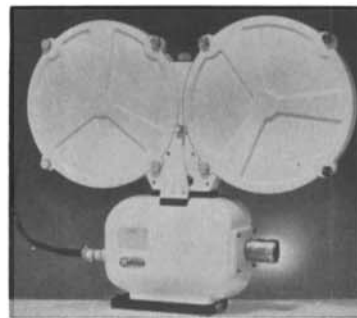
In Canada: Photo Importing Agencies Ltd., 345 Adelaide Street West, Toronto 2B, Ontario



A rugged 16mm motion-picture camera designed specifically for the severe environments of space has been announced by D. B. Milliken Co., 131 N. Fifth Ave., Arcadia, Calif. Designated Model DBM 10, the camera can withstand up to 110

G's nonoperating and 50 G's while operating, and random vibrations up to 2000 cycles/sec at 12.5 G's. The mechanism, lens and film is protected against moisture and explosive atmospheres by "O"-ring sealing. The camera, originally designed and built for NASA's "Project Bigshot," the Echo A-12 communications balloon satellite, brought back some 400 feet of high-resolution film from an altitude of some 800 miles showing in detail the destruction of the balloon.

Frame speeds are 16 and 24 frames/sec with alternate speeds available to 400 frames/sec. High resolution is achieved partly through an intermittent film transport mechanism with a double-tooth shuttle which describes a perfect circle and which eliminates high inertial loads and residual vibrations.



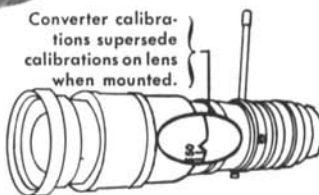
An accessory magazine which mounts on top of Milliken DBM 4 and DBM 5 cameras to extend the film capacity to 1200 feet has been announced by D. B. Milliken Co., 131 N. Fifth Ave., Arcadia, Calif. The magazine, designated the F-26, permits start-stop operation any time during the film run, even at frame rates as high as 500 frames/sec. No clutch or brake adjustments are necessary and the tension on the film is held constant by automatic control.

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An experimental four-tube color TV camera has been developed by Radio Corp. of America. The fourth tube is used to provide a separate monochrome channel. To produce the composite signal, the new camera, designated the TK-42X, uses a 4½-in. image orthicon tube for black-and-white or "luminance" information, and three one-inch vidicon tubes for the red, blue and green signal components, or "chroma" information. The addition of the fourth tube is said to enrich the hues of the color picture by the imposition of black on the three primary colors and also to provide sharper definition in the finished picture. The camera is equipped with a single "zoom" lens instead of the conventional multiple-lens turret in order to avoid color balance problems sometimes encountered in switching from one camera lens to another.



An oscilloscope recording camera for use with 35mm film has been announced by Photographic Instrumentation Development Co., Tarzana, Calif. Designated the OC-4000-S, the camera is designed as a high-speed strip film unit with acceleration capability from zero to 50 ft/sec. Designed especially for the photographing of phenomena with high-speed transient peaks, the film can be started and stopped for successive tests by means of an internal braking system. The camera is self-supporting on the oscilloscope and has a

the new

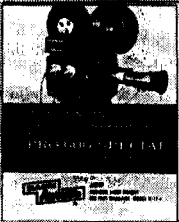
# PRO-600 SPECIAL

a lightweight companion to the popular "PRO-600"

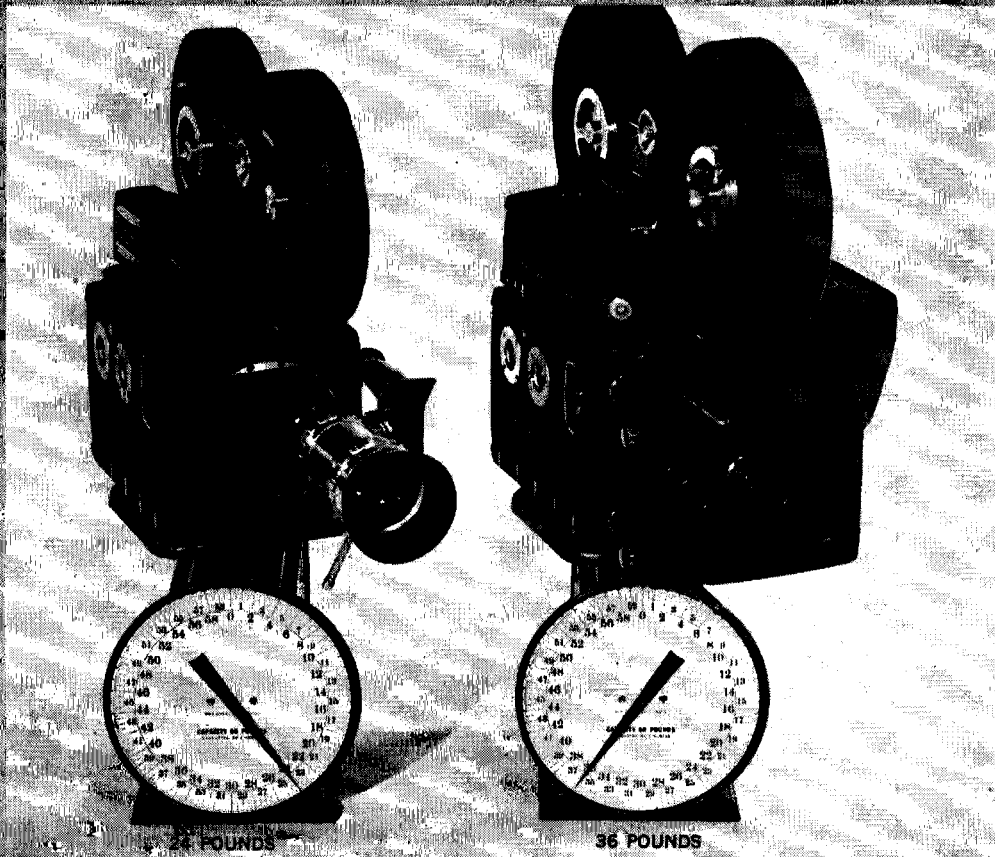
Auricon has introduced a new 16mm camera with a lightweight companion in the popular "PRO-600 Special".

The "Pro-600 Special" is the premier camera in the line. It is a superb professional picture camera with a self-energized sound system. At a small cost for the "Sound Equipment" used to record Optical or Film Magnetic Single-System sound. The "Pro-600 Special" being driven by a true synchronous motor is ideal for exacting Double-System sound recording as well.

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### HEART OF THE NEW "PRO-600" SPECIAL

The secret behind the light weight of the new "Pro-600 Special" is the newly developed Auricon Super Silent Synchronous Soundrive. This precision motor has taken 8 years to perfect and is designed to meet the most exacting sound-recording requirements.

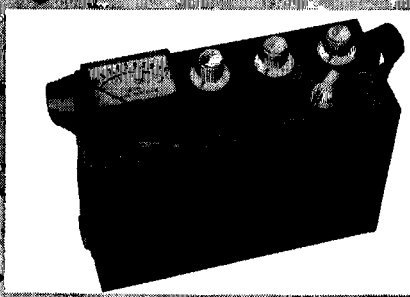
### NEW AURICON ALL-TRANSISTORIZED FILM-MAGNETIC

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self-contained variac film speed control. A built-in boresight is attached to the hinged cover. The camera does not require external mountings. It is equipped with the 51mm f/1.5 7-element Raptar lens, automatic shutoff, and a beam splitter for parallax-free viewing. The magazine has a capacity of 1000 ft of 35mm film.

**Special test equipment** that will be used to evaluate the performance of thermoplastic and other recording materials that may be used in electron beam recording has been developed by Ampex Corp., 934 Charter St., Redwood City, Calif. The equipment, developed under a government contract, has been delivered to the Reconnaissance Laboratory, Aeronautical

Systems Division, Wright-Patterson Air Force Base, Ohio. The technique of electron beam recording uses a microscopic beam of electrons to impose a pattern of electrostatic charges on the surface of a thermoplastic material. When heat is applied to the material microgroove pictures are formed. The Ampex testing equipment has been developed as part of a program looking toward the establishment of standards on which continuing development of electron beam systems can be based.

**A thin-base, high-speed, 16mm color film**, the Ektachrome ER with 0.0025-in. Estar base, was introduced by Eastman Kodak Co. at Cape Canaveral to record

the launching and orbiting of the United States' first manned space vehicle. A pilot observer camera containing a normal 400-ft spool wound with 590 ft of the new film was used to record Astronaut Glenn's reactions. The film, designed for general scientific and technical use, has an ASA exposure index of 160 and can be used under low light levels or in high-speed cameras. The Ektachrome ER Film, 16mm, on a normal thickness base, was used in high-speed cameras to record the liftoff. This is the same emulsion as the new, thin-base film used in cameras inside the space capsule. Under special processing this film can attain an equivalent ASA rating of 1600. Other Eastman films were used to record other aspects of the event.



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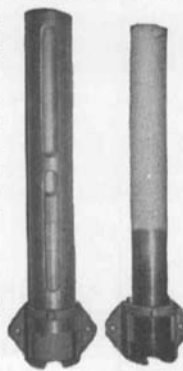
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- Special Editor-Viewer comb..... **269.50**

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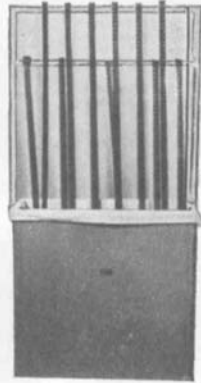
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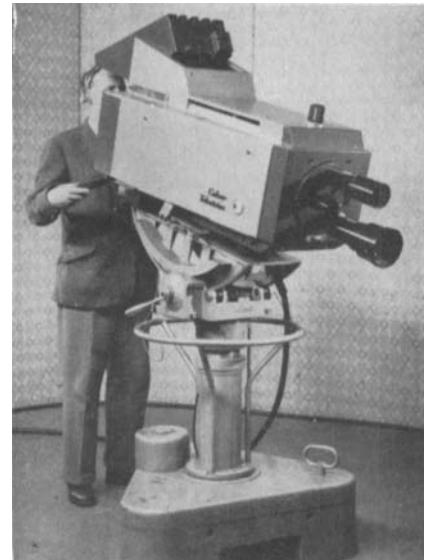
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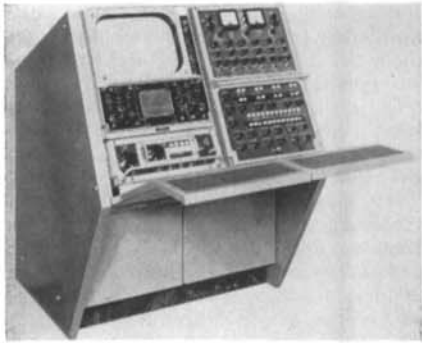


at Columbus Circle next to New York's new Coliseum

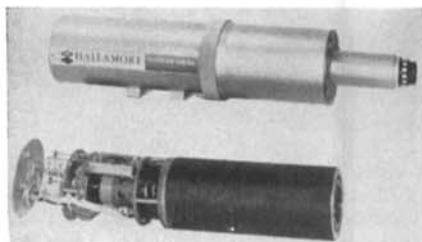


**A color TV camera, Type BD 848**, which employs three 3-in. image orthicons manufactured by the English Electric Valve Co., has been introduced by Marconi's Wireless Telegraph Co., Chelmsford, Essex, England. The camera is said to provide good quality color pictures at light levels of approximately 250 ft-L and to be suitable for either studio or outside broadcast. In designing the camera one of the primary aims was to make it so stable that the cameraman would have no more controls to operate than on comparable black-and-white equipment. Incorporated are switched internal preset controls for 405, 525, or 625 line standards.

When in operation, light enters the camera through one of four taking lenses, one of which is fitted with a quick-release fitting for a zoom lens. An image is formed at the field lens mounted inside the turret. An optical orbiting follows, and the final image is formed at a distance which allows a light-splitting system of prisms to be interposed. The light is divided by three prisms in one block assembly. Surface deposits allow only green light to pass straight through while deflecting blue and red light to opposite sides. After further shaping of the spectral responses the images are finally focused onto the photocathodes of the image orthicons. Front-silvered mirrors are used to align the red and blue paths. The light input to the camera is remotely controlled by an iris incorporated in the optical system.



The operating console comprises two separate studio consoles mounted adjacently, one containing the camera control unit and camera control panel, and the other the picture and waveform monitor and remote control panel. The panels are edge-illuminated for operation at low ambient light levels.



An extremely small television camera called the Hallamore Missileborne Television Camera Model 0431 has been developed by The Siegler Corp., Hallamore Electronics Div., 714 N. Brookhurst St., Anaheim, Calif. for missiles and other applications where small size, light weight and low power are primary considerations. Total weight of the solid-state vidicon camera is about 7 lb. The total volume is approximately 240 cu in. The camera unit consists of the pickup tube, special lightweight deflection assembly, video preamplifier and blanking circuits. The camera unit case is about 8 in. long and 2.5 in. in diameter. It is connected to the control unit by a single cable assembly. The control unit, which measures 9 by 6.18 by 3.81 in., contains the set-up controls, horizontal and vertical deflection generator, video processing amplifier, and power converter. Model 0431 operates on standard scanning rates. Other models are available with non-standard scanning rates.

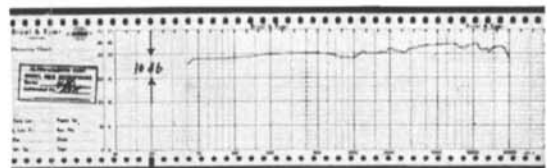
PayVision, a British system of subscription television designed by Marconi's Wireless Telegraph Co., operates by means of a small box ("elegantly styled—no larger than the average book") which is attached to the end of the transmission cable and plugs into the aerial socket of any standard television set. A removable key, supplied to the subscriber, is used to activate the unit and permit selection of any one of three PayVision channels. The unit is an external device and is said to have no effect upon reception of non-pay programs. The PayVision programs are transmitted by wire over closed circuit. The subscriber is billed on a monthly basis only for the programs he selects. When the subscriber turns on the key in the "pay" unit, a signal is passed

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metals grinding mill if need be. Only Altec offers this absolute protection against the gradual degradation of quality common in ordinary microphones that can't prevent dust, moisture, and minute ferrous particles from restricting diaphragm movement.

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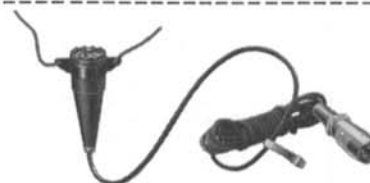
Frequency Response: 35 to 20,000 cycles • Output Impedance: 30/50, 150/250, 20,000 ohms • Output Level: -55 dbm/10 dynes/cm<sup>2</sup> • Hum: -120 db (Ref.: 10<sup>-3</sup> Gauss) Price: \$81.00 net



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automatically through the cable distribution system to the accounting center where the data is collected and processed into individual subscriber accounts.

The system has been demonstrated in Great Britain before Members of Parliament, government officials and leaders of the entertainment industry.

The price of installing the PayVision unit is £5 and the average cost of programs would be about 2s 6d, according to George Partington, Marconi's Chief Engineer for Broadcasting. Mr. Partington pointed out that because the system is carried by coaxial cable lines crowded airwaves would not affect the clarity of the picture.

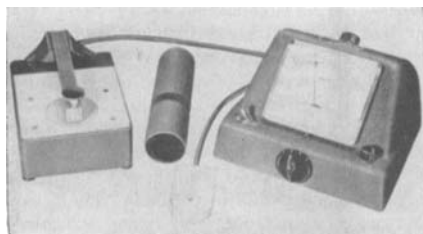


A video signal generator which produces waveforms for testing television systems in accordance with the new SMPTE standards has been announced by CBS Laboratories, a division of Columbia Broadcasting System, Inc., High Ridge Rd., Stamford, Conn. The equipment is contained in a case measuring 7 by 17 by 15 in. The small size is possible because of the use of semiconductors and printed circuit boards. The signal generator, called the VT-1 is reported to provide all waveforms necessary for the testing of video tape equipment, components and systems and can also be used for testing equipment in TV transmitters and studios.

A minute magnetic reed switch called the Minireed has been announced by the RCA Electron Tube Division. Designed to serve as an improved replacement for conventional switching devices in various types of electronic equipments, the device measures 0.85 in. in length with a diameter of 0.135 in. It weighs less than three-tenths of a gram. The switch is hermetically sealed and may be opened or closed at very high speeds by either a permanent magnet or an electromagnet. The reeds are enclosed in a small glass capsule. Some of the applications suggested by the manufacturers are telephone, teletype and computer switching and also missile checkout systems and radar data processing.

An electronic pan-tilt-zoom device for television cameras designed to cut production time by eliminating certain manual operations has been developed by American Microwave & Television Corp., 1369 Industrial Rd., San Carlos, Calif. The device is employed in conjunction with 35mm slide projectors to eliminate manual operation of studio cameras and rear screen slide projection when either exterior or interior live-action scenes are simulated in TV program production.

Equipment in the unit consists of two ultra-high-resolution vidicon cameras mounted on a special pedestal with their respective 35mm slide projectors. As the slides are illuminated in the projectors the vidicon cameras are made to pan, tilt and zoom electronically. The engineer at the switching console may remotely control all camera action. The console also has a special switching system which provides inputs from vidicon cameras, a videotape recorder, film chain and special effects. Output is fed to a second videotape recorder, film chain and special effects. The program director may then assemble composite tapes from prerecorded and prefilmed material. Remote videotape recorder controls and the remote slide change controls for the slide projector at the console. The film camera chain including the power supply and remote controls is priced at \$9500.



A densitometer designed for measuring transmitted, incident and reflected light of black-and-white values has been announced by Fotomatic Corp., 3141 W. 10 St., Indianapolis 22, Ind. A cadmium sulfide cell is used as the photosensitive element. The unit consists of a meter-power supply section, a transmission-measuring attachment, an incident light measuring probe and a tube which attaches to the incident probe for reading small areas of reflected light from distant objects. The transmission unit measures an area 0.040 in. in diameter to a density of 4.00. The meter scale is divided in increments of 0.02 and may be read to a density of 0.01. The scale measures 7 by 5 by 3 in. and will read to the center of an 8 × 10 negative. The meter-power supply unit is priced at \$156. The transmission attachment is priced at \$98, the incident probe at \$20, and the reflectance tube at \$10.

A television film recording system for producing high-quality 16mm film has been announced by Radio Corp. of America. A Mitchell camera specially designed for the recorder employs a double aperture and operates at 12 pull-downs/sec to produce 24 frames/sec of film. A synchronous shutter bar blanks out every fifth TV field in the system for the purpose of eliminating the "shutter bar" effect sometimes observed in kine-scope pictures. A new technique devised for the elimination of distortion and light dispersion involves the use of a specially designed display tube that presents the TV picture on a flat sub-plate located behind the heavy glass face of the tube. Important advances in the design of the system include self-compensating circuits and automated controls. The camera ac-

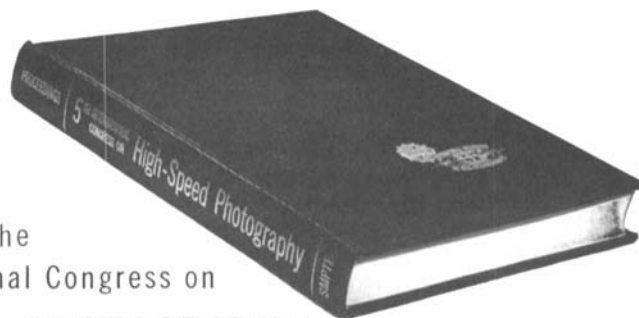
commodates a 1200-ft roll of film and take-up facilities in one magazine and can be equipped with either optical or magnetic sound recording systems. The recorder can be linked to the Eastman Kodak Viscomat rapid processor to produce in two minutes a dry film ready for the projector.

A recording storage tube system called the Model 206 Electrostore has been announced by Image Instruments, Inc., 2300 Washington St., Newton 62, Mass. Operating at standard E.I.A. television scanning rates, the unit stores and instantly reads out for repeated display a single television frame. The Raytheon QK685 electrostatic storage tube is in-

corporated for resolution of 1000 television lines across the diameter and gray scale fidelity of five to six shades. Readout is said to be nondestructive and the stored picture may be continuously displayed for about 10 minutes on a TV monitor. Suggested uses include studying frozen views of high-speed operations or destructive tests.

The Line Scan Tube (LST), a high-performance cathode ray tube in which an extremely bright light spot is generated by a focused electron beam bombarding a revolving, phosphor-coated anode, has been announced by CBS Laboratories, a division of Columbia Broadcasting System, Stamford, Conn. The tube has been an-

an SMPTE  
publication . . .



Proceedings of the  
Fifth International Congress on  
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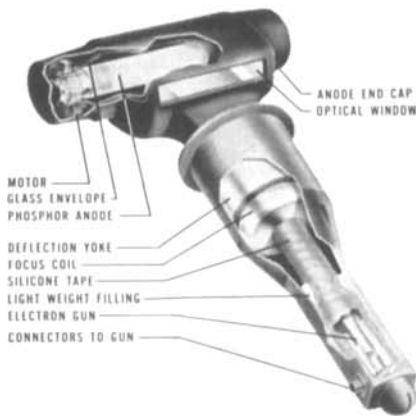
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# NEW CBS LABORATORIES BRIGHT-LIGHT LINE SCAN TUBE



## with ultra-high resolution for film scanning and recording

CBS Laboratories now makes available to industry for the first time the type CL1100P16 Line Scan Tube. This exceptionally high performance cathode ray tube has been designed for film scanning and recording applications where maximum signal-to-noise ratios and ultra-high resolution are required. Its high light output—more than 30 times the brightness of a conventional tube with equivalent resolution—results from radical design innovations. The limiting resolution (i.e., at 5% contrast) is 9000 TV elements/scan in a typical tube.

A particularly unique feature of this tube is the rotating phosphor coated anode which enables the high brightness to be achieved without destruction of the phosphor. This rotation also eliminates objectional "streaks" in the final picture. The tube is also available with its coils aligned and encapsulated. Such an assembly eliminates extensive field operating procedures. For complete design and application data write or call the Electron Tube Department.



STAMFORD, CONNECTICUT  
A DIVISION OF COLUMBIA BROADCASTING SYSTEM, INC.

nounced as providing more than 30 times the brightness of conventional tubes when used as line scanners at equal resolution. Applications suggested by the manufacturers include flying spot scanners and video recorders.

**High-speed lightweight 16mm photographic recorders** specially designed for operation in extremely abusive environments on a variety of input voltages have been announced by Benson-Lehner Corp., 11930 W. Olympic Blvd., Los Angeles 64. The cameras, designated Models HS-16D2 (200 ft) and HS-16D4 (400 ft) operate on a specially designed universal motor with 4-speed manually-operated transmission. The recorders are constructed with an easily-interchangeable modular movement of the intermittent pin registration type. The register pins lock both sides of the film during exposure for maximum image definition and stability.



**A Gyro Head for the Arriflex 16** camera and tripod has been announced by Arriflex Corp. of America, 257 Park Avenue South, New York 10. The new gyro head, manufactured in Germany under a Cartoni patent, has a full gyro in both the pan and tilt movements. Designed for quiet operation out and even movement it is designed for protection against damage due to sudden starts or stops. The gyro head alone weighs 8 lb and the combined weight of tripod and head is 18 lb. Although designed for use with the Arriflex 16 camera it can be used with larger and heavier cameras weighing up to 22 lb. It can also be used interchangeably with the friction head used on the Arriflex 16 tripod and can also be used on the 16 Shorty Tripod. It is priced at \$650.

**A television system** designed for economical recording or transmission of images over long distances has been announced by Westinghouse Electric Corp., Box 2278, Pittsburgh 30, Pa. The system is based on the firm's slow-scan vidicon tube, Type 7290, used to photograph one picture every eight seconds. The pictures are stored on a tape recorder and can be transmitted by telephone or by a mobile, two-way radio. In operation, the camera lens focuses the live image on the vidicon screen. An electrical camera shutter freezes the image. The camera circuit scans the screen through an electron beam and converts the image into an audio signal. The signal is then fed to a recorder, a telephone line or a radio transmitter. An additional audio signal, such as a human voice, can also accompany the picture. At the receiving end, an elec-

tronic monitor converts the audio signal back to an image signal that is reproduced as a TV picture.



**The Instructograph** is an audio-visual group teaching aid introduced by Staples-Hopmann, Inc., 3240 Duke St., Alexandria, Va. The equipment includes a multipurpose rear-view projection system combining in one portable cabinet a 16mm sound motion-picture projector, a 35mm slide or strip-film projector, an overhead-projection system for transparencies up to 8 by 10 in., and an opaque-material projector. A remote-control panel that permits the instructor to control motion-picture and slide programs from distances up to 15 ft includes a microphone which can be used for narration. The equipment also incorporates a specially designed optical system for the projection of instructional material in a normally lighted room. It is priced at \$3645.

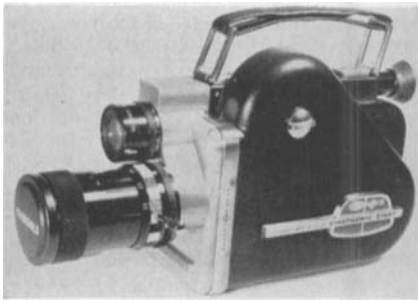


**An electrically-driven 8mm motion-picture camera** called the Bell & Howell/Canon Motor Zoom EEE has been introduced by Bell & Howell Co., 7100 McCormick Rd., Chicago 45. The camera has a cadmium sulphide electric eye, 10mm-40mm  $f/1.7$ , 12-element lens and a reflex viewfinder. The aperture may also be set manually. It is priced at about \$270. The firm has also announced a new Optronic Eye Reflex camera with through-the-lens sensing. It is designed to shift smoothly from a normal 16 frames/sec speed to slow-motion 48 frames/sec with the reflex photocell automatically compensating for differences in light values. Available in either roll-film or magazine versions it is priced at about \$250 and \$270, respectively. The firm has also announced a number of new attachments and improvements to existing cameras and equipments and additions to its line of still cameras.

A device for applying a high-fidelity magnetic soundtrack to new or old 8mm silent film, either color or black-and-white, is a product of Mansfield Industries, Inc., 1227 W. Loyola, Chicago 26. Application of the iron oxide solution to the silent film is made through a pinhole opening in a disposable plastic cartridge called Syn-Trac cartridge said to stripe up to 200 ft of film in less than 10 minutes. The striped tape is rround on a standard reel and is immediately ready for recording voice, music and other sound effects. It is also possible to erase, re-record and record sound-on-sound. The device, called Mansfield-Syntronic Soundstriper, is priced at \$59.95. Cost of striping is said to be about \$1.25 for a standard 200-ft reel.

Two 8mm projectors that can be switched back and forth between normal and slow motion and shifted instantly from forward to reverse have been announced by Bell & Howell Co., 7100 McCormick Rd., Chicago 45. The Lumina 383A incorporates a device for turning out room lights automatically when the movie starts. It is priced at about \$185. The Auto Load 266A is priced at about \$140. Both projectors have a normal speed range of 15 to 20 frames/sec and a slow-motion range of 7 to 10 frames/sec.

Three-dimensional titles with a pressure-sensitive adhesive on the back have been announced by S.O.S. Photo-Cine-Optics, Inc., 602 W. 52 St., New York 19. The titles may be pressed directly on the background surface to be photographed or applied to transparent materials for interesting photographic effects. The letters can be cleaned for reuse by rubbing with sandpaper. Prices range from \$4.95 to \$10.95.



A through-the-lens 8mm zoom sound movie camera featuring a built-in Sekonic light meter has been announced by Fairchild Camera and Instrument Corp., 580 Midland Ave., Yonkers, N.Y. It incorporates an improved sound system as well as the new zoom lens and has a single lens reflex-type viewfinder with three prisms, twelve elements and a diopter correcting eyepiece for individual adjustment of viewing optics. The lens is a Chinon  $f/1.8$  10mm to 30mm zoom lens with a 1 to 3 zooming ratio. Focusing range of the lens is 5 ft to infinity and the iris diaphragm is preset for stops between  $f/1.8$  and  $f/22$ . The camera will be available in June and will be priced at \$359. A zoom-equipped projector is presently available at a price of \$279.

 <p>picture and sound editors</p>	 <p>rewinders</p>  <p>video tape</p>	 <p>sound readers</p>	 <p>synchronizers</p>
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**The Fireball Reflector** designed for lightness and mobility is available from Florman & Babb, Inc., 68 W. 45 St., New York 36. The Fireball is fabricated of two pressed aluminum sheets bonded to plastic materials and joined together at all four sides. The texture of the aluminum is formed by pressing with lenticular dies which form a myriad of tiny prisms. This effects extremely high magnification of the light-gathering power of the reflector. The envelope formed by the two joined reflectors is suspended from the frame and an air valve is tapped into one side. By pumping air into the envelope, the reflectors will "belly out," with a resultant diffusion and spreading of the reflected light beam. The volume of air can then be used to focus and control the beam as if it were a spotlight. The reflector is priced at \$250.

**The Lilliput Twin Lighting Unit** manufactured by Kliegl Bros. is distributed by Florman & Babb, Inc., 68 W. 45 St., New York 36. The unit, recently announced, is said to deliver flood lighting of the same intensity as that given by a 5 kw Fresnel without requiring a booster transformer. The unit uses General Electric's 16-hr sealed-beam quartz-iodine uniflood lamp and it is equipped with a dim/bright device and a barndoor. The sockets swivel to permit use in either horizontal or vertical positions and a special device can be adjusted to produce a

single light beam. The unit is priced at \$115 without lamps and the GE uniflood lamps are available at a price of \$9.95.

A radio relay system called TL Microwave for transmitting voice, data and teletypewriter messages over short routes is now being manufactured by the Western Electric Co. and installed in various Bell Telephone company areas to provide economical transmission up to 200 miles. The basic system consists of two terminal stations and up to nine intermediate relay stations spaced at intervals averaging about 15 miles. Relay station facilities consist of antennas and reflectors mounted on wooden H-frame poles or steel towers. Operating in the 11,000 mc frequency range, the system utilizes two newly developed klystron tubes which serve as the high frequency sources for the transmitter and the receiver oscillator. The tubes, designed for an operating life of 40,000 hours are the only electron tubes in the system. Other active circuit elements are solid-state devices.

**Test equipment for evaluating the performance of thermoplastic** and other recording materials proposed for electron beam recording has been developed by Ampex Corp., 934 Charter St., Redwood City, Calif., under government contract and delivered to the Reconnaissance Laboratory, Aeronautical Systems Division, Wright-Patterson Air Force Base, Ohio. The test equipment is expected to aid in

the establishing of standards for electron beam systems and thus facilitate future developments.

**Equipment for locating faults** quickly in undersea cables and displaying the findings on a cathode ray tube is produced by Furzehill Laboratories Ltd., Clarendon Rd., Watford, Herts, England. The equipment, called Pulse Echo Fault Locator, sends a pulse or search signal along the cable at speeds of the order of 100,000 miles/sec. A fault in the cable causes a "reflection" or "echo" back to the source of the pulse. A double-beam cathode ray tube displays the reflected pulse on the upper trace against crystal controlled markers on the lower trace, which represent nautical miles of cable distance. The horizontal relationship of the two traces provides a direct reading of cable distances against a calibration graticule.

**Television tape** designed specifically for use with the Ampex VR-1000 Videotape Recorders has been announced by Ampex Corp., 934 Charter St., Redwood City, Calif. The tape is coated at the company's magnetic tape division at Opelika, Ala., by the Ampex Ferro-Sheen process. The tape has been tested for several months in commercial and educational broadcasting operations and is now available commercially in limited quantities.

A modification that may be applied to any RCA television tape recorder to permit operation at  $7\frac{1}{2}$  in./sec as well as the conventional 15 in./sec has been introduced by Radio Corp. of America, Camden, N.J. The slow-speed operation suggests considerable economies in capital investment in tape stock as well as in operating and storage costs. The dual-speed modification consists mainly of redesigned video heads which produce narrower tracks (5 mils instead of 10 mils), use of a dual-speed capstan motor, and certain circuit revisions, particularly in the capstan servo system. The modification kit to convert the recorder to dual-speed operation is expected to be available commercially in May and will be priced at about \$2000. Price of the narrow track headwheel panels is \$1500 and existing headwheel panels may be converted for the usual re-work price.

An "economy" tape recorder designed primarily for educational and other non-entertainment applications has been introduced by Radio Corp. of America, Camden, N.J. The machine, which occupies less than 10 sq ft of floor space, is a simplified version of the RCA Broadcast TV Tape Recorder. The picture is produced by quadruplex recording and playback and tapes made on the TR-11 are interchangeable with tapes made on other quadruplex recorders. The machine records both picture and sound on a standard 2-in. magnetic tape. Up to 96 minutes may be recorded on a standard 14-in. reel of tape at 15 in./sec or up to 3 hours at  $7\frac{1}{2}$  in./sec if the optional slow-speed kit is used. Designed for simplified operation as well as economy, five video, two audio and five speaker/meter selector

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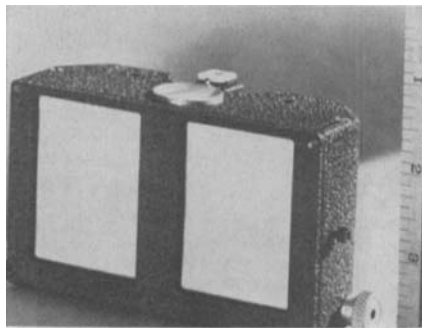
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<p style="font-size: 1.2em; font-weight: bold;">GSAP</p> <p style="text-align: center;">16mm</p> <p style="font-size: 1.2em; font-weight: bold;">MAGAZINE CAMERAS</p> <p style="font-size: 0.8em;">WITH 35mm LENS</p> <p style="font-size: 1.2em; font-weight: bold;">\$10.<sup>00</sup></p>	<p style="font-size: 1.2em; font-weight: bold;">TRIPOD</p> <p style="font-size: 1.2em; font-weight: bold;">TIE-DOWN CHAINS</p> <p style="font-size: 0.8em;">Set of 3 Chains—With Long Chain—Stage Screw &amp; Turnbuckle.</p> <p style="font-size: 1.2em; font-weight: bold;">Reg. \$10 \$3.<sup>95</sup></p>

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controls are provided. All transport controls are located centrally on the master control panel. The machine is priced at \$32,900 without the modification kit and the monitors.



A miniaturized device for converting closed-circuit TV to a 3D picture without electronic modifications is a product of Stereotronics Corp., 1717 N. Highland Ave., Los Angeles 28. Contained in an 11-oz package is the Stereo-Captor Model 5502 which replaces the lens on industrial TV cameras, a Stereo-Screen to replace the glass plate in the receiving monitor and Stereo-Glasses for group viewing or a Stereo-Hood for individual viewing. The Stereo-Captor is priced at \$1600. A device to permit either remote or manual control together with 25 ft of cable is priced at \$400.



## employment service

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### Positions Wanted

**In-plant, Audio-Visual Producer.** Experienced live & film TV producer-director, Lab Chief and Sound. 20 years professional service for TV, industry & education. Age 41, married, willing to relocate. Personal film equipment list & resume on request. Have own 11 B Processor, B & H J Printer, Westrex & Maurer Recorders, available if desired. Johnson Tele-Visuals, Box 809, Denver 1, Colo.

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**Director of Communication Services.** Extensive experience in conceiving, executing complex audio-visual media to achieve specific communications objectives; special emphasis in supervising educational motion-picture production for a wide range of audiences; background includes teaching in public schools and also as a faculty member of a major university; can work with top administration/management to interpret their communications requirements; interested in heading up or developing a nationally outstanding organization; hold doctorate degree; married; age 33; salary negotiable over \$10,000. Write: Communications Director, 525 Plantmore, St. Louis 35, Mo.

### Positions Available

**Maintenance-Repairman** for large Eastern supply house. Familiar with cinema processing machines, printers, optical benches, lab testing equipment. Knowledge of Moviolas, projectors, recorders, cameras etc. desirable but not absolutely necessary. Good pay, rapid advancement, air conditioned shop. Wm. Allen, S.O.S. Photo-Cine-Optics, Inc., 602 West 52 St., New York 19.

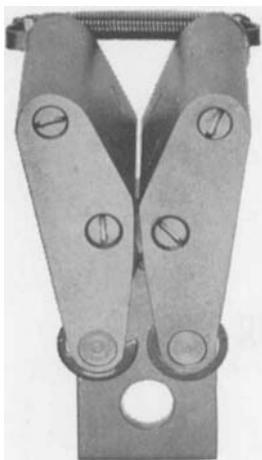
**Staff Cameraman-Editor.** Top-flight creative camera work is primary consideration, editing secondary. Must be fully qualified to handle both 16mm motion-picture and slidefilm photography. For small but expanding company with national accounts. Write Vogue Film Productions, Inc., Bowman Field, Louisville 5, Ky.

**Cameraman.** Prefer man with considerable experience in motion pictures and still photography Midwest producer with fine reputation and financial standing wants man with ability and experience in lighting sets and operating camera on all kinds of interior and exterior photographic assignments. Very little travel involved in job. Write giving full details of past and present employment, and salary expected. Technisonic Studios, Inc., 1201 Brentwood Blvd., St. Louis 17, Missouri.

**Quality Control.** Man with college degree in chemistry, physics or optics to work in quality control of motion-picture laboratory. Submit resume to Technicolor, 6311 Romaine, Hollywood 38, Calif.

**Motion-Picture Editor.** 16 & 35mm. Prefer man with minimum 2 yrs experience. Send complete editorial resume to: Jack Thompson, Jamieson Film Co., 3825 Bryan St., Dallas 4, Texas.

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