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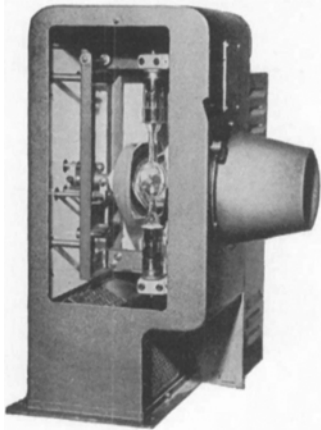
—feature—

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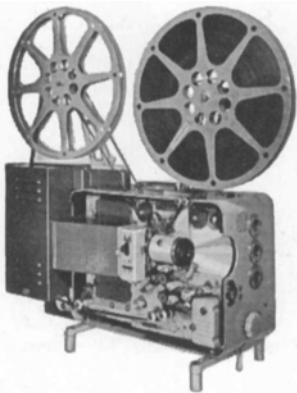
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Étude théorique et expérimentale des problèmes de fluctuations rapides en propagation troposphérique (in French), R. Tremblay, *Annales de Radioélectricité*, XVII: 280-296, Oct. 1962.

This study concerns the problem of rapid fluctuation of the received signal in tropospheric transmission. The instantaneous frequency analysis of the received signal explains the linear aspect of the observed spectra. It also determines the spreading of the instantaneous values of the frequency bandwidth of the tropospheric link, and, finally, gives information about the structure of the propagation medium. The study of the problem of the signal fluctuations as a function of time shows the correlation which exists between the rate of fluctuation and the transverse component of the altitude wind. It puts emphasis on the similarity which exists in this case between the amplitude-frequency spectra and the amplitude-time spectra. In the case where the fluctuations in time are caused by atmospheric turbulence the preceding conclusions do not apply. An elaborate experimental study confirms the theoretical results obtained. It is presented along with the theoretical study.

Schneider objectives for vidicon television, P. Himmelsbach and H. Klarmann, *Hausmitt. Jos. Schneider & Co.* 16: 29-55, No. 2, 1965.

Objectives for photographing vidicon television images are described. The mechanical construction, electrical remote control, and optical performance are particularly considered.—F.H.P.

FK7-TV camera for nuclear engineering, S. Kaiser and G. Schaaf, *Bild und Ton*, 18: 229-232 No. 8, 1965.

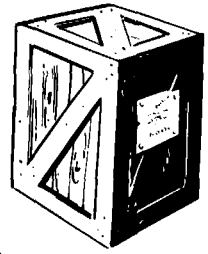
An experimental TV camera installed for indirect observation of dangerous nuclear processes is described. The Endikon type tube, exposed to irradiation from a Co⁶⁰ source of 4.45 to 100 roentgen/sec for a total dose of 1.5×10^6 roentgen, showed 87% transmittance before irradiation, 75% after. Irradiation of a Biotar lens also decreased its transmittance. Diagrams are given for the electronic circuit and optical system of the camera.— M.C.

A new television test card for trade test transmissions, G. Hersec, A. James, T. N. J. Archard, D. H. Runsey, R. Sims, G. S. Ashburner and A. Port, *Radio and Electronic Eng.*, 30: 21-36, July 1965.

The paper discusses the basic requirements for test cards and the specification and production of the British Television Test Cards D and E. Particular emphasis is laid on the production of accurate sine-wave resolution bars and the high-precision photographic techniques involved.

The calculation of Schmidt objectives for television projection systems (in Russian), R. V. Voronov, *Tekh. Kino i Televizeniya*, 9: 38-42, March 1965.

The design of Schmidt objectives for projection of television images onto large screens, and the characteristics of some Soviet systems of this type are discussed.— S.C.G.

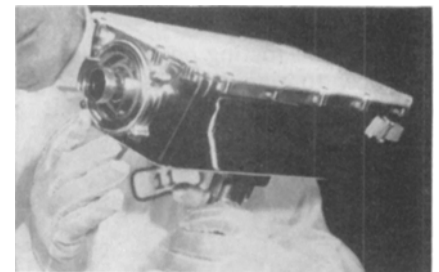


new
products
(and developments)

.....
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 Polaroid Kine Camera system designed to photograph a dual display consisting of a 2×2 kinescope image and a 1.3×11 -in. data identification display has been developed by Photomechanisms, Inc., 15 Stepar Place, Huntington Sta., New York 11746. Built under contract to RCA's Astro-Electronics Div., the camera was developed especially to photograph ground-displayed television pictures of cloud cover transmitted from the Nimbus Weather Satellite. Called the "quick look" camera, it also simultaneously records alpha numeric mission identification data. Both displays are recorded simultaneously by an optical system that includes two camera lenses to image the displays within a $2 \times 2\frac{1}{2}$ -in. format at the camera's film plane. The hard copy prints show the size, type, density and movement of clouds. Features include a vernier focusing arrangement to permit precise focus of the recording lens.

The system is interchangeable with other Photomechanisms equipment designed for continuous recording and processing of displayed data. Intended for use with Polaroid 46L film which gives a slide transparency of the data display, the system can also be used with other Polaroid films.



A prototype of the "lunar" camera that will be used in broadcasting live television from the moon during the first manned Apollo lunar exploration mission has been built by the Aerospace Div. of Westinghouse Defense and Space Center, Westinghouse Electric Corp., Box 2278, Pittsburgh, Pa. 15230, for NASA. The camera's primary scanning rate is 10 frames/sec with 320 scan lines. It has a second mode of operation in which the scanning rate is 0.625 frames/sec to enable detailed observation of the moon's features by scientists on earth. During the mission, signals produced by the camera will be trans-

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16MM CAMERAS SINCE 1931

mitted to an earth station, converted to the standard TV frame rate and then supplied to earthbound scientists and the television networks. When the spacecraft reaches its lunar orbit, the camera will be transferred to the Lunar Excursion Module (LEM) and stored during its descent to the lunar surface. The mission on the lunar surface will include taking the camera outside the LEM for a detailed examination of the moon's terrain and selenographical features.

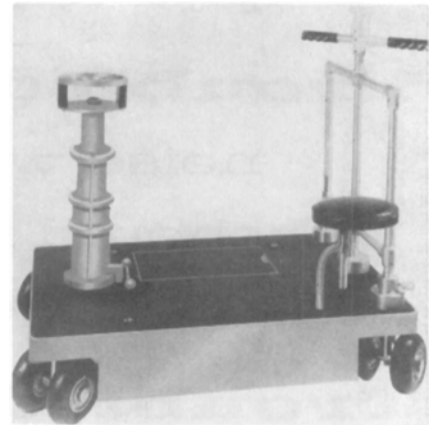
The heart of the camera is the secondary electron conduction (SEC) image sensor. The SEC image tube is a hybrid tube that has electrostatic focus by magnetic deflection. Four lenses are provided—a wide-angle lens with an 80° field of view to be used inside the command module, a telephoto lens for pictures of the earth from the spacecraft and a narrow-aperture lens for lunar day and a wide-aperture lens for lunar night will be used on the moon.

cent improvements in sound recording and reproducing techniques. The announcement (from Toyo Koki Co.) noted that the system was intended to do away with "cumbersome and costly anamorphic lenses in cameras and projectors." This section of the announcement is entitled "Sayonara to Anamorphic Lenses."



A camera which combines automatic power focusing with power zooming, newest in the Bell & Howell Super 8 line of electric eye home movie cameras, has been announced by Bell & Howell, 7100 McCormick Rd., Chicago, Ill. 60645. Designated Model 432 Focus-Tronic, the camera is equipped with a high-magnification focusing lens said to give sharp focusing at the touch of a button and at any point throughout the extended 5-to-1 zoom range. Features include a fingertip switch to allow the user to focus or zoom with power, using the dual-purpose zoom buttons, without removing

his eye from the viewfinder. The camera can also focus or zoom at high speed when the film is not being transported so that the photographer can quickly focus and compose his picture. The zoom speed returns to normal when the picture is being filmed. The camera is priced at about \$270.



The ColorTran Crab Dolly, designed especially for use in confined areas, has been announced by ColorTran Industries, 1015 Chestnut St., Burbank, Calif. 91502. The dolly, 26½ in. wide and 39 in. long weighs 185 lb without the 45-lb camera lift. It is said to accommodate camera rigs as heavy as the NC, plus the camera operator and assistant. In addition to crabbing and rear wheel tracking the dolly also features front wheel steering. Other features include a silent telescopic hydraulic camera lift which provides continuous and variable lift and descent rates with a 31-in. stroke and can be instantly stopped at any desired height. Maximum height from the floor, including head mount, is 56 in., minimum height, 25 in. A "low-boy" position permits a 9½-in. height from the floor. The camera lift is operated by bottled carbon dioxide; no external power source is required. The carbon dioxide bottles are equipped with a quick-change fitting, requiring no tools. A pressure gage indicates the pressure status of the carbon dioxide bottle when in use.

Ultra Semi-Scope is a new film system developed by Toyo Koki Co., Ltd., Asahi Bldg., 3-6 Ginza-Nishi, Chuo-ku, Tokyo, Japan, to squeeze film frames so that they occupy only half the length of ordinary films. The system is designed to cut film footage in half from the original negative to positive print and final release copy. For example, 35mm systems carry pictures occupying a length along the film of four perforations while Ultra Semi-Scope frames are only two perforations high. According to the announcement, the system is feasible because of finer grained emulsions and re-

MODEL BCD-5
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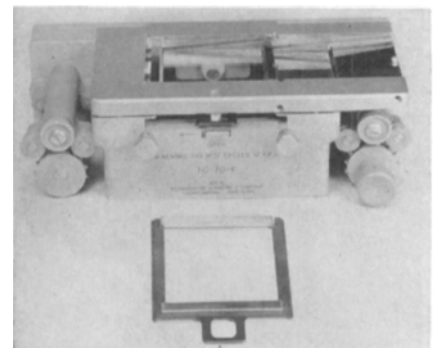
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A new film transport in 16mm, 35mm and 70mm sizes which are interchangeable has been announced by Richardson Camera Co., 2201 West Desert Cove Rd., Phoenix, Ariz. 85020. The design features a retractable upper glass platen as well as an interchangeable lower glass or metal edge pressure plate. The new transport is interchangeable with most of the firm's standard film transport systems. In operation, when optimum focus is required for reading

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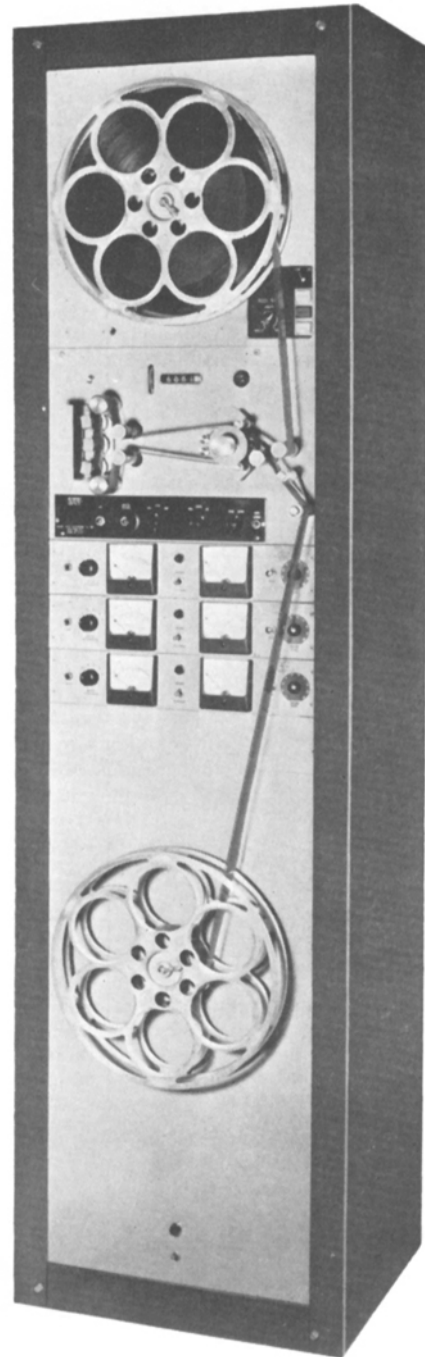
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Automatic record defeat in reverse

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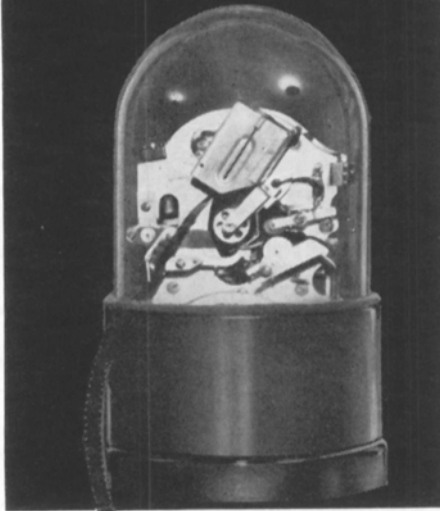


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February 1966 Journal of the SMPTE Volume 75

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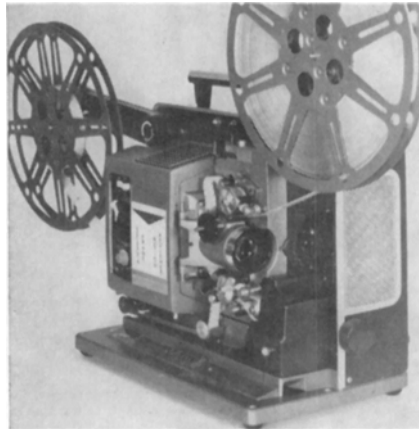
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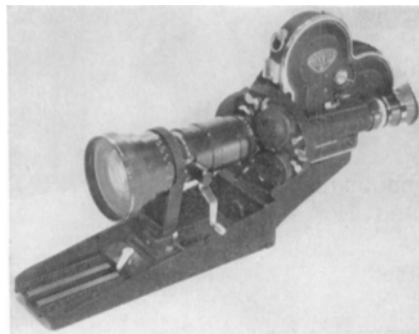
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images frame by frame, the upper glass platen is moved into place by sliding the glass and frame in the upper hinged aperture lid on the 70mm unit. The upper glass remains parallel with the film plane.

The upper platen on the 16mm and 35mm is hinged. The lower pressure plate snaps out and the lower glass platen and frame can then be inserted. Individual frames can be manually marked or identified.



The Selecta-Frame Flickerless Sound Projector, designated Model 16N, is manufactured by Northridge Camera, Inc., 7749 Densmore, Van Nuys, Calif. 91406, and is distributed exclusively in the United States by Traid Corp., 777 Flower St., Glendale, Calif. 91201. The projector is used to run 16mm film at 16 or 24 frames/sec, or to conduct stop-motion studies at rates from 0 to 12 frames/sec. Capabilities include forward, reverse, stop, pulse or picture and sound, all switch-controlled. Model 16N is designed to provide a satisfactory image in a room light enough for taking notes. It handles up to 2,000-ft reels on standard, retractable arms and maintains the film loop by means of an optical sensor. A 2-in. $f/1.6$ lens is standard; others are optional. The frame counter is illuminated. The projector is priced at \$1,695.



A new 12-240mm **Angenieux varifocal (zoom) lens** for Arriflex model 16S and 16M cameras has been announced by Arriflex Corp. of America, P.O. Box 1050, 25-20 Brooklyn-Queens Expressway-West, Woodside, N.Y. 11377. The lens is used with an Arri Lens cradle to provide proper support and lens alignment. The lens, which zooms through 20 focal lengths, has three maximum diaphragm openings. At $f/3.5$ the lens may be zoomed from 12 to 60mm; at $f/4.0$ the lens operates from 12 to 140mm and at $f/4.8$ the lens may be

zoomed the full 12-240mm range. Zoom operation is by a mechanical crank that can be quickly released so that the cameraman may utilize the zoom handle for rapid zooming action. The lens focuses from 5 ft to infinity. It weighs 4 lb, 2 oz, is $9\frac{1}{4}$ in. long and comes equipped with a special filter holder. The lens is priced at \$2,440. The matching lens cradle is available at a price of \$210.

The AuriBell, an instrument designed to give an instant lens check for focus, depth of field, field of view and parallax, has been announced by Birns & Sawyer, 6424 Santa Monica Blvd., Los Angeles, Calif. 90038. Described as a "boresight" tool, the instrument is designed for use on most 16mm cameras which have a removable or retractable film gate. By looking into the AuriBell when it is in position the operator sees what would be recorded on the film to check that all conditions are right, such as lens in proper focus, field of view as desired, parallax corrected and depth of field as planned, thus avoiding mistakes in framing or focus before any footage is exposed. The instrument is priced at \$49.50.

The Stereoscan, a scanning electron microscope developed to allow specimens with complex shapes or uneven surfaces to be examined at high magnifications to reveal detail as small as 200 Å, is manufactured by Cambridge Instrument Co., Ltd., 13 Grosvenor Place, London S.W.1, England. The Stereoscan's depth of focus is said to be at least 300 times greater than that of an optical microscope set for the same magnification. The microscope throws images onto a cathode-ray tube. It is designed to provide a maximum consistent resolution of 500 Å or better, and 200 Å under favorable conditions. It has a magnification range from 50X to 20,000X, corresponding to scanned areas of 2 mm to 5 μm square.

In operation, the instrument directs a primary beam of electrons from a heated tungsten filament to a fine point on the specimen; by means of scanning coils and associated circuits, the beam is enabled to scan the surface. Secondary electrons emitted from the specimen as a result of excitation by the primary beam are collected by a scintillation counter; its amplified output modulates the brightness of a cathode-ray tube screen which is scanned in synchronism with the electron probe scanning the specimen. Uses of the instrument include the examination of metallic or ceramic fractures; interiors of holes such as small-bore tubes or capillaries; insects; biological samples, including hairy and whiskered growths; etched surfaces; etc. It is said to be also useful in the examination of the tiny circuits used in electron equipment. Faults show as differences in brightness. The microscope is priced at about \$80,000.

The EVA-MK III Speech Synthesizer and Graphic Playback Unit, a redesigned version of the firm's original EVA, is a product of Melpar, Inc., 3000 Arlington Blvd., Falls Church, Va. 22046. The unit consists of an electronic analog model of the human vocal cavity. It employs solid state construction and electronic circuits are provided to simulate all of the essential

Inspect every foot before it leaves your plant with the HFC High Speed Heavy Duty Inspection Projectors -- 16mm & 35mm models now available.

NEW

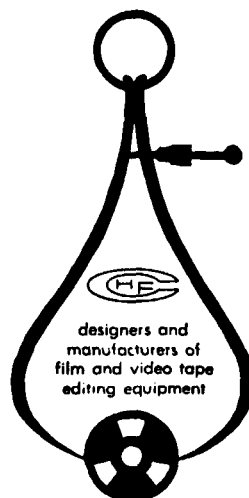
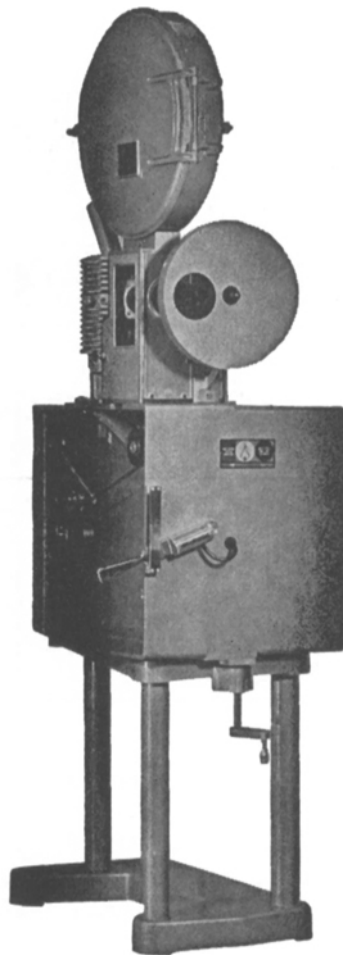
The projector is a converted front shutter Simplex with a two pin intermittent. 16mm or 35/32 film runs at a speed of 144 ft. per minute while 35mm film runs at a speed of 165 ft. per minute.

1. A variac controls the light intensity.
2. A 500 watt lamp is used for 16mm and a 1,000 watt for 35mm (a blower is used to cool the lamphouse).
3. A 2½ inch projection lens is furnished with each unit.
4. A start-stop lever controls the power to the lamp and motor.
5. The magazine and take up core takes up to 3,000 ft. of film.
6. Upper guide rollers are made to handle the film from either direction of the feed reel.
7. A free wheeling take off flange is provided in the magazine.
8. A lamp near the takeup reel permits hand inspection of the film prior to takeup.

NOUVEAU

Le projecteur contient un obturateur Simplex antérieur transformé avec deux clavettes intermittentes. Les films de 16mm ou 35/32 tournent avec une vitesse de 144 pieds à la minute, tandis que les films de 35mm tournent avec une vitesse de 165 pieds à la minute.

1. Le regulateur de voltage d'intensité d'éclairage.
2. La lampe de 500 watt est nécessaire pour les films de 16mm, et de 1000 watt, pour les films de 35mm (un ventilateur est mise pour rafraichir la chambre de la lampe).
3. L'objectif de 2½ est installé.
4. La manette de mise en marche et d'arrêt controle en meme temps la lampe et le moteur.
5. La boîte de films avec noyau peut contenir 3000 pieds du films.
6. La roue supérieure est construite de manière de recevoir le film dans les deux directions, nourrie par la bobine centrale.
7. Une roue est installée pour libérer rapidement le film de la boîte.
8. La lampe se trouve pres de la bobine recepteuse, et donne toute facilité pour inspecter le film a main dans le projecteur.



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NUOVO

Questi proiettori sono Simplex trasformati, otturatore al fronte, meccanismo di scatto di due punte. La velocità di proiezione in 16 o 35/32mm è di 144 piedi per minuto, e in 35mm, di 165 piedi per minuto.

1. Controllo manuale della luminosità della lampada.
2. Lampada di 500 watt per 16mm e di 1000 watt per 35mm.
3. Obiettivo di proiezione di 2½".
4. Maniglia per controllo di motore e lampada di proiezione.
5. La cassetta porta pellicola puo contenere 3000 piedi.
6. I rulli superiori di guida sono costruiti per operare con film proveniente di entrambi lati della bobina svolgitrice.
7. Disco con montatura sporgente nel magazzino.
8. Una lampadina illumina la bobina avvolgitrice, permettendo l'ispezione manuale del film prima che si avvolga nel proiettore.

NUEVO

Esta máquina es un proyector simplex convertido, obturador al frente y movimiento intermitente a doble grifa. Para 16mm o 35/32mm, la velocidad fija de proyección es de 144 pies por minuto, para 35mm es de 165 pies por minuto.

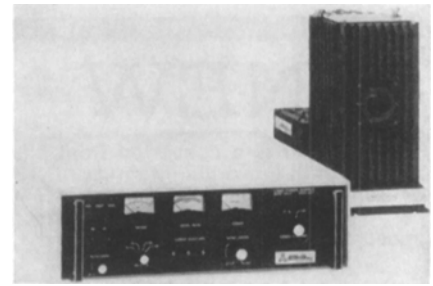
1. Un reostato controla la intensidad de la lampara de proyección.
2. Para 16mm se usa una lampara de 500 watt, y una de 1000 watt para 35mm (un chorro de aire ventila las lámparas en ambos casos).
3. Cada unidad está provista de un lente de proyección de 2 pulgadas y media.
4. Una palanca de control opera el motor y la lampara simultáneamente.
5. Capacidad de proyección: rollos de hasta 3000'.
6. Los rodillos de guía superiores operan con la película en ambas direcciones.
7. La tapa de la bobina de carga es desenroscable.
8. Una lámpara ubicada junto a la bobina de toma permite la inspección manual de la película antes que se rebobine en la bobina superior del proyector.

functions of the human speech mechanism. The circuits are electronically controlled by the playback unit to provide the essential dynamics of speech to produce synthetic speech. All parameters are programable so that they may be removed or isolated to study an individual contribution. The machine is designed to provide synthesized male and female speech as well as flexibility for the study of various speech parameters. It is used for research in the generation of synthetic speech from experimentally derived control functions. Applications include research in speech correction, speech pathology, speech pattern recognition and linguistic studies. It is priced at under \$10,000.

A tiny articulated television camera that can move around 16-in. radius bends in

pipes has been developed by Pye Laboratories Ltd., Radio Works, Cambridge, England. The camera is intended for use in the inspection of complicated pipeline networks. Measuring only 2½ in. in diameter, the camera can inspect pipes down to 2¼ in. i.d. It carries its own lighting system and amplifier. The overall length of the articulated assembly is 28 in. Power and control circuits are carried by a single multi-way cable to permit inspection of continuous lengths of piping up to 1,000 ft. The complete unit consists of two cylindrical stainless-steel sections—a tube assembly and a video amplifier and connector unit joined by a flexible metal coupling. An articulated optical assembly carrying the built-in lighting is fitted to the tube unit. Although not designed for underwater use, the camera is proofed against

accidental immersion up to a depth of 30 ft. The equipment, including control and monitor unit, is priced at about \$5,180.



The EG & G Model 590 Calibrated Lamp System, introduced by Edgerton, Germershausen & Grier, Inc., 160 Brookline Ave.,

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The system can be mounted on a desk or optical bench. The center housing segment includes a 3.0-in. aperture to simplify the custom mounting of lenses, filters and other optical elements for special purpose experiments. It is equipped with a demountable, variable-area iris with a maximum opening of 1½ in. The self-aligning lamp holder is adjustable for lamps of various lengths. The system is priced at \$1,980. The lamphousing is available separately at a price of \$295.

A continuous-loop tape playback system, said to represent a considerable advance over the firm's earlier Auto Mate system, has been announced by Orrtronics, Inc., Opelika, Ala. The system features a horizontal tape path to minimize distortion and skips. The pressure roller is located in the deck, or transport, instead of in the cartridge, so that the tape and drive capstan can disengage automatically when the power is turned off. This design is said to eliminate flat spots caused by storage pressure of a cartridge-contained pressure roller against the drive capstan. The cartridge utilizes 8 separate tracks on a ¼-in. tape with six hours of monaural recording available on a single cartridge.

A new long-life cathode has been invented at Bell Telephone Laboratories for use in such high-power, high-reliability electron tubes as klystrons and traveling wave tubes. Called a coated powder cathode, it is designed to withstand high current densities for extended periods. The cathode is said to have a predictable life expectancy of 20,000 to 30,000 hr when operated at a current density of 0.5 A/cm² and a temperature of 810 C. A similar life expectancy is expected when the cathode is operated at 1 A/cm². The new cathode is said to combine many features of the matrix cathode, used in high-power electron tubes, and the oxide cathode, used in low-power electron tubes. In making a coated powder cathode, carbonate particles are coated with a thin film of nickel in a reaction vessel. The nickel-coated particles are then sprayed onto a cathode base. During heat processing of the cathode, the carbonate converts to an oxide and forms a surface with a low work function, thereby permitting the cathode to emit electrons.

A new foil material for wrap-around shielding, designated Hipernom thin-gage alloy, has been announced by Westinghouse Materials Manufacturing Division, Blairsville, Pa. 15717. Designed for efficiency

and economy, the material is said to have a high initial permeability—approximately 30,000 at 4 gauss—thus permitting less material to be used in attaining a given shielding level. The foil material is available in thicknesses of 0.004 in. and 0.006 in. in widths of up to 15 in. Thicknesses of 0.002 in. are available on special order.

A new side-arm U-clamp that permits a variety of pipe lengths to be assembled as light ladders or tormentors for the theater has been announced by Lighting & Electronics, Inc., 81 Prospect St., Brooklyn, N.Y. 11201. The device features a single-screw locking action rather than the slip-locking principle. A leverage screw rocks or rotates the saddle until its teeth bite into the pipe surface, locking rather than clamping the pipes together. It is designed to permit spotlights to be mounted without removing the C-clamps. The unit is available in a wide range of pipe sizes. It is reported to have an 8,000-lb grip.

A line of xenon lamps ranging from 300 W to 6,000 W has been introduced by Westinghouse Electric Corp., Box 2278, Pittsburgh, Pa. 15230. The lamps are said to provide excellent color rendition with a color temperature of 6,000 K. An advantage of the new lamps is their long life; for example the 1,000-W lamp is rated at 1,500 hr. The 6,000-W was specially developed for space applications and missile photography. One lamp produces light equal to 275,000 lm. When inserted in the searchlight fixture, the lamp directs 80 million beam candlepower at the missile and provides about 350 fc on the surface of the missile.

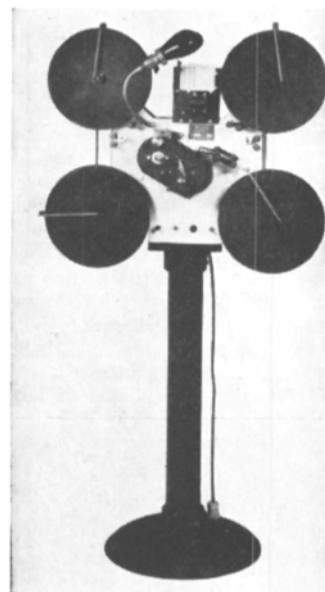
A new Sun Gun Movie light, designed for top mounting on Super 8 cameras, has been announced by Sylvania Electric Products Inc., a subsidiary of General Telephone and Electronics Corp., 730 Third Ave., New York, N.Y. 10017. Designated the SG55T, the light source is a type DWY 650-W, 120-V, iodine-quartz lamp. It is color balanced for Super 8 film and has a color temperature of 3400 K. It has an average rated life of 25 hr. The price is \$15.95.

A new line of spotlights incorporating a combination of anodized extruded and cast aluminum in the construction of the housings has been introduced by Lighting Equipment Co., 80 Scott St., Elk Grove Village, Ill. 60007. Listed as 6-in. Fresnel Lens Spotlight, the units incorporate a focusing screw adjustable from spot to flood position. All the units can accommodate 250-, 500-, or 750-W T-20 lamps and 1000-W lamps can be used in an 8-in. model. Each unit is equipped with a mounting yoke, "C" clamp for pipe mounting, color frame holder, hinged front for rapid relamping, vent holes, and 36-in. asbestos leads. The units are available in both round and oval beam models.

Variable and fixed broads, available as the Variable Broad (Code LQBF-10) and the Multi-Broad (Code LQBM-10F) have been announced by ColorTran Industries, 1015 Chestnut St., Burbank, Calif. Both



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are variable-beam single broads using 3200 K quartz-iodine lamps which operate from 120 or 230 V, ac or dc. They are said to maintain constant intensity. At 10 ft. field coverage of the Variable Broad can be continuously varied from a width of 24 ft at the medium-focus position to 45 ft at the wide-focus position. The Variable Broad produces 117 fc at 10 ft from medium focus to 59 fc at wide focus. The Multi-Broad produces 230 fc from medium focus to 61 fc at wide focus. The Variable Broad weighs 7 lb and measures 9 by 9 by 8 in. The Multi-Broad weighs 11 lb and measures 7 by 13 by 10 in.

The firm also announced that the Super-80 and Cine Queen lights are now available with quartz-iodine lamps. The Super-80, used as a fill light or for extensive coverage is available with 1,300-W R-80 quartz-iodine lamps, operating directly from 120-V, ac or dc. The Cine Queen, used as a medium range key light or a longer range flood, is available with Par 64 3,200 K or 3,400 K lamps.

A 200-W solid state power amplifier, designed for use in music and auditorium sound systems has been announced by Altec Lansing, 1515 S. Manchester Ave., Anaheim, Calif. 92803. Designated the 1590A, the amplifier features all-silicon transistors throughout. It can be used with Altec's Giant Voice outdoor warning system as well as for other indoor and outdoor applications. Specifications include a frequency response within ± 1 dB from 20 to 10,000 Hz, and a gain of 67 dB. Harmonic distortion is reported at less than

1.5% at 150 W, 65 to 10,000 Hz, and less than 4.0% at 200 W, 1,000 Hz. Input sensitivity is 0.8 V rms at 200 W. It is 10½ in. high, 19 in. wide and 8¼ in. deep. It is priced at \$345.

A new series of solid state audio recorder/reproducers has been announced by Ampex Corp., 401 Broadway, Redwood City, Calif. Designated the Ampex AG-300 Series it is described as an "advanced generation" of the 300 series. Features include an improved tape transport and console design improvements. New electronic features include tweaking adjustments on the front panel; plug-in equalizers; locking-type level set knobs to prevent accidental setting changes; and a "ready to record" light on the panel to permit visual confirmation of proper settings from remote locations. Features of the tape transport include a new, wider opening head gate for easier editing; a new ferrite erase head; improved turntable pins for positive reel stability; and easy access to control circuitry for quick servicing. Prices begin at \$2,630 for a single-channel model.

Ansochrome Cine Priority processing, described in the announcement as "¼-hour dry-to-dry professional quality" has been introduced by Bebell & Bebell Color Laboratories, Inc., 108 W. 24 St., New York, N.Y. 10977. The rapid processing is possible because of specially designed equipment and new chemical formulas. The processing is available in both 16mm and 35mm. The new process is used for all types of color processing including television spot news programing and commercials.



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Positions Wanted

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