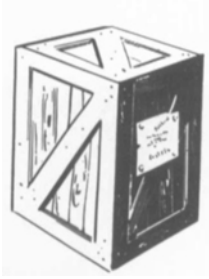
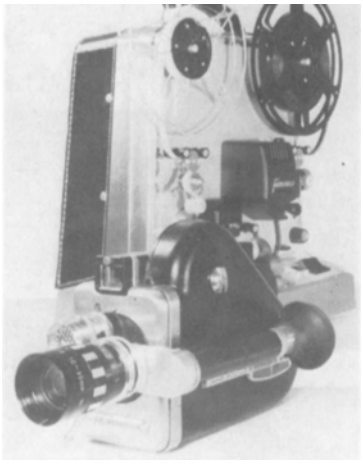


new products

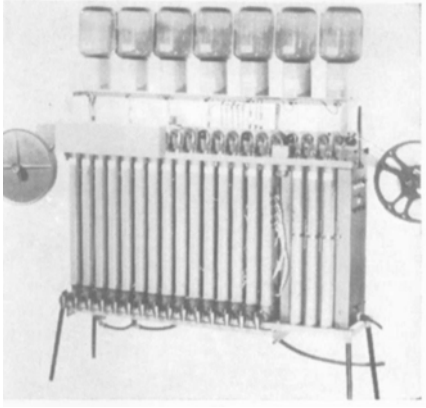
(and developments)

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.

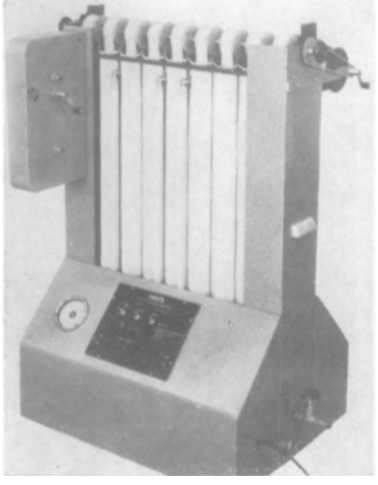


8mm magnetic sound film equipment manufactured by the Industrial Products Division of Fairchild Camera and Instrument Corp., Robbins Lane, Syosset, L.I., N.Y., has been adapted for television by Station KPHO-TV, Phoenix, Ariz., and used for news broadcasts. The equipment includes a lightweight (5-lb) camera with a built-in power supply and recording system, an 8mm projector (a specially developed version of the Cinephonic 8, built to TV projector requirements), and the Mini-Rapid 16 processor. The camera is designed to record on a 30-mil magnetic stripe which is placed on the film between the sprocket holes and the edge. A sensitive microphone permits the photographer to set the volume level according to the requirements of the situation. The amplifier and recorder will record in the ranges of 100 to 4800 cycles/sec. A 50-ft reversible film roll gives the photographer a total shooting time of approximately 5 min. In the initial newscasts, two prestriped films were used, Du Pont 931 and Eastman Kodak's Tri-X.

The film was first processed as a negative, then split to the 8mm size, spliced, and run through the adapted projector. The electrical polarity of the tube output was then reversed, giving the screen a positive image. The projector outwardly resembles the standard unit, but the inner components have been redesigned. The drive motor is a synchronous type (115-v; 1800-rpm; 1/50-hp). The standard 3-blade 55° shutter was replaced with a 5-blade 50° shutter to make the projector compatible with the scanning rate of the vidicon, synchronized with the standard 60-cycle reference. A variable intensity control was incorporated to allow changes in the projector light output. Projection is into a field lens (from a 2-in. lens) which is observed by the vidicon tube. The projector weighs 25 lb.



Automatic continuous film processors for industrial, TV news and microfilm applications are produced by Fulton Productions, Inc., P.O. Box 980, Tulare, Calif. The units are daylight operated, portable and operate from any 115-v outlet. Water and drain connections use $\frac{3}{4}$-in. garden hose. Models are available for negative, negative/positive, reversal, Ektachrome and Anscochrome, as well as microfilm emulsions. The 1200-ft daylight film magazine uses a "maze" light-trap which allows passage of staples or tape. Quick-change drive motors allow selection of film processing speeds from 2 ft/min to 16 ft/min. Prices begin at $1875 for the standard 16mm 8-ft/min B&W reversal model.



The Lawlette Daylight Film Processing Machine, manufactured by Newman & Guardia Ltd., Harlow, Essex, England, and distributed in the U.S. by Lipsner-Smith Corp., 3475 West Touhy Ave., Chicago 45, Ill., is made in four models: Model 16S — with sprocket drive for 16mm perforated film; Model 35S — with sprocket drive for 35mm perforated film or paper; Model 16F — with friction drive for 16mm nonperforated film; Model 35F — with friction drive for 35mm nonperforated film/paper.

All models are equipped with 100-ft magazines, although 400-ft magazines are available. The machine develops, fixes, washes and dries up to 400 ft of film with each charge of chemicals within commercial sensitometric limits, at speeds from 2 to

8 ft/min and up to 15 ft/min for special requirements. Measurements are 21 × 21 × 48 in. high, weight is approximately 75 lb. The path length through the machine is 50 ft.

The same company manufactures the Lawley Junior combination 16/35mm and 16mm processing machines. In these machines developer solution is recirculated at the rate of 25 g/min. Accurate gamma control can be maintained, it is said, for 6000 ft of 35mm fast panchromatic material or its equivalent, without replenishment. Output of the 16/35mm machine is up to 40 ft/min, and of the 16mm machine, up to 80 ft/min. An air knife sited after the final wash is a feature of the design as it permits the use of low-temperature drying. Drying temperature never exceeds 90 F.

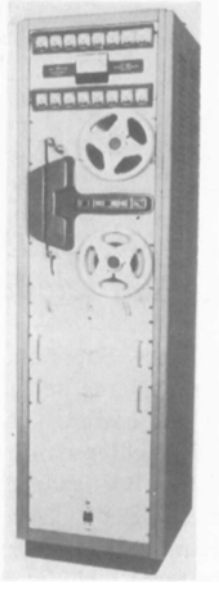
These machines, as well as the smaller Lawlette models described above, are designed for rapid processing of comparatively short lengths of film and are thus particularly adapted to the processing o news film and other types of film for television. They have been in use for some time by the B.B.C. A paper describing them, by L. J. Wheeler, of the B.B.C., was presented at the 87th Convention in Los Angeles, and subsequently published as B.B.C. Engineering Division Monograph No. 30, in May 1960. Another B.B.C. Monograph, No. 33 of December 1960, refers to the Lawley machines in use at the Alexandra Palace studios in a general study of sensitometric control in film making.

Visitors to the 89th Convention in Toronto will have an opportunity of seeing the Lawlette machine on display in the Equipment Exhibit, and a brief description is scheduled for the Equipment Papers and Demonstrations Session on Wednesday afternoon, May 10.

A rental program for animation studios and equipment has been announced by Florman & Babb, Inc., 68 W. 45 St., New York 36. Completely equipped, air-conditioned animation studios in New York are available on a daily, weekly, or longer basis. Rental stands include a fully equipped 11-ft-high Portman stand (1 to 40 field), featuring a double rotary compound (used for single-movement diagonal pans) floating unit; multiplane table; automatic electric zoom focusing and other features. The Acme-Portman 16mm – 35mm rack-over camera is also available as well as less complex stands for simple animation.

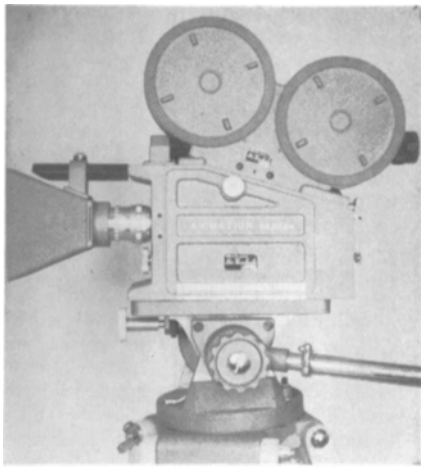
A method of eliminating noise from air conditioning systems, designed by the Sound Control Department of Koppers Co., 3450 Wilshire Blvd., Los Angeles, has been installed in TV station KNXT, Hollywood. The system consists of 14 "sound traps" called Aircoustats which route the noise-ladened air through a maze of passages made of perforated galvanized steel and filled with fiber-glass matting. The matting is used to absorb the noise so that the cooled air may silently proceed to its destination. Each of the sound traps is 8 ft long. Two are installed in the main air-conditioning duct immediately where the air comes from the fan system. Nine traps are installed in individual ducts leading to recording studios and three are located in return ducts to eliminate any "backing up" of fan noise.

An acoustic antifeedback circuit (frequency-shift modulator) has been designed by Bell Telephone Laboratories especially for use in large meetings where feedback and instability in public address systems can be a particularly obstinate problem. The circuit is based on the principle of electrically shifting the frequency of sound signals by five cycles for each round trip from the microphone to loudspeakers and back to the microphone via reflections in the room. Researchers have found that such small frequency shifts of speech signals are almost imperceptible to the human listener. At the same time, these shifts in frequency cause acoustic energy generated at the room's gain peaks to be quickly dissipated in the valleys of its response. The room then appears to have a flat rather than a jagged frequency response which would allow public address systems to be operated safely at maximum volume.



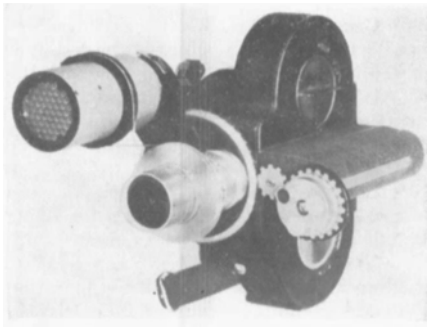
The Magnasync Series T-1000 magnetic tape recording/reproducing systems, announced by Magnasync Corp., 5546 Satsuma Ave., North Hollywood, are available with as many as 20 channels for the simultaneous recording of voice-frequency program material. The series includes a variety of tape speeds and capacities, with recording and reproducing time ranging from 8 to 24 hours. Features include plug-in transistorized circuitry; Magnasync's "synkinetic" dual-flywheel flutter-free drive; straight-line threading; differential double-capstan drive; synchronous motor to drive the tape at uniform velocity; positive, phototransistor shutoff at both ends of the reel; monitoring at high speed rewind or fast forward with special "cuing" device; provisions for remote control. The system can be packaged in a single rack cabinet or in tandem with automatic switchover to companion recorder. Optional features include a "fail-safe" sensing system which automatically starts the tandem recorder and energizes a visual and audible alarm in the event of mechanical or electronic failure; variable-speed drive; interjection of time reference signals; high-frequency erase; packaging in wall cabinet with front service access, or in a self-contained mobile trailer. The price range is from $6000 to $9000, depending on the number of channels.

Two new pushbutton zoom cameras have been added to the Director series of 8mm electric eye cameras produced by Bell & Howell, 7100 McCormick Rd., Chicago 45. Called the Zoomatic with Duo Power one of the cameras is a roll film model, designated 414P, providing a 15-ft film run for each winding, and the other is a magazine model, designated 424P, transporting 11 ft of film. The 414P is priced at $239.95 and the 424P is priced at $259.95.

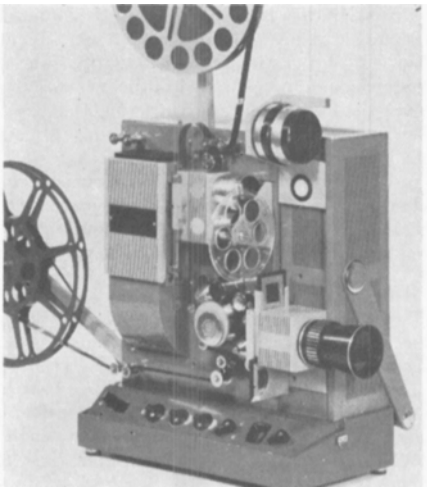


A 16mm Animation Camera based on the design of the firm's 16mm Professional Camera has been announced by Doi Kosakusho Co., Tokyo, Japan. The camera is linked to a stop-motion device. It features film movement with a registration pin to ensure steadiness of the camera image, with double or triple exposure if desired. The shutter opening, ranging from 0 to 165° can be varied while filming. According to the announcement, the prism is shifted aside by means of a knob located on the front of the camera which closes a shutter to prevent light coming back from an eye-piece, actuating simultaneously a built-in microswitch for the motor.

FS Multi-Layer, High-Efficiency Interference Films, developed by Fish-Schurman Corp., 70 Portman Rd., New Rochelle, N.Y., utilize the phenomenon of optical interference at the boundaries of materials of high and low index of refraction. Each boundary reflects radiation whose phase depends on the various thicknesses, indices of refraction and wavelength. The reflection may be made to vary with wavelength in a variety of ways. Since the multilayer system is composed of practically absorption-free, dialectric materials, the transmission for any curve may be ascertained with little or no error by subtracting the reflectance values from 100%. Glass plates or prisms are used as bases on which are deposited the different materials by evaporation under high vacuum. As many as 19 separate layers may be used to obtain a desired result. The films are available in three classifications, Selective Reflection in the Visible (400 mμ to 700 mμ); Infrared; and Achromatic. Available in size 50 by 50 by 3 cm at a price of $15.00; other types and sizes are available on special order.



The Model VI-4 Autex has been added to the line of automatic photographic exposure controls for photoinstrumentation produced by Flight Research, Inc., P.O. Box 1-F, Richmond 1, Va. New features include a simpler method of matching to the iris diaphragm of any lens; internal limit switches; removable photocell for remote locations; and simplified construction and mounting. The device, normally used for motion-picture work, is designed to be mounted on any camera and to drive the iris ring of the lens. A simple Index Dial adjusts the control for all film speeds, frame rates and shutter openings. A Lens Dial, which is set only once for any given lens, adapts the control electronically to the lens. The high-speed mechanism responds to changes in light level as fast as seven stops per second. The transistor circuit is mounted in a control box of less than 0.04 cu ft.



A 16mm sound projector called the Vario-projector, reported in a recent issue of the *Hungarian Exporter*, was developed by Gyula Urban, a young Hungarian scientist. Features of the projector include the Anamorphot, a large-screen optical adapter, normally changeable in a casing moving on a slide, with spring case-binding pin; the bioptiksystem, a double-lens casing moving on a slide way, with position fixer, for the protection of slides and films; the Variodia, a slide projecting adapter to be fitted to the optical lens of the sound film projector; the Variomikro Adapter, a micro-projection accessory for the projection of microscopic slides; and the Variophon, a combined optical and sound adapter.

The Gossen-Lunasix Electronic Exposure has been designed to achieve a high degree of sensitivity by means of a specially developed photoconductive element incorporated into a sophisticated circuit and powered by a minute ($\frac{1}{4}$ by $\frac{3}{4}$-in.) long-life mercury cell. Produced by the Gossen Electrical Instrument Co. of Germany and introduced in the United States by Kling Photo Corp., 257 Park Avenue South, New York, the meter is said to approximate the human eye in its spectral response, and to be able to indicate exposure at extremely low light levels. The meter weighs 7 oz and measures $2\frac{3}{4}$ by $3\frac{3}{4}$ by $1\frac{1}{4}$ in.

The 764W Tele-Sonic Wireless Remote Slide Projector introduced by Bell & Howell, 7100 McCormick Rd., Chicago, 45, uses ultrasonic sound waves to focus and change slides. The remote control has two miniature transmitters which vibrate and create sound waves in the same way as a tuning fork. The sound waves created by the transmitters are ultrasonic waves capable of operating the projector but too high to be heard by the human ear. One transmitter sends high-frequency waves at 36,500 cycles/sec for focusing; the other sends high-frequncy waves at 40,000 cycles/sec to change or advance slides. The transmitters are operated by two buttons on the remote control. An ultrasonic receiving unit in front of the projector picks up the inaudible sound waves and triggers the focusing and slide advance mechanisms. The projector is priced at approximately $269.95.

The Simoramic Spectrum Analyzer Model 4A has been announced by Federal Scientific Corp., 615 W. 131 St., New York 27. Operating in real time, the instrument is designed for simultaneous analysis over the frequency range of 1 to 200 cycles/sec without the use of contiguous filters. It has a 3-db resolution of 1.3 cycles/sec and its 40-db bandwidth is 12 cycles/sec. The instrument is a delay-line synthesized Fourier analyzer operating at theoretically maximum information extraction rate.

Multiple Octave Band Filters, Models 358 (8-octave) and 359 (9-octave) have been announced by Allison Laboratories, Inc., 11301 East Ocean Ave., La Habra, Calif. The band filters are paralleled with individual rms meters on the output of each band. The meters have a 16-db range. A 30-db attenuator for each meter gives a measuring range of 46 db. Separate output acks for each band have a dynamic range of 76 db. The filters are passive networks said to have very low noise level and good response to transient peaks. Attenuation outside the passband is at the rate of 40 db per octave. Model 358 is priced at $2635 and Model 359 is priced at $2990.

A limited number of 8mm resolution targets for camera and projector lens tests and evaluation, originally manufactured for the firm's own use, are now available from Wollensak Optical Co., 850 Hudson Ave., Rochester 21, N.Y. Queries should be addressed to David C. Gilkeson, Chairman, Engineering and Product Development. The targets are on $\frac{11}{32}$-in. by $\frac{15}{32}$-in. glass plates. The patterns are located in center, corners, sides and top and bottom of the 0.125-in. by 0.1875-in. area. Each

pattern is comprised of 20, 30, 40, 50, 60, 80, 90, 100 and 110 lines/mm targets. The targets are priced at $50.

A test instrument for determining VSWR and attenuation values of r-f components or circuits has been announced by Telonics Industries, Inc., Beech Grove, Ind. The test set uses a pair of coaxial switches operating at 30 cycles/sec to produce a dual oscilloscope trace. The two traces, representing a reference value and an unknown provide instantaneous readings of VSWR or attenuation for the device under test. The test set, called Model SP160, operates over a frequency range of 200 to 475 mc, and uses a Telonic SD-2M Sweep Generator to provide the swept signal. A comparator module, equipped with input terminals and two r-f attenuators, is incorporated with the sweep generator to complete the test set. The instruments are supplied for various applications and prices range from $1600 to $1800.

A turret attenuator unit covering the 0–59 db range in 1-db steps has been announced by Telonic Industries, Inc., Beech Grove, Ind. The device, called the TAB-50, is designed for use in the d-c to 1250-mc frequency range. The firm has also announced a Decade attenuator, the model TAD-50, designed for r-f signals in the d-c to 1250-mc range. The unit contains three separate turret attenuators, two covering a 0–50-db range in 10-db steps, and the third turret covers a 0–10-db range in 1-db increments. Internally connected in series, the three provide a total of 110-db attenuation, adjustable in 1-db steps. It is priced at $325. Also available is a coaxial switch for use with r-f circuits over a wide frequency range. Called the TS-1, it is a double-pole, double-throw unit covering frequencies from d-c to 1000 mc, and said to be useful to 1500 mc. It is priced at $45.

A digital computer system called TASCON (Television Automatic Sequence Control), designed especially for automatic switching in broadcasting stations, has been developed by TRW Computers Co., Division of Thompson Ramo Wooldridge Inc., 202 North Canon Dr., Beverly Hills, Calif. The new system can store switching orders for the entire program day in the computer memory, including orders for equipment warm-up or prestart. The system also permits changes to be entered at any time. This flexibility is possible because the operator can communicate directly with the digital computer, which is designed for quick access to the information stored in its magnetic-drum memory. The circuits that activate the programming controls are compatible with any of the voltage levels used in the switching circuits of TV stations. Although the primary function of the system is automatic switching control, it can also be used as an aid to program scheduling and operations, for maintenance checkout of video and audio systems and for record keeping to simplify accounting. The system employs solid-state components, modular construction, plug-in circuit cards and mercury-wetted contact relays. It uses many of the circuits and components of the RW-300 Digital Control Computer, developed early in 1959 to control petroleum and chemical processing units. (See the first paper in this issue of the *Journal*.)

A TV "studio on wheels" has been equipped by Radio Corp. of America for Video Tape Unlimited, Inc., 144 E. 57 St., New York. The bus is 40 ft long and has a control room capable of seating nine persons. Technical equipment includes four RCA image-orthicon TV tape recorders, special-effects system, a generator, audio tape facilities, record turntable and other broadcast equipment. The bus also contains its own lighting equipment and reflectors for night use. Camera platforms are attached near the front and rear bumpers. Cameras used at one location can be kept in place on these platforms while the bus moves to a new location. All four cameras can be attached to the roof of the bus, or two placed on the roof, and one on each platform, with filming continuing at bus speeds up to 70 mph.

An experimental system for transmitting video information via modulated ultraviolet has been developed as part of a program of research in ultraviolet space communications conducted by Westinghouse Electric Corp., Box 2278, Pittsburgh 30, Pa. The system employs a standard Westinghouse 5ZP16 cathode-ray tube as both a source and a modulator of ultraviolet. A conventional ultraviolet-sensitive photomultiplier is used to receive the transmission. Input signals are supplied to the system by a standard television camera and the output image is displayed on the screen of a standard TV receiver. During a series of experiments, the short-persistence phosphors of the 5ZP16 tube produced a radiated output of one watt of ultraviolet from a 0.011-in. spot when bombarded by a 30-kw, 0.335-ma electron beam. Focused into a 0.033-degree conical beam by a one-meter optical reflector of 19-in. focal length, the power density of 10.3 kw/sq in. was found to be sufficiently intense to permit communication over a 10-cycle band at distance of about 15 million miles. At ranges in the order of lunar distance, it would be sufficient for the transmission of video information.

Adler Translators, automatic receiver-transmitters designed to bring TV reception to unserved areas, are produced by Adler Electronics, Inc., One LeFevre Lane, New Rochelle, N.Y. The translators also are used for production-line testing of UHF TV receivers. Signals from the translators, which convert off-air VHF TV programs to UHF channels, are fed to test positions via coaxial cable. Power-splitting devices permit the 10-w output of each translator to cover the required number of alignment and sensitivity test positions.

An x-ray system, called the Televex, developed by Westinghouse Electric Corp., 2519 Wilkins Ave., Baltimore 3, Md., is used for diagnosis and study of patients. Radiation passing through the patient is picked up directly by an image amplifier, without any involvement of a fluoroscopic screen. Intensified about 1500 times, the image is transmitted by an optical system to a television camera and then to one or more monitor units. Simultaneously the motion

study can be transferred to tape for repeated viewing or transferred to film for permanent record. A separate operating feature is the ability to magnify images electronically for close-up viewing.

The addition of nickel-cadmium batteries to its line of industrial storage batteries has been announced by the Exide Industrial Division, Electric Storage Battery Co., Rising Sun and Adams Ave., Philadelphia 20. This type of battery, which has nickel and cadmium oxide active materials contained in perforated steel pockets of the positive and negative plates, is used in special applications including emergency lighting systems, switchgear tripping in electric utility substations, and for stand-by use to assure continuous operation of microwave systems.

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

Positions Wanted

Engineer-Administrator. Have designed, set up and managed motion-picture laboratories in color and black-and-white. Familiar with full range of operations and equipment in a laboratory. Graduate M.I.T.: M.S. in Chemical Engineering, B.S. in Business and Engineering Administration. Several languages. Desire challenging position. Apt. 2J, 130 Orient Way, Rutherford, N.J. WEbster 3-3238.

Representative. Graduate student working towards doctorate in Educational Television, receiving M.A. in motion pictures June 1961, B.A. in theater television, will be touring Latin America covering 64 cities in 20 countries and contacting over 100 television stations and 200 producers of newsreel, documentary, educational, television and feature films. Tour will be repeated each summer for three years. Also background three yrs electrical engineering and four yrs sales. Will represent your company and translate brochures into Spanish or Portuguese. Don Stewart, 2005 Sixth St., Santa Monica, Calif. EX 9-6795

Film Production Administrator. 24 yrs experience in industrial motion-picture and general photography production. Technical background in most crafts; writer and director-cameraman. Until recently vice-president in charge of sales for production company in New York; familiar with government contracts and security problems. Currently free lancing but wish to settle down again; will relocate. Dermid Maclean, 8 Cameron Rd., Tenafly, N.J.

Cameraman-Director, 40, Class "A" IATSE New York, seeks interesting, challenging assignment or top position. 19 yrs production work in studio and on locations all over Europe, Asia and Africa. Producer for U.S. Government; experienced in studio and production center organization, training of technical staff, supervision of film editing and completion. Technical consultant, familiar with most U.S. and foreign equipment. Fluent German, French, some others. Writing credits; internatl. film award. Prefer educational and documentary field, also highly technical training and industrial films. Shooting all types of productions; flawless and imaginative coverage on any subject, anywhere. Permanent relocation possible. Cinematographer, 92 Park Hill, Massapequa, L.I., N.Y. LI 1-9487.

Cameraman-Editor. Since 1935 active in production of documentaries, television commercials, educational, industrial and progress report films, can handle both 35mm and 16mm black-and-white as well as color. Wants steady work or assignments, anywhere. Can edit A and B rolls, and write own scripts. Modest fee. Will send resume on request. Henrick N. Weener, 1215 Cabrillo Ave., Venice, Calif. EX 9-5692.

Positions Available

Equipment Maintenance Men. Experienced in service and repair of one or more of the following types of equipment: Moviolas, sound projectors, Mitchell, Bell & Howell and Arriflex cameras, lens testing and calibration, audio and electronics for magnetic recorders and amplifiers, lighting and electrical equipment, machine shop. Write fully—experience and salary required. A. Florman, Florman & Babb, 68 West 45 St., New York 36.

Film Production Aide. The New York State Department of Civil Service will conduct an examination for Film Production Aide on April 29, 1961. Salary $3500 to $4350 in five annual increases. Open only to New York State residents. A Film Production Aide assists in preparations for shooting of motion picture film. Requires one year of paid experience in motion picture or television work and either one year of experience in operation of motion picture projector or one year of training in photography or television production or equivalent training and experience. For details contact the Recruitment Unit, Box 84-A, New York State Department of Civil Service, The State Campus, Albany 1, N.Y.

Soundman. Motion-picture recording studio requires alert soundman for staff. Must know all phases of sound recording including RCA equipment. Send resume to 446 East 86 St., Att: Monahan, Rm. 6-C, New York 27.

Film Processor. Motion-picture recording studio requires man for developing film in laboratory. Experience. Permanent. Write particulars to Mrs. M. Monahan, 446 East 86 St., Rm 6-C, New York 28.

Motion Picture Sound Engineer. Experienced in recording motion picture soundtracks, transferring and mixing. Familiar with design and circuits of professional equipment. Desire to work for religious film unit. Write for application to TRAFCO of The Methodist Church, c/o Duane Muir, 1525 McGavock St., Nashville 3, Tenn.

Closed-Circuit TV Technician or Engineer. Experienced. Must be familiar with all phases of closed-circuit television systems. To work with Chief Engineer of West's largest producer of CCTV equipment. L. G. Schlicht, 1920 So. Figueroa St., Los Angeles 7, Calif. Richmond 8-2852.