

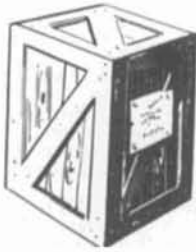
# new products

(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.

The Research Institute of Sound and Picture, VUZORT, Smichov Pizensk 66, Prague 5, Czechoslovakia, has announced a series of black-and-white test films and test patterns for television developed in cooperation with the Research Institute of Radio and Television.

Patterns on 35mm and/or 16mm cinematographic film are for the control and setting of the film scanner. Test patterns for slide scanners are on test slides measuring 50 by 50 mm. Test slides 85 by 85 mm and 254 by 305 mm serve for measuring camera tubes on a special measuring board. The larger of the test slides is used to set TV cameras.



In use, the correction of the frequency/contrast characteristics having been applied to patterns containing line rasters for measuring modulation depth of television signals, these special patterns are directly scanned by a cinematographic camera from transparent originals by using controlled exposure which corrects the course of contrast of the original scanned. Thus on 35mm film, for frequencies up to 8 MHz, the decrease of contrast can be definitely eliminated, while on 16mm film it reaches about 25% in relation to the signal at low frequencies.

The technical parameters of all the types of patterns are liable to the OIRT regulations; however they have been chosen so as to approach most closely the ANSI or ISO Standards.

A set of color test films and patterns will soon be prepared.



A crystal-controlled motor for the Arriflex 35mm camera has been announced by Cinema Product Development Co., 2044 Cotner Ave., Los Angeles, CA 90025. The motor is integral with a specially designed

flat base that fits in a Cine 60 blimp or mounts on a tripod or body pod. The control circuitry, including a crystal oscillator, with an accuracy of  $\pm 15$  parts per million over a temperature range of 0 to 140°F, is self-contained in the flat base and motor housing. The motor is 18 dB quieter than the existing Arri constant speed motor, resulting in a 2-dB reduction in the sound level of the Cine 60 blimp. Power consumption from a 16-V battery pack is about 50% less than with the constant speed motor. Price of the unit, including the power cable, is \$1,750.



Bolex H-16 professional motion-picture cameras are now available with a bayonet mount, as announced by Paillard Inc., 1900 Lower Rd., Linden, NJ 07036. Both the Bolex SBM camera (400-ft film capacity) and the Bolex SB camera (100-ft film capacity) now have a large, sturdy plate which holds a 2.5-in bayonet fitting. With the new bayonet fitting, lenses can be changed quickly and are locked in with a turn on a large milled ring. Both the H-16 SB and the H-16 SBM have a through-the-



## Special Effects in Motion Pictures

(Some Methods for Producing Mechanical Special Effects)

Frank P. Clark

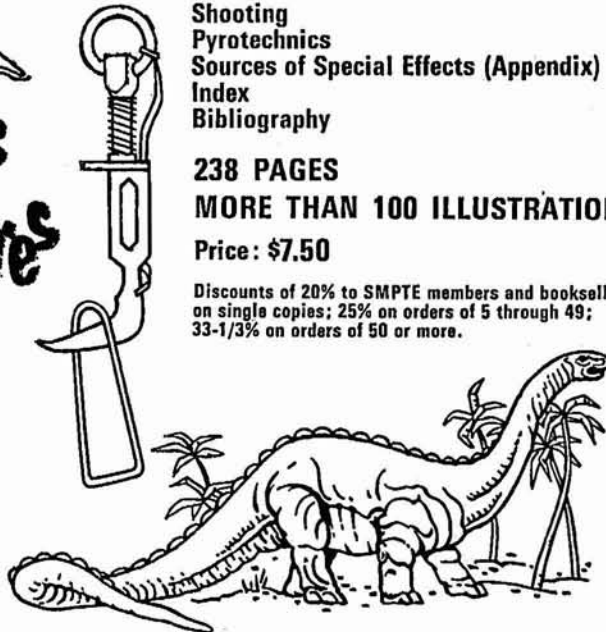
**CONTENTS:** The Development of Special Effects  
 The Application of Special Effects  
 Atmospheric Effects  
 Special-Effects Props  
 Optical Effects  
 Sound Effects  
 Miscellaneous Effects  
 Shooting  
 Pyrotechnics  
 Sources of Special Effects (Appendix)  
 Index  
 Bibliography

238 PAGES

MORE THAN 100 ILLUSTRATIONS

Price: \$7.50

Discounts of 20% to SMPTE members and booksellers on single copies; 25% on orders of 5 through 49; 33-1/3% on orders of 50 or more.



Reviewed by the SMPTE Advisory Committee on Special Effects  
 Motion Pictures:  
 Herbert Meyer  
*Chairman*  
 Russell Brown  
 Thomas G. Fisher  
 Jack Froehlich  
 Max Hankins  
 Ub Iwerks  
 Ivan Martin  
 Bob Matthey  
 Frederic L. Ponedel  
 John Roche  
 J. Edward Stembridge  
 Edward Stones  
 Virgil Summers

Order from:

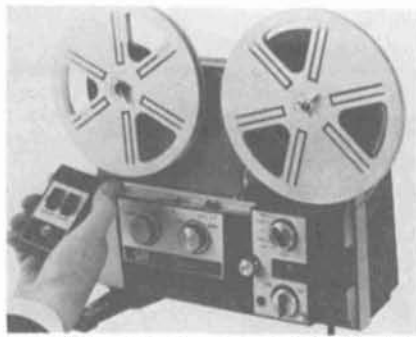
Society of Motion Picture and Television Engineers  
 9 East 41st Street, New York, N. Y. 10017

lens reflex viewfinder with 10X magnification. While designed primarily for use with larger and heavier zoom lenses the bayonet mount cameras can also be used with fixed focal length lenses. The H-16 SBM is priced at \$1,513 and the H-16 SB is priced at \$670.

**The Bolex Multimatic super-8 cartridge projector** has been introduced by Paillard Inc., 1900 Lower Rd., Linden, NJ 07036. (See "Projection With Automatic Cartridge Change" by Ernest Wildi, *Journal*, pp. 169-172, March 1971.) The projector can be loaded with as many as six 50-ft Bolex film cartridges that thread, project and rewind automatically. Projection and rewinding are simultaneous operations. Once a cartridge has been rewound, it can be removed from the Multimatic and another one added, making projection continuous and uninterrupted. The cartridges are loaded with super-8 film as it comes back from processing. A film leader on each loaded cartridge is not necessary. The Multimatic threads itself automatically after the cartridge is inserted and the cartridge compartment door is opened. At the end of a 50-ft reel or after the film has been rejected by pressing the reject button, the film rewinds at three times the projection rate back into its cartridge. The projection can be operated at any one of eight speeds or single-frame stop-action. The Multimatic is 9.25 in wide, 15 in long and 6.5 in high, and weighs 20 lb without cartridges. The price range is from \$270 to \$320 depending on the lens selected.

**The Bauer C Royal 6**, a new super-8 camera, has been announced by Allied Impex Corp., 168 Glen Cove Rd., Carle Place, L.I., NY 11514. The new camera has the same lap dissolve feature as the original Bauer C Royal (*Journal*, p. 972, Oct. 1970). The new camera has a 6:1 zoom lens (Neovaron f/1.8, 8 to 48 mm) and is equipped with cross-hair focusing and a large viewfinder. The lap-dissolve feature is achieved with a variable shutter and an automatic back-winding mechanism. A built-in computer in the camera registers the frames during the fade-out and then stops the camera. When a button is depressed, the camera transports backwards the same length of film as used for the fade-out (up to 90 frames). During the following scene, the variable shutter is gradually opened for a lap dissolve. The variable shutter can also be used for increasing shutter speeds. The camera is priced at \$999.50. A Trick Set/Intervalometer accessory is available for the Bauer C Royal 6. It provides automatic fade-ins and fade-outs as well as single-frame operation at intervals up to 60 s for time-lapse photography. It is priced at \$99.95.

**The DeJur remote command electronic super-8 projector** has been announced by DeJur-Amsco Corp., 45-01 Northern Blvd., Long Island City, NY 11101. The projector has a cordless remote control for starting and stopping the projector and advancing the film frame by frame. A single reel of super-8 film can be programed with both motion-picture sequences and still pic-



tures. The operator can control the projector to show movies or frame-by-frame stills from the same reel. The projector can also show regular 8mm films. It has a 400-ft reel capacity. The price is about \$220.

**Two new filters**, designed to give better results with Kodak Ektachrome EF film 7242 (tungsten) exposed under daylight conditions, have been announced by Eastman Kodak Co., 343 State St., Rochester, NY 14650. The new Kodak Wratten gelatin filters are No. 85BN6 (equivalent to No. 85B + 0.60 neutral density) and No. 85BN3 (equivalent to No. 85B + 0.30 neutral density). The new filters will produce better results with Ektachrome 7242 film (tungsten) when used in daylight or artificial light of daylight quality and reproduced on television.

**A new zoom control**, Model J-4, incorporating the "joystick" concept, has been announced by Cinema Product Development Co., 2044 Cotner Ave., Los Angeles, Ca 90025. The control box has a self-contained, rechargeable NiCad battery. The "joystick" gives continuous control from 0 to a preset maximum in either direction.



**A super-8 sound system** consisting of a modified Minolta D 10 camera, and an amplifier and microphone has been announced by Williamson Camera Co., 10351 Oakdale Ave., Chatsworth, CA 91311. A modified Fuji TV film chain projector for use with the system has also been announced. The camera has a detachable magazine that holds 200 ft of S.O. 240 Ektachrome film. The lens is a 7 to 70mm zoom with manual and various speeds of power zoom. The iris can be set on automatic or manually controlled by means of a

# new lighting book

WITH A BRAIN



SOS presents the most comprehensive lighting book ever compiled. It's an encyclopedia of lighting and grip equipment, a buyer's guide that can help you make the right decision on equipment. Included are: over 1700 products from 70 manufacturers, many illustrated; basic diagrams and outfits showing requirements for almost every studio need; lighting equipment for motion pictures, TV and still photography; accessories; carry-

ing cases; stands; mounting and support equipment; dimmers and electrical controls; generators; electrical supplies; reflectors; grip equipment; color media; special effects items. It's just what you'd expect from SOS, world's largest supplier of motion picture and TV equipment by mail.

**SEND FOR YOUR FREE SOS LIGHTING BOOK TODAY.** Additional copies available at \$1.00 each. Address Dept. SM-22.

See us at Booth 75—SMPTE Conference

**SOS**  
SOS PHOTO-CINE-OPTICS, INC.  
A DIVISION OF F&B/CECO INDUSTRIES, INC.

EAST: 40 Kero Road, Carlstadt, New Jersey 07072 • (201) 939-5250  
315 West 43rd Street, New York, N.Y. 10036 • (212) 586-1420  
WEST: 7051 Santa Monica Blvd., Hollywood, Calif. 90038 • (213) 469-3601  
SOUTH: 51 East 10th Avenue, Hialeah, Florida 33010 • (305) 888-4604

**DON'T MISS ...  
THE AUDIO  
ENGINEERING  
SOCIETY'S  
40th TECHNICAL  
MEETING  
AND  
EXHIBITION OF  
PROFESSIONAL  
EQUIPMENT  
AT THE  
LOS ANGELES  
HILTON  
APRIL 27 - 30**



potentiometer in place of the photocell. The film compartment has been modified by the addition of sprockets and record and monitor sound heads specially made for super-8 film recording. A 2.5 lead flywheel has been added for sound stabilization. The projector is threaded manually and film can be taken out or loaded at any point on a reel. A new amplifier is fitted together with a Nortronics magnetic head. It is intended primarily for TV film chain use. It has a five-blade shutter that gives 120 light applications per second. Price of sound system (camera, amplifier and microphone) is \$3,300. Price of the projector is \$1,250.

**A battery and charger unit** designed primarily for use with the crystal-controlled motors for the NC, BNC and S35R Mark II cameras has been announced by Cinema Product Development Co., 2044 Cotner Ave., Los Angeles, CA 90025. The battery contains 10 sealed lead gel cells in series-parallel configuration to provide 12 Ah at 30-V dc. The case is molded of 4-ply fiber glass for high impact resistance and light weight. The package weighs 32 lb. The battery unit has an 8-pin power output/charger input connector, a voltmeter with expanded scale and a 3-pin XLR sync pulse output connector. The battery unit is priced at \$350. A companion charger unit is priced at \$175.

**The Bauer C Royal 10**, a new addition to the Bauer C Royal super-8 cameras has been announced by Allied Impex Corp., 168 Glen Cove Rd., Carle Place, L.I., NY 11514. The new camera has a 10:1 zoom lens (Neovaron  $f/1.8$ , 7 to 70mm) with a special power drive. The camera has three speeds, 15, 24 and 54 frames/s. Other features include a large reflex viewfinder with cross-hair focusing, adjustable eyepiece +5 to -5 diopter, behind-the-lens CdS exposure control system and manual override of exposure control system. The camera is priced at about \$675.

**A boom mount assembly** for support, control and mechanical isolation for the Model SM53 microphone has been announced by Shure Brothers, Inc., 222 Hartrey Ave., Evanston, IL 60204. Components include the A53M isolation mount to reduce mechanical shock and vibration, the A53WS front and rear windscreens, the A53E extension pipe which makes it possible to lower the microphone mounting assembly an additional 20 inches below the boom to minimize difficult shadow problems, and the A53C isolation cable to isolate vibrations reaching the microphone through the cable. The boom mount assembly is priced at \$27.00.

**Two new zoom lenses**, the 15x18E and the 6x9.5, have been announced by Angenieux Corp. of America, 440 Merrick Rd., Oceanside, NY 11572. The 15x18E ( $f/2$ ) lens has a combined focal length capability of 18 to 270mm. The lens is designed for studio operations and remote broadcasts. The aperture remains constant throughout for focal lengths between 18 and 180mm, thereafter dropping linearly to  $f/2.9$  for the 1.25-in Plumbicon. The lens has close focusing distance of 25 in while



retaining its full zoom capability. With a close-up adapter and range extender, the lens is also capable of full-screening an object of less than 0.5 in in height.

The 6x9.5 ( $f/1.6$ ) wide angle ( $68^\circ$ ) zoom lens with a focal length of 9.5 to 57mm is designed especially for filming news events. It is capable of focusing as close as 24 in from the focal plane to the subject, covering an area of about 2.5 by 3.5 in while retaining its full zoom capability.

**The Hedler fan-cooled studio light**, a portable lighting unit with a built-in fan cooling system, has been announced by Cinefot International Corp., One Park Ave., New York, NY 10016. Features include thermostat-controlled dual-light variations from 850 to 1700 W for 110 V and 650 to 2000 W for 220 V. The light weighs less than 3 lb and is constructed of a new unbreakable plastic material called Magnalon. Two U-shaped halogen bulbs can be switched on and off separately and are individually safety-fused. The price is \$79.50.

**The 4000-W Feather-Lite Soft Lite**, first of a new series, has been announced by Berkey-Colortran, 1015 Chestnut St., Burbank, CA 91502. It weighs 30 lb and is constructed with a flat back for easy stacking and handling. The stand model with 18-in single pin plugs with two switches is priced at \$259.95.

The CRD Dimmer system with a modular rack has also been announced. There are no fuses and no fans in the dimmers or racks. The filtering system has a rise time of 600  $\mu$ s.

**The Fairchild/Eumig 711 super-8 sound projector** has been announced by Fairchild Industrial Products, 75 Mall Dr., Commack, NY 11725. The projector uses Eastman Kodak cassettes in any length from 50 to 400 ft. Logic control circuitry permits button-control of forward, stop and rewind. The front-screen projector uses super-8 magnetic sound film with a plus 18-frame picture-to-sound separation. The projector has a scene-repeat programer. At any point during a presentation the programer can be activated and the film rewound to a specific scene. The film can then be replayed from that point. Automatic rewind is initiated at the end of the film. Other features include a built-in record-playback amplifier which makes it possible to add or update a soundtrack. Special controls are provided for focusing, framing, volume and zoom lens. The sound system is a solid-state 4-W amplifier with built-in speaker and external speaker connections. The projector weighs 28 lb. The price is \$475.

**The RCS MODule System projector and cartridge** has been announced by Retention Communication Systems, Inc., Two Penn Plaza, New York, NY 10001. The

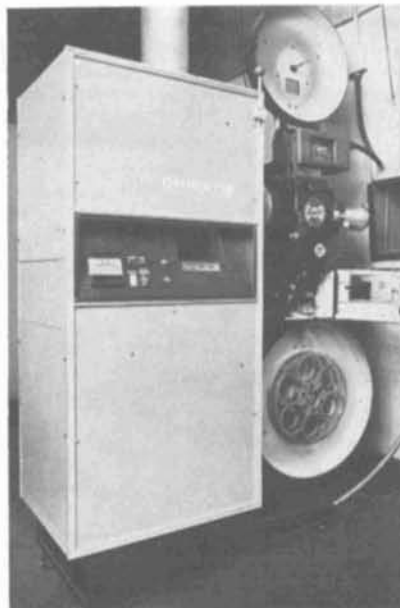
projector is designed to display and broadcast sound/film programs contained in a small cartridge called the MODule. Features include variable-speed film drive of 8 frames/s enabling the program to include static and animated visual effects. The RCS MODule system was described in a paper by Nat C. Myers, Jr., "New double-system super-8 film-and-sound cartridge" (*Journal*, pp. 173-175, March 1971). Price of the projector is \$189.

**The Eumig Mark 510 D cartridge projector** has been announced by Eumig U.S.A., Inc., 101 W. 31 St., New York, NY 10001. It accepts Kodak cartridges of 50, 100 and 400 ft. It has a Vario Eupronet *f*/1.3 15-30mm zoom lens and a 12-V, 100-W tungsten halogen light with a dichroic reflector. The projector can also accept reels up to 400 ft. It is 12.5 in long, 5.5 in wide, 10.25 in high and weighs 17.5 lb. It is priced at \$179.95.

**A multi-screen audio-visual control system** consisting of the 27-channel Media Mix LC programmer, three Dynamic Dissolve controls compatible with either Selectroslide or Carousel projectors, a power relay box for operating up to three motion-picture projectors and all necessary accessories and patchcords has been announced by Spindler & Sauppe Inc., 1329 Grand Central Ave., Glendale, CA 91201. The Media Mix Programmer can automate as many as three Dynamic Dissolve slide projection systems, controlling six different effects on each system. The programmer has also nine auxiliary channels which may be used to control other presentation devices such as motion-picture projectors, overheads, additional slide or filmstrip projectors, lights, curtains and tape recorders. A built-in 1000-Hz synchronizing system allows automation from any reel-to-reel stereo tape recorder. The package price is \$3,450.

**Artificial blood** for motion-picture use, designed by 3M Company, 3M Center, St. Paul, MN 55101, to specifications proposed by the Research Center of the Assn. of Motion Picture and Television Producers, 8480 Beverly Blvd., Hollywood, CA 90048, has been successfully tested, it was announced by Wilton R. Holm, Executive Director of the Research Center. The simulated blood is extremely realistic in appearance and easily removable by laundering or dry cleaning, Mr. Holm said. Pilot quantities of the artificial blood, which is composed of microscopic plastic globules in a viscous water-based vehicle, have been evaluated by studio make-up men and used in two feature productions.

**A new Xenolite console** that combines a projector, xenon lamphouse, optics, power supply, controls and provision for automation in one self-contained unit for 35mm motion-picture projection has been announced by Christie Electric Corp., P.O. Box 60020, Los Angeles, CA 90060. The projector (not supplied with the console) is attached to universal mounting brackets with adjustments for alignment of projector and lamphouse optics. Adjustment plates tilt the light source and projector to allow



for downward or upward projection angles. The console has a special optical system using a computer-designed, deep-dish, explosion-proof reflector in a way that allows operation with conventional vertically-operated xenon bulbs. It also has a Christie rectifier power supply and an automatic, fully enclosed interlocked igniter. The console can be completely prewired for all functions to be performed in the projection booth. Prices range from \$2,500 to \$4,000 depending on ratings and options.

**The MV 120 Angular Adjustment Device**, a two-axis gimbal for the support and alignment of various optical and electrooptical components has been announced by Lasermetrics, Inc., 19 Legion Pl., Rochelle Park, NJ 07662. The device was designed primarily for the adjustment of longitudinal and transverse field laser modulators but can be utilized in most applications in the optical/electrooptical fields, individually or in a system to accommodate research and general laboratory requirements. The MV 120 has a Vee mounting surface that supports cylindrical components of 1 to 3 in in diameter, from 0.25 in to more than 12 in in length and that weigh more than 4 lb: The drive mechanism is part of a rigid structure to prevent disturbance of the trunnion Vee surface during angular setting. Features include mountability on plane surface or post with mounting holes provided. Frictionless bearing surfaces require no lubrication. The Y-Y (pitch) axis is trunnion mounted to the base and suspended to maintain an accurate angular position within a total range of 6°. Price of the MV-120 is \$185.

**A new lighting control system** for theatrical productions has been announced by Ward Leonard of Canada, Ltd., 1070 Birchmount Rd., Scarborough, Ont., Can. The system, called Solmatic, utilizes a magnetic disc with a capacity for 120,000 possible cues, a solid-state memory and a versatile logic control center. The control system is divided into two subsystems, manual and automatic. The manual system can operate as a one-scene preset, or an

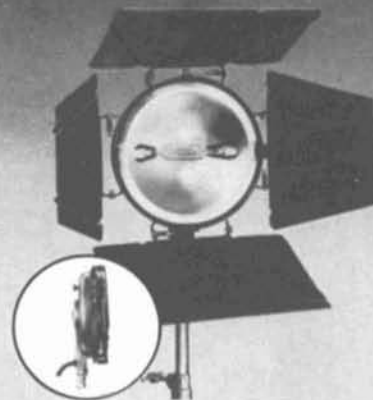
# new

**Slimline II**  
packs up in 3" of  
space, delivers more  
light than any flood  
or fill of its size.

It's another  
advance from

## B & M

THE INNOVATORS IN  
LIGHTING EQUIPMENT



What a combination for a 2,000 watt quartz lamp! So slim you can put 3 in the space of one ordinary flood. So high in intensity it does the job of much larger units. And with Slimline's extra sharp barndoor cutoff, you control light better and easier than ever before. Want to know more? Write Dept. SM4-1.



*Bardwell & McAlister Inc.*

A DIVISION OF F&B/CECO INDUSTRIES, INC.

12164 Sherman Way  
North Hollywood, California 91605  
(213) 875-1913

315 W. 43rd St., New York, N. Y. 10036  
(212) 586-1428

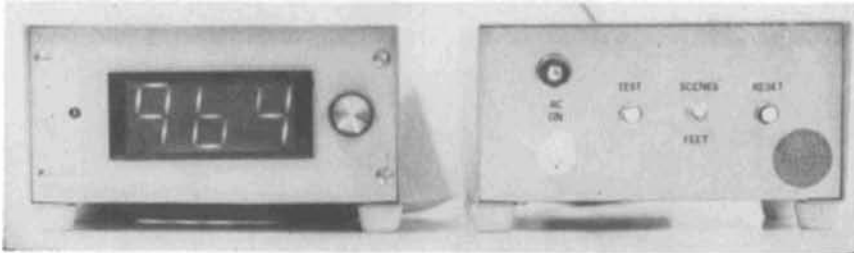
See us at Booth 77—SMPTE Conference



optional two-scene preset regardless of the condition of the automatic system. Once programed, the system remains under the control of the operator. Sequencing is automatic. Cues can be added at any time between any adjacent prerecorded cues, and cues can be deleted. An inhibit feature blocks complete or partial programs or individual cues. Visual display of channel outputs for preview of cues, in sequence or at random, forward or backward. Slow

fade of lighting can take place over any number of cues.

**Theatre Television Projector, Model TV-300**, a new color television projector has been announced by Display Sciences, 3 Industrial Ave., Upper Saddle River, NJ 07458. The projector is all solid state and is designed to operate on all VHF and UHF channels or closed-circuit systems. Color images from three cathode-ray tubes, operating at 28,000 V, are superimposed by dichroic mirrors and projected by an  $f/1.5$  refractive lens. The throw distance is 8 ft for a 3- by 4-ft picture. The projector is 8 in high, 31 in wide, 25 in deep and weighs 85 lb. It is priced at \$3,750. Other models in the series produce color video displays of up to 30 by 40 ft.

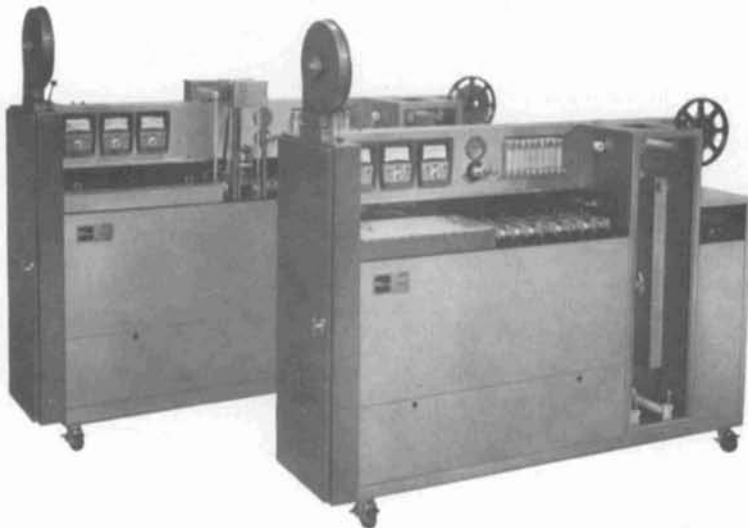


A footage and/or notch counter display (CE-FC/NC-340) has been announced by Carter Equipment Co., 232 S. Glasgow Ave., Inglewood, CA 90301. The footage counter display may be tied into any existing projection system through the use of microswitches or other simple switching. Interlock motors or accessory gearing are not necessary since all mathematical operations (dividing) are performed electronically by the counter itself. The display and control unit may be placed anywhere within screening rooms or dubbing areas with no

practical limitation on the interconnecting cabling. The unit is designed to count forward or backward at any time in conjunction with the projection system or as selected by an operator. The unit may also be used to count notches in conjunction with a TV scene tester or similar device, either separately or as a combination unit including footage display. The display is a 7-segment, incandescent, lighted, numeric readout system. The price range is \$475 through \$900.

**The Electric Music Box, series 200**, a collection of modules for generating, processing and directing sound, has been announced by Buchla Associates, P.O. Box 5051, Berkeley, CA 94705. Applications include electronic music composition and performance, special effects generation for recording and broadcast studios, multitrack to quadraphonic mixdown and environmental control for theater and mixed media. The system features high functional density, extended dynamic range, self-contained monitoring (preview) facilities and unrestrained expandability. Connections within the system are made with color-coded patchcords for maximal graphic visual feedback and zero crosstalk. A consistent distinction both in modular function and in interconnection is maintained between sound (signals) and structure (control voltages and timing pulses). The price range is from \$4,250 to \$14,200.

## TDC FILM PROCESSORS ARE THE OUTSTANDING PERFORMERS

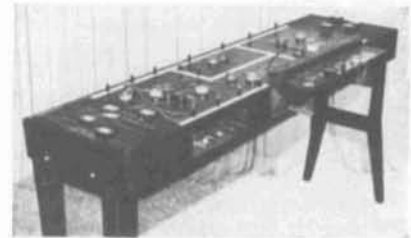


Color • Black & White • Microfilm / MICROFICHE



**TERMINAL DATA CORPORATION**

Film Processor Division,  
16130 Stagg St., Van Nuys, Calif. 91406 • (213) 988-4301



**The Kaleidophone Model A**, an electronic music synthesizer, has been announced by Novasound, 126 Paso Robles Ave., Los Altos, CA 94022, a newly formed company engaged in the manufacture of educational devices using electronics technology. The Kaleidophone has been designed for simplicity and ease of operation so that students without musical training can play the instrument after only a few minutes of instruction. It can be used as a live performance instrument or as a sound effects generator. One of the patented features of the instrument is the conductive surface. Subsurface electrodes are arranged in fixed patterns to provide control voltages for the four mixers and 19 contact probes. A multiple-voiced two-octave keyboard provides an adjustable 25-tone scale which can be compressed or otherwise distorted by finger-tip control. A pitch memory further reduces the amount of manual dexterity required for multi-voiced music. The price is \$1,296.

The Infonics Model MR-8, a recorder-reproducer for mastering or remastering 8-track music on 0.25-in tape has been announced by Infonics, Inc., 1723 Cloverfield Blvd., Santa Monica, CA 90404. It is designed to produce the master tape to be used on the Infonics 8-track Duplicator, Model D-8. It is also used to play back the 8-track duplicates produced on the D-8 to test the quality of the duplication before loading the tape into the cartridge. The MR-8 has two interlaced record heads with a total of 8 tracks and two interlaced reproduce heads in the same format. By actuating the program selector switches on the left side of the recorder, any of the four stereo programs can be selected in either the record or the reproduce mode, independently of each other. The MR-8 is priced at \$2,495.

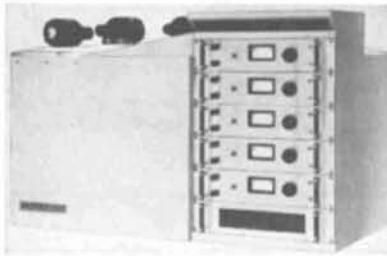


**Power-Pro**, a compact, portable power supply designed to provide 25 min of continuous operating time has been announced by Berkey-Colortran, 1015 Chestnut St, Burbank, CA 91502. Features include a state-of-charge meter, a padded, adjustable shoulder strap and a transformer isolated from the line to prevent accidental shock. The Power-Pro recharges overnight (120 or 240 V ac) and is self-contained in its own case. It is priced at \$345.

The **Crystal Vision Stretch Screen**, designed for use in audio-visual and related fields, has been announced by Charles H. Brotman, 201 E. 36 St., New York, NY 10016. The screen incorporates embossed crystal fabric cells to reflect clear, sharp images. It is made of nylon and antron material. The sewing and fabrication process employs a stretch stitch to improve the grain tensile strength of the fabric and retain maximum elasticity and stretch. The screens can roll up into a carrying bag for portability. Screens of all sizes are available.

A **power rewind** (CE-PRW-2K16) designed to rewind 2000 ft in less than 45 s without cinch marks has been announced by Carter Equipment Co., 232 S. Glasgow Ave., Inglewood, CA 90301. An automatic shut-off switch shuts down the machine after the rewinding has been completed. It is priced at \$650. In combination with an air vacuum squeegee to clean the negative during the rewind process it is priced at \$1,110.

A new silver recovery system called the Rotex 2000 has been announced by the Snook Corp., 751 Loma Verde Rd., Palo

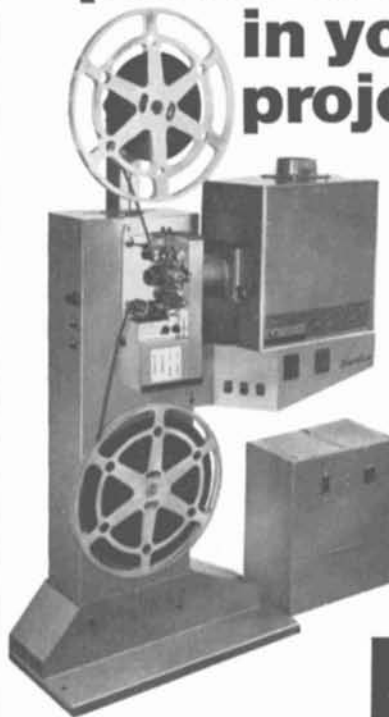


Alto, CA 94303. It is reported to be capable of recovering 11.5 oz of nearly pure silver each hour. It is a 5-cell modular unit and each cell has its own 18-disc cathode together with four carbon anodes. The individual tanks have a 5-gal capacity. The system can adapt to any recovery technique being used. It can be hooked up for terminal recovery, set in a recirculating system

or operated in a recovery setup that employs both recirculation and terminal recovery. The system can handle a flow rate of from two to 20 gal per hour. The operation is largely automatic because of the Agatrol current control, an electronic device that senses the density of the silver in the hypo solution and automatically adjusts the electrical energy to the right level for maximum plating efficiency. The Rotex 2000 is priced at \$6,000. The price includes basic accessories such as pumps and filters.

A newly-designed electronic circuit that suppresses sulfiding in electrolytic silver recovery systems has been announced by Snook Corp., 751 Loma Verde Rd., Palo Alto, CA 94303. The circuit inhibits sulfide formation, an important factor in hypo recirculation applications. The sulfide sup-

## Put a professional in your projection room



The new Norelco FP-16mm projector brings big theatre performance to any auditorium because it's built to the same rugged standards of performance demanded by professional motion picture theatres. Provides a brighter, clearer, steadier screen image.

Lots of other features, too:

- Packs a 2½ hour film on one reel
- Available with 9 different Norelco lenses including new zoom lens
- Uses Xenon or carbon arc light sources —or can be purchased with 500 W. ozone-free Xenon lamp house
- Optical or magnetic sound
- Runs forward and reverse
- Adapts to automatic operation and remote control

**Norelco** MOTION PICTURE EQUIPMENT

OUTSTANDING VALUE! Send coupon for prices and literature.



Portable self-contained Model EL 5100 for outdoor showings, exhibits, social halls, etc. Uses incandescent light source.

North American Philips Corporation  
Motion Picture Equipment Division SM1  
One Philips Parkway, Montvale, New Jersey 07645  
(201) 391-1000

Please send facts and prices on the new Norelco 16mm Professional Projectors.

FP-16 with column-pedestal  EL-5100 Portable model

Name/Title \_\_\_\_\_

School/Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

# Professional Services

## TIME LAPSE—HIGH SPEED SCIENCE MOTION PICTURES

Bacteriology, chemistry, scientific special effects applied to motion pictures and TV  
Consultation and production since 1929  
**LESTER V. BERGMAN AND ASSOCIATES, INC.**  
8 E. 12 St., New York, N.Y. 10003  
924-3632

## Consulting & Product Development by Professionals for Laboratories — Studios — Aerospace — TV

(213) 769-2521  
**L.M. DEARING ASSOCIATES, INC.**  
12345 Ventura Blvd. / Suite R / Studio City,  
Calif. 91604  
Instrumentation. Photometry. Data Recording  
Light Sources. Quality Control. Materials.

## MOTION PICTURE PRODUCTIONS

Motion Picture Productions and complete laboratory services. All related Filmmakers services, script-to-screen. Industrial, Educational, Training Films and T.V. Commercials. Write or phone us today.

**THE FILMMAKERS, INC.**  
1001 Terminal Road  
Lansing, Michigan 48906 (517) 487-3735

## HERMAN GALLI CAMERA SERVICE

Expert repair and service on all professional movie and still cameras and accessories  
**ARRIFLEX, ECLAIR, ZOOM LENSES** modifications, custom design  
6804 Melrose Ave., Los Angeles, Calif. 90038  
Phone 213-931-4111

## FRANK P. HERRNFELD

Engineering Consultant  
299 East Elfin Green  
Port Hueneme, Calif. 93041  
Tel. 805-487-9762

## Thomas M. Lemons, P.E. Lighting Consultant

Lighting Installation Designs • Lighting Product Designs  
Optical System Designs • System Evaluation and Testing  
Product and Market Planning

**TLA-Lighting Consultants**  
72 Loring Ave. Salem, Mass., 01970  
617/745-6870

## REELS • CANS • FIBER CASES

## MOTION PICTURE ENTERPRISES INC.

Tarrytown, N.Y. 10591  
N.Y.C. Tel: 212-245-0969

Creative sound effects editing for your films. Also complete post production editing services.

**Ronald H. Plant Productions**  
Box 21034  
Long Beach, Ca 90801

## SMPTÉ MEMBERS!

Are you a consultant?  
... or self employed?  
Advertise in the SMPTÉ Journal  
Professional Services page  
Only \$60.00 per year.  
Write: Advertising Manager,  
SMPTÉ Journal  
9 E. 41 St., New York, N. Y. 10017

## FILM PRODUCTION EQUIP. RENT • LEASE • SERVICE

World's largest source of equipment for producing, processing, recording, editing, etc.  
**S.O.S. PHOTO-CINE-OPTICS, Inc.**  
EAST: 40 Koro Rd., Carlstadt, N.J./201-939-5250  
315 W. 43rd St. N.Y.C./212JU 6-1420  
HOLLYWOOD/MIAMI

Complete Laboratory and Sound Services for the 16mm Movie Producer  
Daily Processing of the entire family of Ektachrome Films.

16mm Color Internegative/Positive Service with "Traid" Scene-to-Scene Color Corrections  
Only self-contained, single source, 16mm laboratory in the Southwest.  
Write for price list today.

**SOUTHWEST FILM LAB. INC.**  
3024 Ft. Worth Ave., Dallas, Texas 75211  
A/C 214 331-8347

## STANCIL-HOFFMAN CORP.

- MAGNETIC FILM RECORDERS, S7, 16, 17½ & 35MM, All Plug-In Transistor Electronics
- TAPE ¼" FOR MONO, STEREO & SYNC PULSE R70
- BROADCAST LOGGING, 24 HOURS CONTINUOUS 7" REELS UP TO 4 CHANNELS

921 N. Highland Ave., Hollywood, Calif. 90038

## SOUND STUDIO EQUIPMENT

Selsyn distributors, 220v 3 phase fluid starting—synchronous direct drive  
Digital footage counters  
16mm and 35mm Looping boxes, rack mount  
"Fishpole" microphone booms  
Write for current prices  
Don Walton, Studio Electronics Co.  
5415 N. Clark St., Chicago, Ill. 60640

## AURICON & K-100 CONVERSIONS to 400 & 1200 ft.

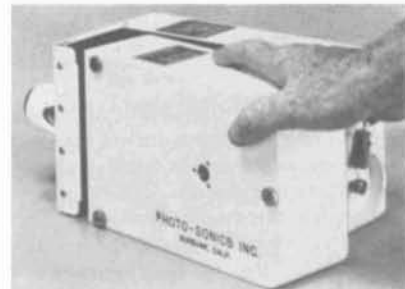
Filter slot Auricons & Films  
Transistor amplifiers, processors, etc.  
Write for details  
**GORDON YODER**  
Professional Cine Products  
2959 Ladybird Lane, Dallas, Texas 75220

pression circuit is now incorporated in all Rotex systems with the exception of the Ag-Get. Existing Rotex power supplies can be retrofitted. Prices of Rotex models which now include the electronic circuit range from \$887 to \$2,010.

**The Spectra**, a small (60- by 22-in) color film processor, has been announced by CinTel Corp., 11801 W. Olympic Blvd., Los Angeles, CA 90064. It can process super-8 and 16mm Ektachrome film in the ME4 or CR100 processes at 10 ft/min or 20 ft/min, respectively. The price is about \$7,000.

**The Compac 16/8**, a color film processor, designed to process 16mm or 8mm film with complete interchangeability, has been announced by Jamieson Film Co.'s Equipment Div., 9171 King Arthur Dr., Dallas, TX 75247. It works on the ME-4 process at 20 ft/min. It takes 10 min to warm up and has the ability to force two stops without slowing down. Features include a 2000-ft magazine, feed elevator, patented tube tanks for high picture quality and economical cost and a new quiet buffer squeegee. Other features include automatic controls and flow meters. The Compac 16/8 is priced at \$6,980. Another version, the Compac 35/16 designed to process 35mm color slides and 16mm interchangeably is also available at the same price.

**The IMA-CON**, an electronically triggered image converter camera with framing speeds from 50 thousand to 20 million frames/s and streak speeds of 10 μs/cm to 1 ns/mm, has been introduced by Red Lake Labs, Inc., 2991 Corvin Dr., Santa Clara, CA 95051. The camera can be used as either a framing camera or a streak camera through the use of interchangeable plug-in modules. It uses sinusoidally shuttered imaging techniques coupled with variable step staircase deflection to give a choice of six to 20 pictures in a single recording sequence. The use of a flat cathode gives a wide choice of standard lenses, including wide-angle objectives. A complete range of recording backs for the camera is available, including Polaroid roll, 70mm and 4 by 5 in. All backs are made for direct interchangeability. Image intensifier or TV readout can be added. The IMA-CON is self-contained. It plugs into ordinary power outlets and draws less than 50 W. It is 30 in long, 10 in wide, 15 in high and weighs 60 lb. The price is about \$30,000.



**The 16mm-1W intermittent pin-registered camera** with speeds up to 1000 frames/s has been announced by Instrumentation Marketing Corp., 820 South Mariposa St., Burbank, CA 91506. It can accommodate 200-, 400- and 1200-ft daylight-loading magazines which require less than a minute to load and can be installed

in a few seconds with one hand. The film transport has eight pulldown pins and four registration pins. Other features include modular electronics, runout switch, "C" lens mount, dual timing lights, footage indicator and 115-V ac motor. The camera is priced at \$3,800. With a 200-ft magazine the price is \$4,800; with 400-ft, \$5,000.

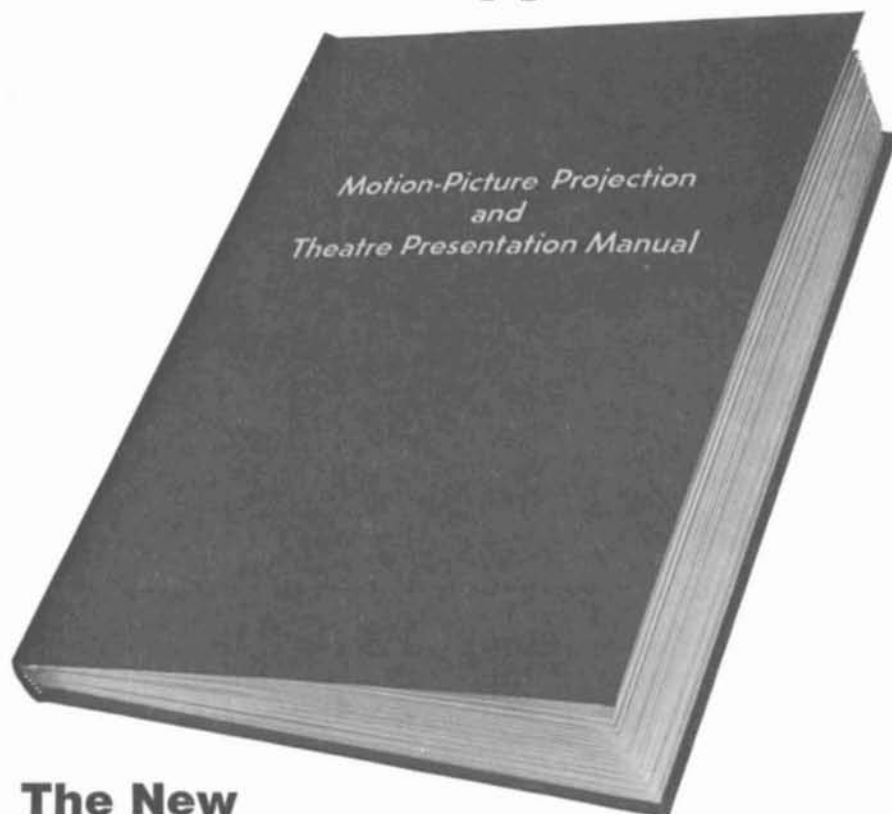
A test device for complete noise analysis of microwave transmissions has been announced by Westinghouse Electronic Systems Support Div., Box 153, Baltimore, MD 21203. Called WAND (wave analyzer for noise and deviation), the tester is built for evaluation of the total performance of any microwave transmission system in the frequency range of 9 to 10 GHz. Connected to the final RF transmitter output of a microwave system, the unit measures FM noise, AM noise, index of modulation and frequency deviation measurements by means of a heterodyne receiver which translates the spectrum under test to an intermediate frequency which is compared against a referenced, phase-locked IF source. The tester is divided into three sections: precision crystal frequency sources, IF phase-locked loop, and a self-contained wave analyzer capable of manual or automatic operation. The crystal frequency sources are utilized as the reference sources for AM and FM noise measurements.

The IF phase-locked loop allows measurement of the spectral priority of the unit under test to within 20 Hz of its carrier and within  $\pm 0.5$  dB accuracy. It also functions as an FM discriminator and allows measurement of intentional modulation on the carrier. Also, frequency deviation and index of modulation can be measured. Price range for WAND is \$30,000 to \$35,000.



A new character generator, called TCG-1425, has been announced by TeleMation, Inc., P.O. Box 15068, Salt Lake City, UT 84115. It provides both full-page and partial-page alphanumeric displays for any television application, producing up to 14 lines of 25 characters each. A fifteenth line is available for preview copy. Features include automatic line-by-line centering, a hop function to shift a group of characters or a word one space simultaneously, deletion of any letter or line with a keyboard control, insertion of preview line copy into any other line on the page and a "clear page" control to delete the entire display. A flashing control is included to emphasize a letter, word or group of words. A horizontal crawl display is provided using a keyboard control to switch a page of information in the static mode to the crawl mode. The TCG-1425 without the keyboard is priced at \$7,200. The TKB-307 keyboard unit is priced at \$795.

## Order Your Copy NOW!



## The New Motion-Picture Projection and Theatre Presentation Manual

### CONTENTS

- |   |  |
|---|--|
| 1. Introduction                                     | 15. Theatre Seating  |
| 2. Motion-Picture Films                             | 16. Theatre Carpeting and Drapery                                |
| 3. Physical Aspects of the Projection Room          | 17. Theatre Automation—Automatic Programming                     |
| 4. General Rules for Good Projection                | 18. Drive-In Theatres  |
| 5. Measuring Instruments                            | 19. The Theatre Supply Dealer                                    |
| 6. The Basic Motion-Picture Projector               | 20. The Competent Projectionist                                  |
| 7. Operational Maintenance and Repair of Projectors | 21. Problems in Projection—Case Histories                        |
| 8. Projector Performance Testing                    | Appendixes   |
| 9. Projection Light and Light Sources               | Manufacturers Honoring SMPTE Request Cards                       |
| 10. DC-Power Supplies for Projection Light Sources  | Index to SMPTE-Sponsored USA Standards and Recommended Practices |
| 11. Projection Lenses and Optics                    | List of SMPTE Publications                                       |
| 12. Motion-Picture Theatre Screens                  | Test Film Catalog  |
| 13. Motion-Picture Sound Systems                    | Index  |
| 14. Theatre Construction and Design                 |  |

-----  
*Detailed Table of Contents on request.*

• 8½" x 11¼" • 190-pages • 130 Illustrations • Cloth bound

Single Copy Price: \$7.50 / Less 20% to SMPTE Members, Libraries, and Booksellers

Less 25% for 5 through 49 copies, plus shipping

Less 33-1/3% for 50 copies and more, plus shipping

*Editor and Coordinator:* Don V. Kloeppel *Contributors:* J. Walter Bantau, Stephen S. Battaglia, Zack Beiser, Glenn M. Berggren, Al Boudouris, Tom Christie, Jr., Frank F. Crandell, Drew Ebersson, Raymond L. Estes, Harold J. Freedman, Melvin Glatz, Arthur J. Hatch, Jr., Daniel F. Haworth, B. W. Henrikson, C. E. Heppberger, Joe Holt, G. Melson Hurley, Richard B. Johnson, Spiro L. Kontos, Leo Laskowski, Kenneth Leonard, Harold Madison, Ben Mayer, Burton F. Perry, Paul H. Preo, Frank H. Riffle, Robert Rose, J. W. Servies, Sol Shurpin, Whitney Stine, R. A. White, Robert Wolfe, Louis M. Wutke.



**Society of Motion Picture  
and Television Engineers**  
9 East 41st Street, New York, N. Y. 10017



A single-vidicon color TV studio camera, designated Series 100, has been announced by Magnavox Video Systems, 2829 Maricopa St., Torrance, CA 90503. The camera

weighs 30 lb and operates in an illumination range from 75 to 250 fc. The system consists of the camera head; 5-in tilt and detachable viewfinder; 10:1 zoom lens with exterior controls; and camera control unit with NTSC type encoder and sync generator. It is priced at \$6,900.

A new 2/3-in vidicon TV camera, Model 600, has been announced by JFD Div. of Riker Communications, 142 Central Ave., Clark, NJ 07066. The resolution exceeds 400 TV lines and a built-in automatic light compensator keeps the output constant. Both video and RF outputs are available simultaneously. The RF output is tuneable to TV channels 3 through 6. Features include an automatic target control circuit and simplified operating controls. To facilitate its use in master antenna and

CATV systems, the camera uses standard 75-Ω F output connectors. Model 600 weighs 4 lb. It is priced at \$236.

Two new 1-in closed-circuit videotape recorders, Models VPR-7900 and VPR-5800, have been announced by Ampex Corp., 2201 Estes Ave., Elk Grove Village, IL 60007. Features include split capstans for better tape tension control, minutes/seconds timers for simplified search and editing, simplified, locking, reel-hold-down knobs and improved tape handling characteristics and electronics. The VPR-5800 permits insert and assemble editing, color or monochrome. It is priced at less than \$6,000.

Improved 1-in vidicons have been announced by Westinghouse Electric Corp., Electronic Tube Div., P.O. Box 284, Elmira, NY 14902. Designated WL-8507A and WL-8507A Class 1, the new tubes are direct replacements for the 8507A tube. The WL-8507A is used for general and industrial closed-circuit TV. The WL-8507A Class 1 has been designed for studio use for commercial black-and-white and color broadcasting. Features of the improved vidicons include distortion-free optical glass faceplates and improved center resolution. Falloff in edge resolution is substantially reduced. The WL-8507A is priced at \$172. The WL-8507A Class 1 is priced at \$216.

A new series of High Energy videotapes and sound cassettes, based on a newly developed formulation of cobalt-modified ferric oxide, has been announced by 3M Company, St. Paul, MN 55101. The new series includes videotapes for both quadruplex and helical recorders. The new tapes are reported to have a 4-dB increase in RF output and SNR, resulting in crisper pictures and better color purity.



A portable EIAJ Type 1 videotape recorder, designated Model AV-3650, has been announced by Sony Corp. of America, 47-47 Van Dam St., Long Island City, NY 11101. The recorder has capstan-servo electronic editing and provides automatic control of audio and video recording levels. The electronic editing system permits synchronized, roll-free assembly of sequences from a variety of sources onto a prerecorded tape. Features include audio-after-video recording capability, 300-line horizontal resolution, stop motion and variable slow-motion playback. Model AV-3650 is priced at about \$995.

# Cable Television

## Proceedings of the Symposium

After two decades, cable television is undergoing a metamorphosis. It is evolving from a community antenna service for isolated rural locations to a new medium of communications — the broadband communications network. Because of its multi-channel characteristics, CATV acts as a catalyst for new services, promising diversity of programming, pinpoint delivery to specific audiences, retention and recall of information and entertainment programs, and a wealth of non-entertainment services.

The *Proceedings* of the two-day Symposium on Cable Television, held during the 108th Technical Conference in New York City on October 8 and 9, 1970, presents some of the possibilities that exist in this vast new market.

### Contents

- Foreword • *G. Norman Penwell*
- Remarks Before the SMPTE, October 8, 1970 • *Sol Schildhouse*
- Broadband Communications: A View from the CAT-bird Seat • *Irving B. Kahn*
- Panel Discussion: The Coming Software Explosion for Cable Television
- Ground Stations, the CATV Satellite Interface • *Hubert J. Schlafly*
- Local Programming on Film for Cable Television • *John A. Pistor and Earl W. Kage*
- Cable Television Needs a Complete Super-8 Film System • *G. Norman Penwell*
- Automatic Programming for Cable Television • *Kenneth D. Lawson*
- Suggested Technical Standards for CATV Program Origination • *Lyle O. Keys*
- Chrominance/Luminance Crosstalk in Cable Television Demodulators  
*Charles W. Rhodes*
- A Color Camera Designed for Cable Television • *Wolter J. Wolthers*
- Simplified Color Slide TV Camera System for Cable Television • *C. Bailey Neal*
- Operation and Control of the Professional-Type Color Camera Through CATV Cable  
*Anthony C. Cuomo*
- Coaxial Cable for Municipal Services • *E. A. Rollor, Jr., and August F. Bruns*
- Utility Meter Reading and the Realization of Two-Way Communications • *H. J. Moeller*
- Applications for a Bidirectional Broadband Coaxial Cable Communications System  
*Donald G. Chandler*
- Interactive Television — What It Means to Cable Television • *Edward J. Callahan, Jr.*
- How Receiver Design Affects Cable Television Performance Specifications  
*W. M. Harrold and J. D. Lovely*
- Receiver/Cable Television Problems and Case Histories • *I. Switzer*
- Panel Discussion: Receiver/Cable Television Interface

Over 60 illustrations.      140 pages.      11 x 8½ in.      Softbound.  
**Price:** \$6.50      **Discounts** to SMPTE members, libraries, and booksellers: 1 to 4 copies, 20%; 5 to 49 copies, 25%; 50 or more, 33⅓%

## Society of Motion Picture and Television Engineers

9 East 41st Street, New York, New York 10017