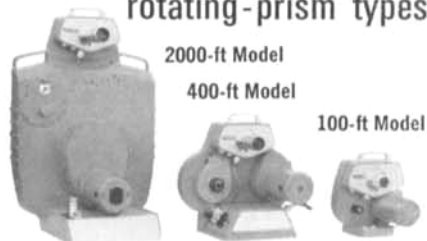


# HYCAM CAMERAS

STANDARD OF EXCELLENCE  
among 16-mm high-  
speed motion-picture  
rotating-prism types



20 to 44,000 pictures per second

## \* HIGHEST RESOLUTION

Hycam pictures resolve 68 lines per millimeter both in the vertical and horizontal directions, giving the steadiest highest-quality images in the field.

## \* WIDEST SPEED RANGE

Various Hycam models have framing rates as low as 20 pictures per second and as high as 44,000 pps. 400-ft models have built-in electronic speed control for flat speed curves.

## \* GREATEST FLEXIBILITY

Full-frame, 1/2-frame, or 1/4-frame 16-mm quickly interchangeable with basic camera. Cine-oscillography, streak or time-lapse photography. Hycam can also be used as a motion-picture projector, uses c-mount lenses of all focal lengths.

## \* LOWEST COST

In spite of its superior performance, Hycam is about half the price of other 16-mm rotating-prism cameras.

## \* FULL LINE OF ACCESSORIES

TIMING-LIGHT GENERATORS  
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TRIPODS  
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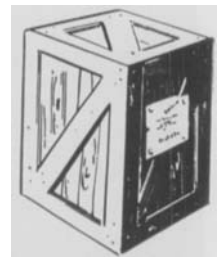
Zessner, Walter, Instructor. Geo. Brown College. Mail: 78 Oak Park Ave., Toronto 13, Ont., Canada (A)

## WASHINGTON SECTION

Beuchert, George H., Jr., Gen. Counsel & Dir., Byron Motion Pictures. Mail: Union Trust Bldg., Washington, D.C. 20005 (A)  
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Pomroy, Robert A., Sr. Engr., Fairchild Hiller Corp. Mail: RFD #5, Frederick, Md. 21701 (A)  
Smith, David E., III, Student, Howard Univ. Mail: 1529 S. 11 St., Arlington, Va. 22204 (S)  
Snow, Julian B., T.V. Techn., Gallaudet College. Mail: 4818 17 St., N., Arlington, Va. 22207 (A)  
Werbickas, Francis J., Dir., Photo Serv., Gallaudet College. Mail: 5410 75 Ave., Lanham, Md. 20801 (A)  
Wilke, Donald J., Video Engr., Secretary, International Telecomm., Inc., P.O. Box 405, Cockeysville, Md. 21030 (A)

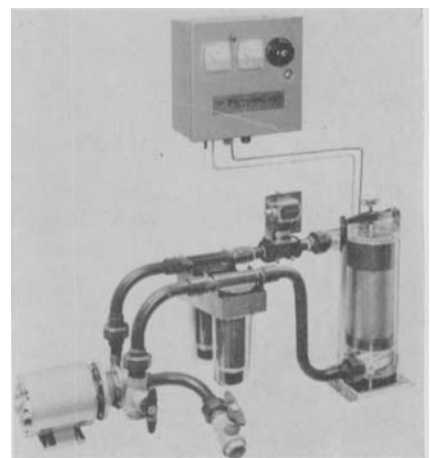
## INTERNATIONAL

Allen, John, Head of Film Div., C. Z. Scientific Instruments Ltd. Mail: 111A Lisson Grove, London N W 1, England (A)  
Bonicelli, Giovanni, Student, Centro Sperimentale Di Cinematografia. Mail: Via Dacia 20, Rome, Italy 00183 (S)  
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Katez, Didier A., Fomento de Television Nacional, S.A. DE C.V., Antiguo Camino a Acapulco #232, Mexico (A)  
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Lodge, P. B., Dir., Sound Associates Ltd., Redan Place, Queensway, London W.2, England (A)  
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Mendy, Juan J., Student, Escuela Oficial De Cinematografia. Mail: Apartado 2036, Madrid 2, Spain (S)  
Murison, Stanley C., Tech. Asst., Bell & Howell Ltd. Mail: 9 Leas Rd., Warlingham, Surrey CR3 9LN, England (M)  
Oakley, Donald L., Chf. Cameraman, National Film Unit, P.O. Box 15022, Wellington, New Zealand (A)  
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Potashnick, Al, In charge of Sound Dept., Capital Films Ltd., 9 HaMaayan St., Ein Kerem, Jerusalem, Israel (M)  
Syvapuro, Aarne, Managing Dir., Syvapuro Laboratory, Kasarmikatu 15A, Helsinki 13, Finland (A)



## new products (and developments)

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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.



The Photomec Silver Recovery Unit (SRU) has been announced by Bell & Howell Ltd., Photo Products Group, Alperton House, Bridgewater Rd., Wembley, Middlesex, England. The unit is designed to maintain the silver content of the fixing bath at the optimum level and to recover the silver in an easily removable form. Tanks from 25-gal upwards can be served either by single units or, for high-capacity plants, with a bank of SRUs running in series with one pump. The SRU is provided with quick-change cathodes from which the silver deposit can be easily released. The amount of silver recovered is directly proportional to the current applied to the recovery cell and the time during which the current passes. The complete system (Model S/A) comprises the recovery cell, circulation pump and tank, low voltage power unit, output filter, 25-micron stainless-steel mesh elements and mounting bracket. The system is also available as Model S/B comprising the recovery cell, low-voltage power unit, circulation pump, flow switch, and inlet and outlet filters of stainless-steel mesh elements. Price of the complete silver recovery units is in the region of £ 400 to £ 420. Model S/C consists of the recovery cell only and is priced at £ 185.

Two new lenses, the R7 and the Automatic Iris Zoom, have been announced by Angénieux Corp. of America, 440 Merrick Rd., Oceanside, N.Y. 11572. The R7 is an extreme wide-angle lens for 16mm motion

Suppose you need a sequence of information... immediately. And the recording device must be remote. And the image resolution must be very sharp. And electronic methods haven't worked for you.



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pictures. The lens (5.9mm,  $f/1.9$ ) has a  $94^\circ$  field angle on a 0.5-in. image diagonal. At a distance of 3 ft the field covered is 3 ft, 4 in.  $\times$  4 ft, 8 in. The R7 is 3.70 in. long (measured from the image plane) with a maximum diameter of 3 in. It weighs 4 oz and is supplied with a fixed focus mount. At full aperture a sharp image is obtained of objects between 20 in. and infinity. It is priced at \$480.

The Automatic Iris Zoom is designed especially for television news and industrial use. The light that passes through the entire lens is measured by a CdS cell. The metered response is amplified by transistors and sent to a controlling device which feeds the proper information to the micro-motor which in turn opens or closes the diaphragm. The adjustable control will accommodate all film emulsions within a range of ASA 10 through 400. Exposure times of  $1/5$  through  $1/160$  seconds can be applied; the iris may be fully opened for critical focusing by pressing a button. When the button is released the iris returns to automatic control. When the power is switched off the iris can be manually set. Two TR 132 mercury batteries are used to drive the mechanism. The lens (10  $\times$  12 BDA — 12 to 120 mm,  $f/2.2$ ) is priced at \$1,155.

The Automatic Iris Zoom will be available also as 6  $\times$  12 BDA (12.5 to 75mm,  $f/2.2$ ) and 10  $\times$  9.5 BDA (9.5 to 955mm,  $f/2.2$ ).

A new Soliger 500mm  $f/5$  preset telephoto lens designed to fit practically all 35mm SLR cameras has been announced by Interstate Photo Supply Corp., division of AIC Photo, Inc., 300 Park Ave. South, New York, N.Y. 10010. The lens is attached to the camera by means of a T-2 mount. The aperture range is from  $f/5$  to  $f/32$  and the focusing range is from 40 ft to infinity. The lens is 17 in. long and the angle of view is  $4.4^\circ$ . It is priced at \$399.50.

A long optical bench, developed to accommodate longer optical systems and lasers has been announced by Data Optics Inc., 115 Holmes Rd., Ypsilanti, Mich. 48197. A remote lens-focusing system allows lenses to be focused individually or in sets from any position on the bench. Lens mounts can be placed on the bench facing left or right or used off the bench on any flat surface. The bench is designed for accuracy to  $\pm 0.001$  in. per ft,  $\pm 0.003$  in. overall. The price is \$1,580 for a bench 12 ft long.

A new process called Hibadye, used in retouching or coloring black-and-white prints and for adding color to natural color prints has been announced by Jamieson Products Co., 9341 Peninsula Drive, Dallas, Tex. 75218. The color remains on the surface so it can be blended or wiped off before being set into the print by moisture from the breath. Successive applications can be made without disturbing previously set colors to give smooth color spreading with any desired color intensity from tints to brilliant tones and from grays to blacks. The dyes can be mixed with Hibadye regulator to limit depth of tint and a remover is supplied for quick removal of

color. A set consisting of color, control solutions and instructions is priced at \$18.00.

A color swatch book set consisting of a Roscogel swatch book with samples of 74 colors and book of 52 Roscolene shades is available from Rosco Laboratories, Harrison, N.Y. 10528. Qualified lighting designers may obtain a color swatch book set without charge by writing to the Rosco Laboratories. Additional sets are available at a price of \$2.00 each.

Eastman Direct Print Film 5360/7360 (formerly designated Type SO-127) has been introduced by Eastman Kodak Co. The film can be used for preparing black-and-white work prints from black-and-white or color positives and for making musical scoring prints. The film is a low-speed, fine-grain, high-resolution orthochromatic film with an effective printing speed about 0.8 log E slower than Eastman Fine Grain Release Positive Film 5302/-7302. Prices begin at \$0.02300 per ft for Film 5360 and \$0.01225 for Film 7360.

The film has been described in a paper presented at the Society's 104th Technical Conference in Washington, D.C. ("Duplication Negatives and Prints Using Direct Print Film" by C. M. Kretchman, F. W. Spangler, R. A. Morris and R. K. Schafer).

A new vesicular film designed to be 10 times faster than present vesicular films has been developed by the Kalvar Research and Development Laboratory, 907 South Broad St., New Orleans, La. 70125. The film, designated KDR (Kalvar Direct Recording) is described in a paper by Vernon L. Wagner, Jr., Director of Chemical Research and Development, which was presented at a symposium on Photo-Electronic Imaging conducted by the Society of Photographic Scientists and Engineers on November 2 in Washington, D.C.

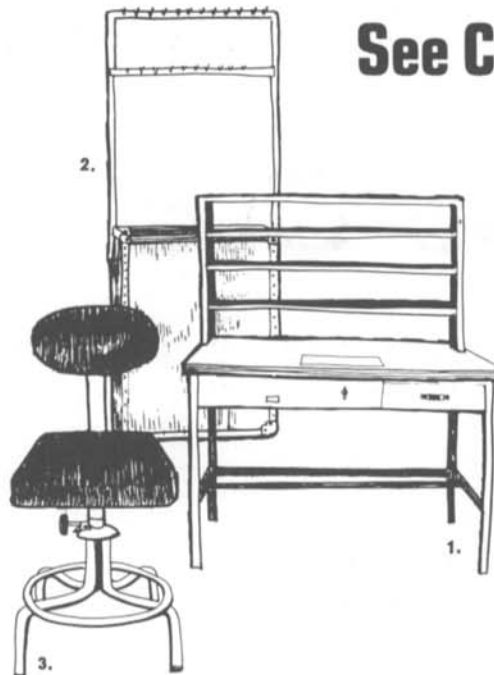
Kalvar vesicular films do not use silver and are exposed with high-intensity ultraviolet light and processed by heat and light alone. The new film is designed for direct recording, through light-amplification techniques, such as lasers, of photoelectronic information generated by vidicons or television-type cameras. The film is expected to be usable, also, for camera exposures where the subject is not moving and where high-intensity ultraviolet illumination can be tolerated.

Metro/Kalvar, Inc., 745 Post Road, Darien, Conn. 06820, has announced 16mm and 35mm black-and-white laboratory and production services. The firm, distributor of Kalvar heat-developable photographic film, maintains a laboratory in Culver City, Calif. Services include original processing, dupe negatives, 35-16 reductions and composites as well as Kalvar work prints, release prints and filmstrips.

Fourteen new tungsten-halogen lamps for television and motion-picture studios have been introduced by Sylvania Electric Products Inc., 730 Third Ave., New York, N.Y., 10017. The new lamps were exhibited at the Society's 104th Technical Conference in Washington, D.C. Features

# Editing Equipment for motion picture and TV?

## See Camera Mart.



1. CAMART EDITING TABLE Custom-built, heavy-duty all welded steel construction, genuine formica top (flush trim). Built-in light-well (9" x 12") with 1/4" frosted plexiglass. U.L. approved. 28" x 33" x 60" with light box \$129.50, without light box \$109.50, other sizes, prices on request. (Packing charge for deliveries outside New York City Area.)

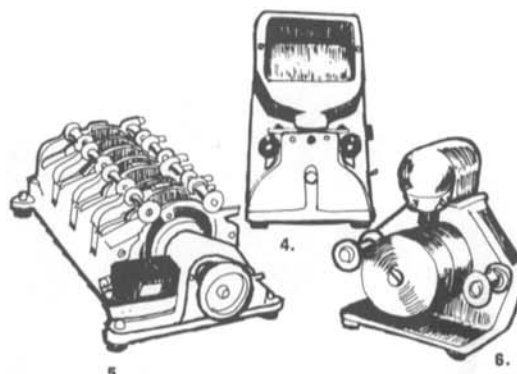
2. CAMART FILM BIN • Rectangular construction—30" x 24" x 12" • Vulcanized fiber with reinforced metal frame • Double-row racks. Complete with rack and scratch-proof liner. With skids \$43. with casters \$48.75

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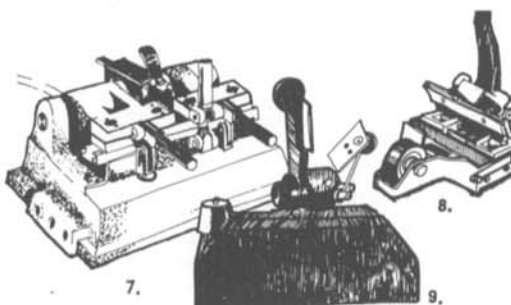
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## Uhler Motion Picture Film Printers

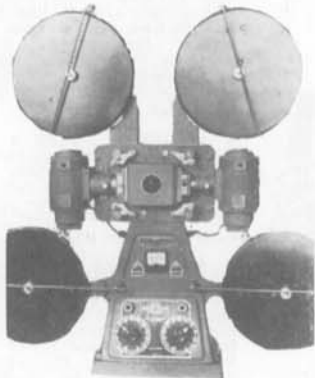
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include uniform light output throughout the life of the lamp, thus eliminating the necessity of making lighting adjustments, to compensate for diminishing light output, and greatly reduced bulb size. The lamps are designed for low-noise operation even when controlled by electronic dimmers. They are available in wattage ranges of 500 to 1000 and 1000 to 2000. Further information is available by requesting Technical Bulletins WC-195, WC-196 and WC-197 from Sylvania Products Inc., 1100 Main St., Buffalo, N. Y. 14209.

The Sparkle Filter for special-effect photography has been announced by Herron Optical Co., a division of Bausch & Lomb, 2035 E. 223 St., Long Beach, Calif. 90810. The filter is used to create a sparkle effect or dreamlike sequences such as those seen in *Sound of Music*. It was originally made to special order for motion-picture studios. The filter is made from optical flat glass and is available in sets of three (2X, 3X and 4X) and in sizes from 1½- to 6-in. diameter. Prices range from \$50 to \$295 for sets of three filters.

A new shoulder brace designed for use with the Eclair camera has been announced by Alan Gordon Enterprises, 5362 North Cahuenga Blvd., North Hollywood, Calif. 91601. Features include lightweight construction and even weight distribution. The shoulder brace is priced at \$175. It is available with a quick-release web safety belt at a price of \$195 and with a Cine 60 12-V battery belt at a price of \$395.



A new telecine system, the B3402, has been introduced by Marconi Company Ltd., Marconi House, Chelmsford, Essex, England. Two versions have been designed, one for exclusively black-and-white reproduction and based on the Mark VI television camera; the other for black-and-white or color and based on the Mark VII color camera. Both versions receive images through an optical switch which operates faster than the reaction of the human eye, thus allowing undetectable "on-air" cuts between film and slide projectors. The light source is a quartz-halogen lamp and a specially designed lamphouse permits rapid change of lamps. The light output from the lamphouse is controlled by a neutral density disc situated in an aperture plane in the lamphouse. It is driven by a servo motor and the system has been designed to have a very high operating speed.

The disc covers a range of transmission of approximately 100:1. Change from one lamp to another is achieved by rotating the central mirror through 90°. When the lamphouse is in use, the unused lamp is run at low power in a standby condition. If the lamp in use fails, the second lamp is brought up to correct voltage at the same time the mirror flips over.

Various arrangements are possible with the new system including 35mm Uniplex, 16mm Uniplex, 35mm and 16mm Multiplex, 16mm and 16mm Multiplex and 35mm and 35mm Multiplex.



Two new vidicon cameras have been introduced by the Commercial Electronics Division of Sylvania Electric Products Inc., 730 Third Ave., New York, N. Y. 10017. Designated SC15A and SC16A, both units have a minimum resolution of 650 lines, and a binary divider chain for positive 2:1 interlace. The SC15A is designed for video/RF application. The RF modulator may be tuned manually on channels 2 through 6 on a conventional TV receiver. The camera has a 3-lens manual turret for standard 16mm "C" mount lens. It is priced at \$1,175. The SC16A (above) includes a 9-in. monitor/viewfinder which permits direct-viewing control at the camera. An intercom system is included for communication between cameraman and control room. It is priced at \$1,800, including a 4:1 zoom lens.

The IVC-860 portable video-tape recorder featuring electronic editing in color has been announced by International Video Corp., 67 East Evelyn Ave., Mountain View, Calif. 94040. The editing feature permits electronic splicing or assembling of material from two separate program sources such as live cameras or other recorders without tearing or rolling. The editing feature requires only one additional control and permits the operator to edit simply by switching from playback to record. The IVC-860 is priced at \$7,600.

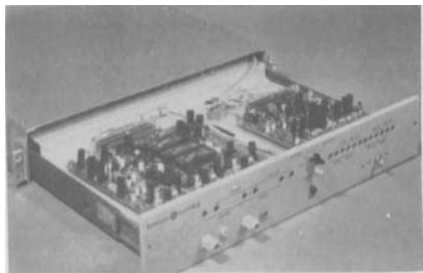


A system designed to evaluate the video-tape dropout rate and viewer annoyance factor during on-line playback has been announced by 3M Company, 3M Center, St. Paul, Minn. 55101. The device, called 3M Brand Dropout Profile Recorder, records the dropout profile of an hour-long tape on a 5- by 2½-in. strip chart. Pressure-sensitive paper is used to eliminate

problems resulting from use of ink-type recorders. The strip chart is visible through a plastic window which can be opened for writing identification data on the chart. The instrument uses an analog integrator to continuously measure the dropout rate during the previous few seconds of videotape playback. The averaging period used is roughly equivalent to the length of time the dropout annoyance is remembered by a typical viewer. The instrument is priced at \$2,300.

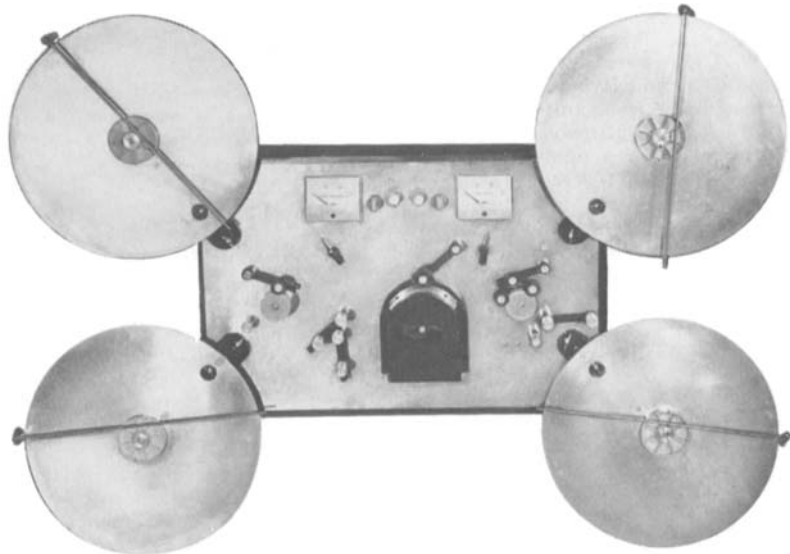
A compact 2-in., 16-track professional recorder-reproducer featuring an integrated overdub control for remote synchronization of tracks has been introduced by 3M Company, 3M Center, St. Paul, Minn. 55101. Features include the Isoloop drive, smooth dynamic braking and electronics of earlier models. The printed boards are interchangeable with most of the other 3M professional recorders. The console VU meters are numbered and arranged in a double row of eight each for quick and easy identification. The remote overdub control is 7 in. square and 4 in. deep. The recorder-reproducer is priced at \$25,600.

A one-tube color television camera for educational, industrial and cable applications has been developed by the West Coast Operations Div. of Radio Corp. of America, Burbank, Calif. With the one-tube system, striped color filters and "innovative electronics" are used to recover the color information for processing by standard color-signal handling methods, the announcement stated. Light from the scene to be televised passes through the optical filter on its way to the camera's pickup tube, a vidicon. The filter detects the red and blue components which, when subtracted from the whole image, leave the green component. The red-blue-green image is delivered whole to the tube face where it is scanned and converted into an electrical signal. When processed by appropriate circuitry, it emerges as an NTSC color signal. The camera weighs about 45 lb. It is 10 in. high, 11 in. wide and about 25 in. long, including the 7-in. lens cover. The price range is from \$6,500 to \$10,000.



A differential phase and gain linearity compensation unit, Type TZ-8-A, designed specifically for TV transmitters, has been announced by General Electric's Visual Communication Products Dept., Syracuse, N. Y. Designed for compensation of color television hue and brightness errors, the unit can be added to any existing VHF or UHF transmitter broadcasting NTSC color in accordance with EIA Standards. The device has a maximum of 15° compensation of transmitter differential phase

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series, for 1-light printing of color or B&W; or VHS Mk. 500 series Portable printer (measures only 25" x 13" x 11") for high-speed B&W printing in cramped areas. Both have full 2000-ft. capacity. Both have Timing Belt film drive to eliminate backlash, and to give you reliable service over literally hundreds of millions of feet of film. And both are available with a full line of accessories and options (sound head, loop elevator, dual feeds & take-ups, etc.) to tailor your printer for any application. Priced from \$3000. Write for brochure.

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error and a maximum of 6-dB white stretch and 12-dB sync stretch for gain-linearity errors. It operates by precorrecting the video to compensate for the non-linear transfer characteristic and differential phase distortion inherent in the modulation and power amplifier circuits of a television transmitter. The unit's circuits and self-contained power supply are packaged in a standard 19-in. tracked rack drawer. It is priced at \$7,995.

A 100-W UHF translator designed to improve and extend television reception in remote areas has been announced by Ampex Corp., 401 Broadway, Redwood City, Calif. 94063. It consists of a solid-state 2.5-W UHF translator with 100-W UHF linear amplifier. The translator, Model 100BT, is designed for use in television stations to boost picture quality in areas of weak reception or to extend coverage into areas which do not presently receive their signals. The translator can also be used to add communities to the reception where the signal is screened from the station's signal by high mountains or other obstructions. It is available in two versions. Model TUU-100BT receives UHF channels 14-83 and Model TVU-100BT receives VHF channels 2-13. Both models translate the signal to any desired UHF channel and both are used with the Ampex 100-W UHF amplifier. The 2.5-W translator weighs 300 lb and is priced at \$4,000. The 100-W amplifier weighs 800 lb and is priced at \$8,000.

Memorex 79 series video tape has been announced by Memorex, Memorex Park, Santa Clara, Calif. 95050. The tape has been designed for durability, less recorder maintenance and a low debris rate. The tape withstands rough treatment and is said to be free from noise and dropouts.

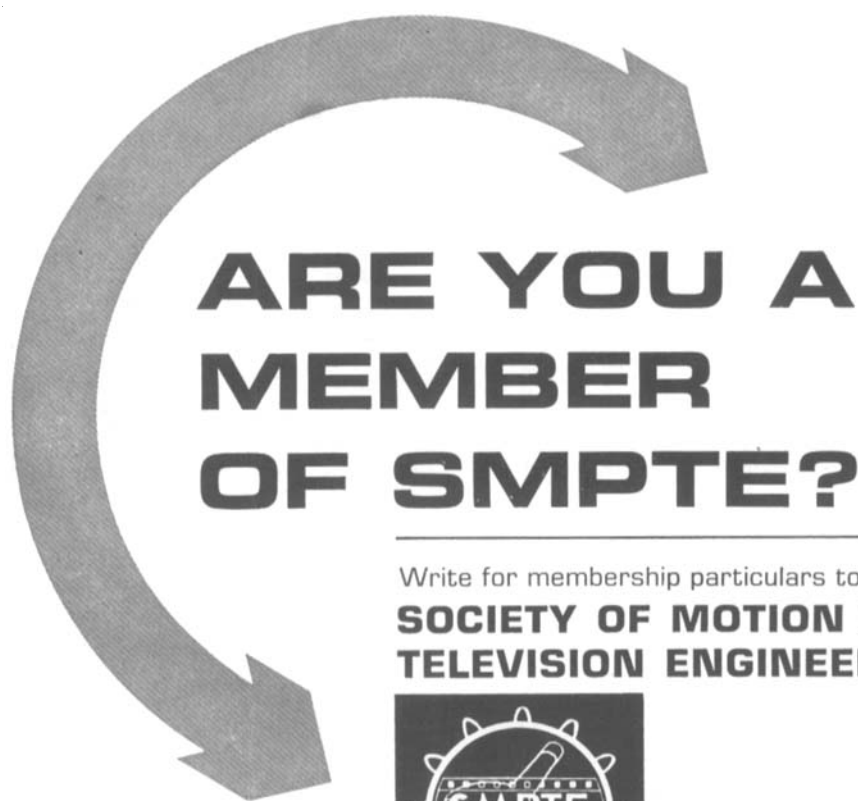


The Keystone Targetronic 990, an autofocus slide projector with a built-in range finder has been announced by Atlas-Rand Corp., a division of Berkey Photo, Inc., Keystone Place, Paramus, N. J. 07652. The unit has a Bausch & Lomb optical system. Three separate motors provide cooling, cycling and focusing. Other features include a solid-state remote control timer and an autofocus meter that indicates when to focus manually for badly warped slides. The 990 is priced at about \$159.95.

A new UHF wattmeter and matching

indicator providing for simultaneous measurement of incident and reflected power on two meters has been announced by Rohde & Schwarz, 111 Lexington Ave., Passaic, N. J. Called Type NAU, the instrument has a frequency range of 25 MHz to 500 MHz. It is available in two models, one from 50 mW to 31.6 W and the other from 2 to 1,000 W. The measuring range is divided into four subranges. The unit's VSWR of less than 1.02 permits measurement of reflective coefficients as low as 5%. It is priced at \$1,295.

The 16mm-1P, designed for use as an instrumentation camera or for combat documentation, has been announced by Photo-Sonics, Inc., 820 South Mariposa St., Burbank, Calif. 91506. The system utilizes newly developed 200- and 400-ft coaxial loaded magazines designed for easy installation with one hand in less than a minute. The film need not be removed from the transport mechanism, thus eliminating boresighting problems. The transport mechanism consists of two register pins and two pulldown pins and features positive film control. Film perforations are held at all times by at least two pins of transport mechanism to ensure reliability under high vibration and acceleration conditions. Frame rates of 24, 50, 100 and 200 frames/s are standard. The instrumentation configuration features rates up to 450 frames/s. The camera weighs less than 13 lb and accepts C-mount lenses. With



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standard equipment (less magazine) the camera is priced at \$1,250.

**A new laser Q switch** designed for most Q switching, light modulator and shutter applications, has been announced by Crystalab Products Corp., 19 Legion Place, Rochelle Park, N. J. 07662. Designated Model 3051, the Q switch is available in several aperture sizes with a single crystal of either KDP or 98% deuterated KD\*P or with multiple crystals to reduce operating voltage. Features include shock- and vibration-resistant construction, schlieren-grade windows and integral Glan-air spaced prisms which can be tilted and rotated. Price for a 10mm aperture, single crystal configuration, KDP crystal, \$1050; KD\*P crystal, \$1500.

**A motion analyzer**, Vanguard Model M-16C/C-11, has been announced by Instrumentation Marketing Corp., 820 South Mariposa St., Burbank, Calif. 91506. The instrument features zero reset to allow displacement readings to be made direct.

X-Y readout from projected numerical display is made from adjustable crosshairs superimposed on the image. The unit includes 360° image rotation and a frame counter. The instrument is used in medical applications for analysis of x-ray and microphotography and is also used in ballistics and aerospace studies. It is priced at \$5,470.

**Yellow glass tubing** with sharp cutoff at 500 nm for spectral filtering has been announced by Fish-Schurman Corp., 70 Portman Rd., New Rochelle, N. Y. 10802. The tubing may be used with a water jacket on high-intensity laser flashlamps with neodymium-doped materials to remove the ultraviolet. The tubing has an expansion of  $96 \times 10^{-7}$  from 20 to 300 C and  $88 \times 10^{-7}$  from 20 C to 100 C. The softening temperature is at 680° C. It is available in 15-mm and 22-mm diameters with a wall of about 1 mm and length of 370 mm. It is priced at \$15 each in lots of two pieces and in lots of 10 the price is \$10 each.



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**Chief Engineer**, recording studio; **Applications Engineer**, audio and video systems; **Regional Sales managers (2)**, TV broadcast and audio systems; **Product Manager**, audio systems; **Product Manager**, television broadcast equipment. North American Philips Co., Inc., Norelco. Contact Leon J. Karvelis, Management Development—Professional Staffing, 100 East 42nd St., New York, N.Y. 10017, (212) 986-5403.

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**Electronic Engineer (General).** GS-13-Knowledge of broadcast television systems, electronic test and production equipment used in television operations including transmission, switching, distribution equipment; sound and control, oscilloscopes, test generators, etc. Responsibilities will include monitoring of fixed and mobile television, and sound systems, recording equipment, transfer facilities and transmission. Submit résumé to: Civilian Personnel Office (G63-PDCPE), Norton Air Force Base, Ca. 92409.