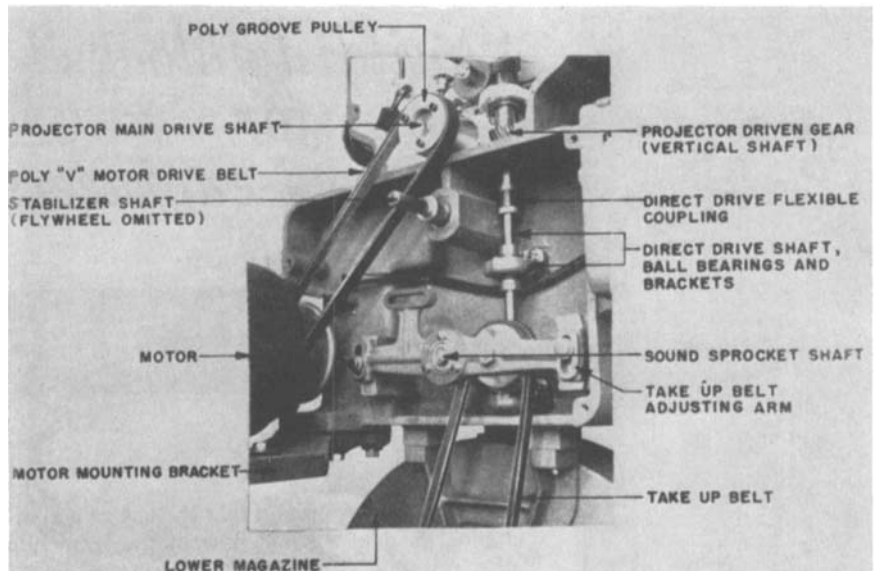


new products

(and developments)

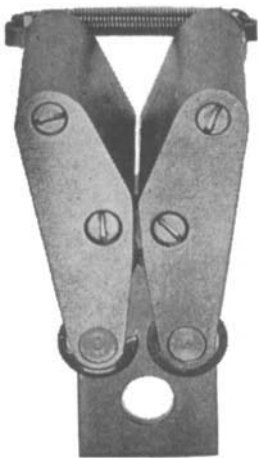
.....
 Further information about these items can be obtained direct from the addresses given. As in the case of technical papers, the Society is not responsible for manufacturers' statements, and publication of these items does not constitute endorsement of the products or services.

A newly designed direct drive arrangement for Century projectors and sound reproducers has been announced by Century Projector Corp., 729 Seventh Ave., New York 19. The new arrangement couples the projector mechanism and sound reproducer and is designed for optimum quietness with stable, vibration-free performance and safe and dependable operation. The speed of the projector main drive-shaft is 1440 rpm, which is the same as that of the shutter shaft. The gear arrangement progresses with mechanical stability from the motor, operating at 1765 rpm, to the main drive of the projector at 1440 rpm.



This vertical shaft running through the mechanism and sound reproducer rotates at 720 rpm. At the several sprocket shafts the speed is further reduced to 360 rpm which is standard sprocket speed for 35mm projectors using standard 16-tooth sprockets. Because of the direct-drive coupling between the mechanism and the sound reproducer, it is not necessary to use a timing belt drive between the motor and reproducer or from the reproducer to the projector mechanism.

The motor drives the mechanism with what is called a Poly "V" belt, which incorporates 6 parallel "V" tracks running in space-saving pulleys especially grooved to mate precisely with the belt ribs. The mechanism and/or reproducer can be changed to older style drives if required. The sound reproducer retains the Davis flutter suppressor. The new drive is said to be easily adapted for interlock or synchronous operation with separate sound reproducers or interlocked together for 3-D projection. Known as the Model M-Series, this projector was unveiled at the Tesma Show in Cleveland on December 5, 1962.



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It minimizes solution carry-over, contamination and wasted chemicals.

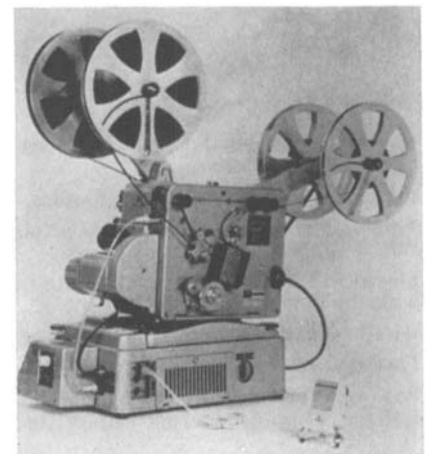
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Appointment as sole U.S. agent for the Siemens series 2000 16mm sound projectors has been announced by Arriflex Corp. of America, 257 Park Avenue South, New York 10. The Siemens 16/16 single-system/double-system sound projector has, on the single-system side, such facilities as optical playback, magnetic recording and playback, both full-track and half-track facilities and other features. The double-system side has a complete additional sound channel, using 16mm perforated magnetic film, and is mechanically interlocked to the projector. On this "deck" are facilities for recording and playback of full 200-mil magnetic track. Sound may be recorded live and/or from records or tapes or transferred from one channel of the projector to an-

Troubled by out-of-focus pictures?

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pile-up in your camera gate?

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noise when shooting subjects who should not be distracted from what they are doing?

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If so, switch to Auricon, the only 16mm Camera that guarantees you protection against all these troubles, because it is so well designed! The Auricon is a superb picture-taking Camera, yet silent in operation, so that at small extra cost for the Sound Equipment, it can even record Optical or Filmagnetic sound in addition to shooting your professional pictures.

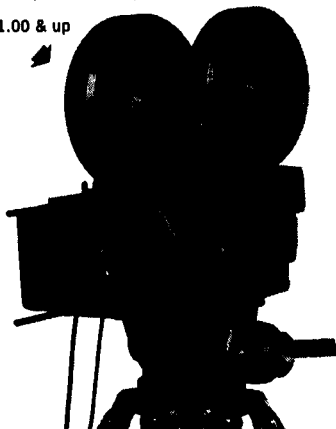


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AURICON "PRO-600 SPECIAL," takes 400 ft. Runs 11 min. \$1295.00 & up

AURICON PRO-800, takes 600 ft. Runs 16½ min. \$1871.00 & up

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FILMLINE R15TC reversal/negative/positive machine with refrigeration, bottom drains, air compressor, cushion-blo squeegee, variable speeds up to 1200' per hr. Good condition. \$ **2450.00**

FILMLINE Model R40TC reversal/negative/positive machine with refrigeration, recirculation pump, drain pump and air compressor. Orig. \$4865. Good condition. \$ **2995.00**

GPL 401 Hi-Speed 16MM Spray Processor, negative/positive. Orig. \$8000. Reconditioned \$ **2995.00**

HOUSTON-FEARLESS 16MM daylight loading magazine for all HF Processors. \$300 val. \$ **99.50**

HOUSTON-FEARLESS Model 1, 16MM negative/positive, variable speed. Reconditioned \$ **895.00**

MAMMOTH HOUSTON Color Processor 16/35MM Ansco/Ektachrome, neg./pos. up to 1200' per hr., 16 stainless steel tanks. Full temperature control. Recirculation, air supply 7 squeegees. Cost Cuban Gov't \$35,000. Rebuilt like new \$ **11,995.00**

HILLS 35mm Daylight Operating Processor with recirculation pump, mixer, automatic hot & cold temperature controls, blower & alarm systems. Cost RCA \$7000. Excellent condition. \$ **2495.00**

STINEMAN 16/35MM Developing Outfits. 200' in case with loading device. \$200 value. New surplus. \$ **99.75**

LABORATORY EQUIPMENT

SOSOUND H-16 (Peterson) Magnetic Film Stripping Machine, good condition. \$ **2195.00**

ART REEVES SENSITESTERS Combination Densitometer/Sensitometer. Gov't cost \$1500. Serviceable. \$ **395.00**

Reconditioned. \$ **595.00**

FRIED LIGHT Scene Tester, 1 to 11 exposures. As is. \$ **99.50**

HERRNFELD 1532 Additive Color Scene Tester. Orig. \$5727. Excellent condition. \$ **3750.00**

MOY 35 MM Edge Numbering Machine. Like new. \$ **1995.00**

PHOTO RESEARCH COLOR DENSITOMETER, single head with filter wheel. Cost new \$3686. Serviceable. \$ **1995.00**

RECORDING EQUIPMENT

AMPEX 600 Magnetic Recorder with synchronous generator, playback amplifier and speaker in 2 matched cases. \$1000 value. \$ **595.00**

AURICON RT-80 VA Recorder less amplification \$ **295.00**

AURICON RT-80 Optical Recorder with noise reduction amplifier, available VD or VA, serviceable condition. \$ **395.00**

Reconditioned. \$ **525.00**

CUSTOM BUILT 17.5MM Synchronous Magnetic Film Transport with torque motor feed and takeup, counterbalanced flywheels, dashpot filter. Center track record & playback heads, was used mainly as a dubber. Requires repairs. Closeout. \$ **195.00**

CUSTOM BUILT 16MM Synchronous Magnetic Recorder, torque motor feed and takeup, counter, edge track, erase, record and playback heads. Includes Magnecord PT7P record and playback amplifier with 3 microphone inputs. Recorder has bias oscillator built in. \$1000 value. Requires slight repairs. \$ **495.00**

MAURER D 16MM OPTICAL RECORDER, twin track negative, 2 position mixer, noise reduction amplifier, 400' magazine, no power supply. Needs repairs. Good value. \$ **1495.00**

RCA PHOTOPHONE Optical Recorders, 35MM, 220V, 3 phase synchomotor, 2-1000' magazines, footcandle counter. Serviceable. \$ **1495.00**

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other. Sound may also be recorded on sound. The basic projector has a double-cam driven, three-toothed precision pull-down. Pulldown time is a fast 1/192 sec for maximum screen brightness. The projector may be set for either two-blade or three-blade operation. Lamps may range in wattage from 250 to 1000 w. The projector is priced at \$1795.00.



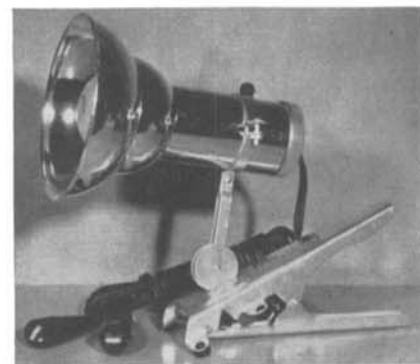
The Rotex silver recovery unit, Model 500, is now available for use with the Eastman M-4 X-Omat and other automatic x-ray processors of similar capacities. Announcement was made by the Rotex Division of W. B. Snook Mfg. Co., 751 Loma Verde Ave., Palo Alto, Calif. Designed especially for use in constricted areas of hospitals, medical clinics, photographic laboratories and industrial plants, it is 12½ in. wide, 20½ in. long, 28½ in. high and occupies less than 2 sq ft of floor space. It employs the rotary cathode system of electrolytic reclaiming used in other Rotex models. Model 500 is said to reclaim silver from approximately ¼ gal of hypo per hour. The unit is priced at \$595.00.

A variable air capacitor for use with highly accurate and extremely stable test equipment has been introduced by Hammarlund Manufacturing Co., a Giannini Scientific Company, 53 W. 23 St., New York 10. The capacitor employs pyrex glass ball bearings. Transistors, with associated circuitry components, can be mounted within the confines of its basic form for circuit modules. It is designed especially for equipment requiring ultra-high-frequency VFO circuits with minimum frequency deviation and excellent resetability.

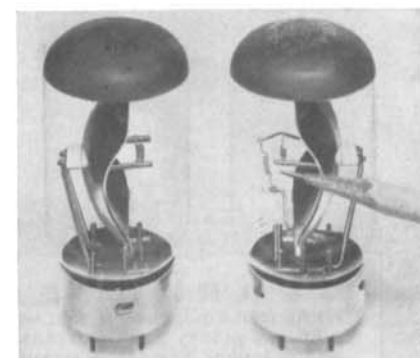
A wide-aperture plate for projectors to make possible the viewing of timing marks or other data recorded on film outside the sprocket holes has been developed by L-W Photo, Inc., 15451 Cabrito Rd., Van Nuys, Calif. Available as a modification to all models of existing L-W projectors, the plate can also be obtained as an option with new projectors. The wide-aperture plate does not preclude the use of standard gates, and both can be readily interchanged without the use of tools. Price of the gate is \$49.00.



The Quartz-King 1000 is a new lighting unit announced by Color-Tran Industries, 630 S. Flower St., Burbank, Calif. The unit, with a medium flood reflector, is said to produce more than 860 ft-c of even light at 10 ft. Utilizing a 1000-w quartz-iodine, it produces a color temperature of 3400 K and operates directly from standard 120-v outlets, a-c or d-c and consumes 8.3 amp. The lamp is priced at \$14.95, with various accessories available. Price of housings ranges from \$39.90 to \$43.50.



The Rubylite Clamp-On, a lighting unit manufactured by Photomart, 228 S. Franklin St., Tampa 2, Fla., is said to provide 250 w of 3400 K light from a 12-v car battery. It is designed to stand solidly on any flat surface or to clamp on various objects such as flat bars, such as the cross arm of a light stand, auto windows, etc.; round bars, such as the center column of a light stand; furniture, such as tables and chairs; and on ledges and boards.



An 8mm movie projection lamp that gives a warning signal by dimming as it approaches the end of its useful life has been announced by Sylvania Electric Products

ARRIFLEX at work — ONE OF A SERIES*



The North American Philips Co., pioneers in advanced X-ray techniques, selected the Arriflex as the ideal motion picture camera to be used with their electronic Image Intensifier. Illustration shows the Philips Ringstand with Arriflex 35 at Union Hospital, Fall River, Mass. (Dr. Jack Spencer, Chief of Radiology.) The Arriflex is mounted on the Image Distributor of the Image Intensifier, which permits filming of a fluoroscopic image of internal functions and moving organs at reduced X-ray intensity. It is operated from a Cine Control Unit behind a protective glass panel. Recording progressive stages of physiological

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changes as they actually take place, the motion picture film allows prolonged and repeated radiological observation by individuals or groups, without exposing either the patient or technicians to excessive radiation.

The standard Arriflex—35mm or 16mm—with only minor modifications, is as ideally suited for this specialized application as

it is for the many others for which it has gained fame ... in such divergent fields as "missiles to microbes." Compact, reliable, versatile and maneuverable, Arriflex delivers top performance in mastering every studio or scientific role ... It will do the same for you!



From the microscope to the missile range... from spot locations to sound stages... Arriflex professional motion picture cameras are the dominant choice of filmmakers in science, industry, and entertainment. They're lightweight, rugged, tremendously versatile — uniquely suited to a range of applications virtually without limits. Here are some of the features that give Arriflex cameras their remarkable capabilities:

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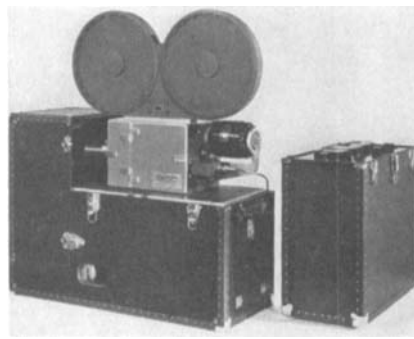
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Inc., 730 Third Ave., New York 17. A dual tungsten filament provides the lamp with a "reserve life" during which it dims to warn of immanent burn-out. This dimming feature "takes the guesswork out of lamp replacement and prevents embarrassing burn-outs during a movie showing," the announcement stated. The lamp is priced at \$5.00 or at \$5.50, depending on the model.

An automatic-threading 8mm motion-picture projector designed to sell for less than \$80.00 has been announced by Bell & Howell Co., 7100 McCormick Rd., Chicago 45. The projector has forward, reverse and still picture controls on a single lever; an f/1.6 1-in. projection lens, and a truflector lamp. The projector, called the Auto-Load Model 256, has a 400-ft reel capacity. Other features include a built-in film cutter, quick-release type lamp housing and lever-type framer.



A 16mm photographic television recording unit designed to produce simplified, high-quality, full-frame film records from broadcast or closed-circuit transmission, or from tape playback, has been announced by W. A. Palmer Films, Inc., 611 Howard St., San Francisco 5, Calif. The unit, which records picture and sound on a single piece of film, includes a camera, a newly designed Conrac photographic monitor, and a sound recorder. The camera incorporates a shutter designed to eliminate shutter bar problem and to permit recording on a variety of film emulsions. The film transport system features a fixed register pin and rapid film pulldown. Absence of a conventional aperture plate in the camera is said to prevent emulsion pile-up and accumulation of dirt. The Conrac monitor provides switch-controlled circuits for normal or mirror image and positive or negative picture. An additional circuit for aperture correction insures maximum resolution. The single-system sound unit has a "tight loop" sound filtering system for flutter-free musical recording. The camera and monitor are permanently aligned and housed in a combination cabinet-carrying case measuring 40 by 27 by 22 in. The complete system including camera, lens, monitor, optical recording amplifier, cabinet and a 1,200-ft magazine, is priced at \$8,778.00.

An image-converter tube, the RCA-4449, for ultra-high-speed multiple-frame photography with exposures as short as one two-hundred millionth of a second, has been announced by the RCA Electron Tube

Division, Lancaster, Pa. The new tube has electrostatic focus, a gating (control) grid which functions as a shutter, and an electrostatic deflection system that can produce three images on one photographic frame within 100 nanoseconds.

In use, the event being photographed is focused on the photocathode of the tube by means of a fast objective lens. The light striking the photocathode releases electrons which are attracted at high velocity toward the fluorescent screen at the opposite end of the tube. In their passage, the electrons first encounter the electron gating grid, which may be charged either to stop the electrons emerging from the cathode or to permit their travel toward the screen. The grid is also used to focus the electrons on the screen. After the electrons pass the gating grid, they are directed through a small aperture to a set of deflecting electrodes. The design of the electrodes makes it possible for the beam to be deflected over a wide angle without serious distortion. The electron beam energy is converted by the phosphor screen into visible radiation. The screen is especially prepared with a fine-grain phosphor and is backed with aluminum to increase light output. Under normal operating conditions the tube has been found to provide a minimum increase in radiant energy emitted from the screen of as much as 50 times the radiant energy incident on the photocathode.

The new tube is said to have a resolving capability referred to photocathode of better than 17 line-pairs/mm with capability of providing exposure times as short as 5 nanoseconds with little loss in resolution. The tube utilizes a flat photocathode which has high electrical conductivity and can provide large peak cathode-currents without undesirable defocusing effects. The minimum useful diameter of the photocathode is 1.37 in. Spectral response of the RCA-4449 covers the range from about 3000 to 6500 Å. Maximum response occurs in the blue region of the visible spectrum.

The new image-converter tube is also provided with a fine-grain, aluminized P11 phosphor screen which emits high-intensity actinic blue-fluorescence and has medium-short persistence. The minimum useful diameter of the phosphor screen is 3 in. Other features include a maximum anode-voltage rating of 15 kv; a deflection factor of 1000 to 1300 v/in.; a peak-to-peak gating (control-grid) voltage requirement of 230 to 300 v, and a flat photocathode which permits the use of a wide selection of standard optical lenses.

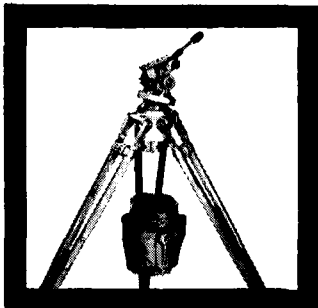
A large-screen television projector called Tele-Beam, manufactured by Waltham Precision Instrument Co., of Waltham, Mass., has been introduced by Tele-Measurements, Inc., 72 N. Mitchell Ave., Livingston, N.J. According to the announcement, the new projector, which can be remotely controlled, combines the improved Schmidt precision optical system with a new high-voltage system and is capable of projecting a picture 4.5 by 6 ft up to 12 by 16 ft. The projector head weighs 42 lb and the control unit, including tuner, weighs 68 lb. Other specifications include power requirements, 117-v a-c, 60 cycles; antenna, standard commercial consumer types 300-ohm twin lead;

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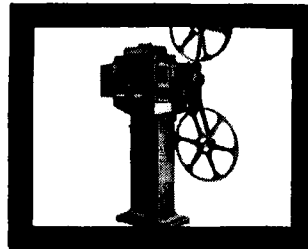
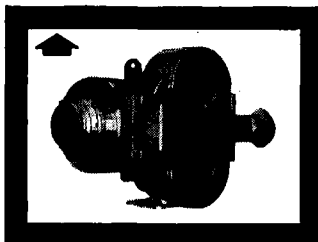
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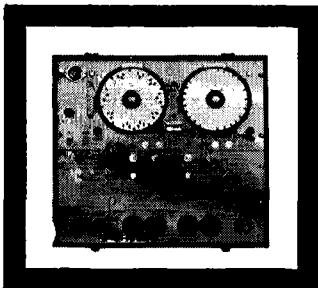
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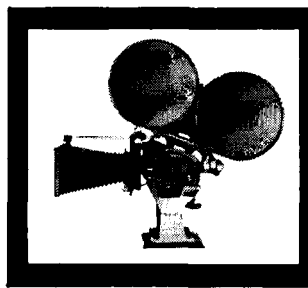
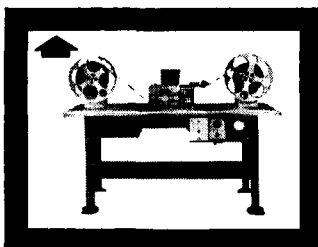


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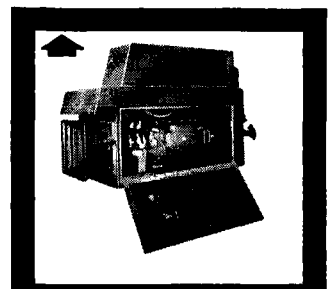
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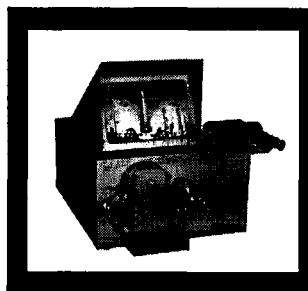
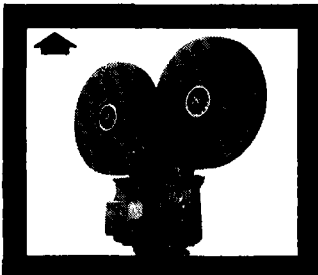
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power consumption, 500 w. The projector has been teamed with the electronic microscope developed by Allen B. DuMont Laboratories for a closed-circuit TV microscope system. At a recent demonstration a portion of the stinging leg of a centipede, normally only 1/32 in. long, was projected to fill a screen 50 ft square. At that scale, the centipede would have measured 144 by 192 ft.

A remote radar-recording camera, one of the first of its kind, has been built by the Apparatus and Optical Div., Eastman Kodak Co., Rochester, N.Y. The camera,

manufactured under contract with the photographic section of the Bureau of Naval Weapons, is designed to operate unattended in the aircraft at a distance from the main radar screen. It is completely transistorized, weighs about 50 lb and is adaptable for use on a variety of existing airborne radars presenting sector or circular displays. A 3-in. diameter cathode-ray tube in the recorder operates from the electrical signals provided by the main aircraft unit. The tube is specially designed to provide the optimum display for photographic recording. The recorder can be set to make a picture every 2, 4, 8, or 16 scans, i.e., during each complete revolution of the radar antenna. The camera has two lenses, one to record the picture on the radar screen, the other to record, on the same piece of film, flight data, time and weapons condition. A 100-ft film magazine provides 35mm film for 800 double-frame exposures, estimated to be enough for any normal length mission. An automatic device is incorporated to insure uniformity of exposure across the radar picture and to provide proper exposure for photography as the operating modes of the radar are changed. The scanning line is intensified electronically every 30 degrees. This divides the circular presentation into 12 parts to make it easier to locate and identify objects of interest.

An inexpensive electronic photographic plate called Image Retaining Panel has been announced by Thorn Electrical

Industries Ltd., International Div., Upper St. Martin's Lane, London, W.C. 2. It is claimed that the plate can be used about 10,000 times and that it gives an immediate picture without developing. A phosphor, basically zinc cadmium sulfide, is used to coat a metal-ceramic panel. The phosphor glows in a d-c field when triggered by some external source of radiant energy. When the panel is energized in darkness, no light is emitted and the leakage current through it is extremely small. When light or other radiation triggers the electroluminescent mechanism, a yellowish glow appears. The image of an object placed on the panel will remain when the triggering radiation is removed and the object taken away. The image is said to remain sharp for about 30 min. When the d-c supply is turned off the image disappears and the panel is ready for use again. One advantage of this development is the capability of showing an immediate x-ray picture of part of the human body with much less than the normal dosage of x-rays, thus reducing possible radiation damage to the tissue. Panels are now available in 3 by 3 in. or 6 by 4 in. sizes.

A completely transistorized video distribution amplifier for a full range of TV studio applications in both color and monochrome signal systems has been introduced by the RCA Broadcast and Communications Products Div., Camden, N.J. The amplifier, designated TA-23, is said to be small enough to permit eight units and a regulated power supply to be mounted in a studio rack frame only 5½ in. high, while generating only 1/20 of the heat produced by tube equipment.

A new line of 19-in. and 23-in. TV picture tubes featuring single-panel windows and built-in safety features has been announced by Westinghouse Electronic Tube Division, P.O. Box 284, Elmira, N.Y. The tubes are made by a process involving use of a plastic-impregnated Fiberglas coating on the funnel of the tube, and steel rim bands around the periphery of the tube face. The coating is used to prevent pieces of the funnel from becoming projectiles, in case of damage to the tubes, and the bands relieve stress on the window.

A p-n junction diode described as perhaps the "most generally useful device for low-temperature measuring yet devised" has been developed at Bell Telephone Laboratories. The diode's voltage varies linearly with temperature over the entire range from room temperature down to 1.4 K. Thus it is possible to read temperature as voltage taken from a potentiometer connected across the diode. The diode is small — a cylinder 0.3 cm in diameter and 0.5 cm long with an active area of 2×10^{-6} cm² — and uses only 10 microwatts of power. Thus it has little effect on the temperature of the area it measures. Suggested uses include temperature monitor in refrigerated devices, such as low-noise amplifiers (masers and parametric amplifiers). In the parametric amplifier the GaAs diode — heart of the amplifier — might literally be used to take its own temperature.

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