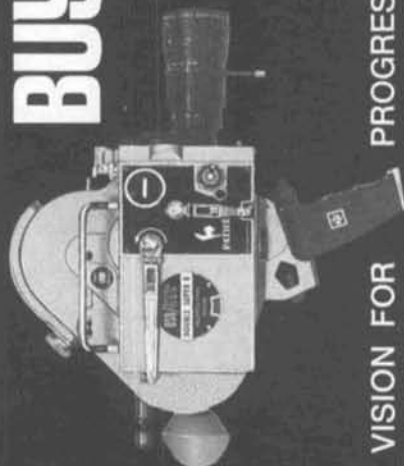


# BUY YOUR SECOND SUPER 8mm...FIRST

## RADIANT-PATHÉ

Look into the world's first Double Super 8mm. movie camera now, because eventually you'll want its advantages: take 200 feet of Super 8mm. film on a single 100 foot roll—add a 400 foot magazine to take 800 feet of film. This movie camera offers all the features of the Radiant-Pathé Professional 16mm.: reflex viewing, BTL automatic exposure readout, single frame capability, 8 to 80 f.p.s., electric drive systems, and a complete selection of SOM Berthiot and Angenieux lenses.

8220 NORTH AUSTIN AVENUE, MORTON GROVE, ILLINOIS 60053 • cable address: RADMAFCO



VISION FOR PROGRESS

Calculation of Fringe Visibility in a Laser-Illuminated Interferometer (p. 367) *Edwin F. Erickson and Richard M. Brown*

Effect of Exposure Duration on Visual Contrast Sensitivity with Square-Wave Gratings (p. 421) *Jacob Nachmias*

vol. 57, no. 6, June 1967

Two-Mirror Systems with Spherical Reflecting Surfaces (p. 741) *Orestes N. Stravroudis*

Measurements of Laser-Beam Scintillation in the Atmosphere (p. 787) *D. L. Fried, G. E. Mevers and M. P. Keister, Jr.*

vol. 57, no. 7, July 1967

Optical Properties of Holographic Images (p. 895) *Reinhard W. Meier*

**Jour. Photographic Science**

vol. 15, no. 2, March/April 1967

Image Characteristics in Kodak Bimat Transfer Film Processing (p. 45) *L. W. Tregillus*

**Jour. SPIE**

vol. 5, no. 2, Dec. 1966/Jan. 1967

V-Angle Film Reader (p. 63) *Frank L. Jennings*

**Making Films in New York**

vol. 1, no. 1, March 1967

Company on the March (p. 13) *Saul Jeffee*

**NAEB Jour.**

vol. 26, no. 2, March-April 1967

The Case History of a Television Film Production (p. 70) *James E. Lynch*

vol. 26, no. 3, May-June 1967

Educational TV: A National Awakening (p. 3) *McGeorge Bundy*

**Photographic Jour.**

vol. 107, no. 2, Feb. 1967

Psychology and Film (p. 37) *Thomas Pilkington*

vol. 107, no. 4, April 1967

Current Status of Colour Photography in the United States (p. 104) *Lloyd E. Varden*

Overcoming the Problem of Permanency in Colour Archives (p. 141) *John Wall*

The Quality and Reliability Campaign, 1966-1967 (p. 145) *T. L. J. Bentley*

vol. 107, no. 6, June 1967

Problems Associated With Colour Television (p. 193) *C. B. B. Wood*

**Point-To-Point Telecommunications**

vol. 11, no. 3, July 1967

Education and Training in Industry Part II (p. 170) *F. R. J. Langridge*

**Photographic Science and Eng.**

vol. 57, no. 3, March 1967

Electron-Microscope Study of Defect Structure and Photolysis in Silver Bromide Microcrystals (p. 57) *J. F. Hamilton*

**Proceedings of the IEEE**

vol. 54, no. 12, Dec. 1966

Information Dissemination and Automatic Information Systems (p. 1663) *Gerard Salton*

Automatic Photointerpretation and Target Location (p. 1679) *W. S. Holmes*

General Survey of Design Automation of Digital Computers (p. 1708) *Melvin A. Breuer*

**Radio and Electronic Eng.**

vol. 33, no. 3, March 1967

The Design of a Magnetic Thin-film Store for Commercial Production, (p. 193) *R. S. Webley and A. T. Gibson*

**RCA Review**

vol. XXVIII, no. 1, March 1967

Experimental Investigation of Multiwatt Argon Lasers (p. 38) *I. Gorog and F. W. Spong*

**Soc. Photo-Optical Instr. Engrs.**

vol. 4, no. 6, Aug./Sept. 1966

A Practical Approach Toward the Determination of Resolution Requirements (p. 277) *Jerrold Zimmerman*



## new products

(and developments)

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



A new automatic tracking mount that can be interfaced with infrared, television, radar and laser devices, has been announced by Photo-Sonics, Inc., 820 S. Mariposa St., Burbank, Calif. Called the Auto-Sextant, the machine can be manually controlled from a remote location or full tracking and focusing can be completely automatic. The camera platform is equipped with four surfaces for mounting cameras or control sensors, with additional provision for mounting a 70mm camera with a 50-in. *f*/5 lens through the center of the mount. Equipment-carrying capacity is up to 1,500 lb with as much as 300 lb of unbalance. The elevation drive system uses an electronic servo control system to control two hydraulic elevation actuators which rotate the instrumentation platform. The actuators form an integral part of the rotating members and provide 600 ft-lb of torque each.

The tracking mount is unmanned. Control of all functions emanates from the remote control console. The Auto-Sextant tracks in automatic, manual or slaved modes. Natural binary optical encoders of up to 18 bits resolution may be installed in each axis of rotation. Various ancillary equipment is available to provide digital data recording and transmission, closed-circuit TV presentation and recording and other functions. The trailer-mounted tracking mount has a gross weight of 13,500 lb without cameras and accessories.

The Tyler Mini-Mount, a new helicopter mount designed for "anywhere, everywhere" use has been announced by Tyler Camera Systems, 6335 Homewood Ave., Hollywood, Calif., manufacturers of 35mm/70mm helicopter mounts. The Mini-Mount, designed to have the same vibra-



## What's at the other end of your telephone?

A staff of top motion picture engineers—at our New York Office, for example.

Kodak engineers are singularly well educated and trained in their profession. And they enjoy their work — working with you.

Suppose you decided to install a processor for the ME-4 process. We won't sell you the machine because Kodak doesn't make one. But we invented the process for our high-speed EKTACHROME Films,

and we supply the prepackaged chemistry. We'll make sure your operation runs smoothly.

At the start-up time, one of our motion picture engineers will drive or fly to your plant. He'll help you mix the first batch of chemicals, run test strips, and adjust your process to give you the correct color balance and sensitometric speed. Then he'll eliminate any physical problems that may show up. And not only will he

tell you how to keep the ME-4 process on standard, but he'll also give you the benefit of a lot of personal experience in getting the beautiful results you expect from it.

Kodak knows where the cinematographer's needs are. Wherever possible, we put ourselves in your place. Whenever necessary, we'll be at your place. Call us at the offices listed below.

**EASTMAN KODAK COMPANY**

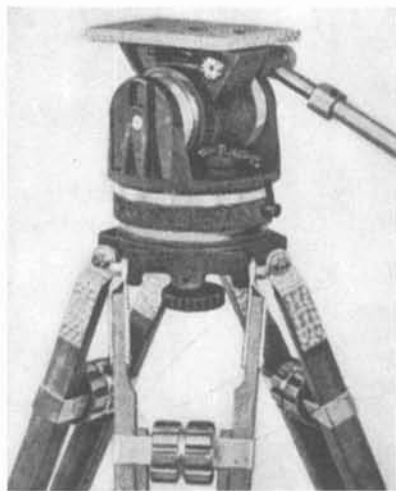
ATLANTA: 5315 Peachtree Industrial Blvd., Chamblee, 30005, 404—617-5211; CHICAGO: 1901 West 22nd St., Oak Brook, 60523, 312—654-0200;  
DALLAS: 6300 Cedar Springs Rd., 75235, 214—FL 1-3221; HOLLYWOOD: 6706 Santa Monica Blvd., 90038, 213—464-6131;  
NEW YORK: 200 Park Ave., 10017, 212—MU 7-7080; SAN FRANCISCO: 3250 Van Ness Ave., 94119, 415—776-6055

**Kodak**

# The New N.C.E. 'HYDROFLUID'<sup>®</sup> Model "H" TRIPOD

complete with

## BALL-LEVELING, PAN & TILT HEAD



### Adjustable fingertip pan and tilt-tension. First time in any medium size tripod.

Velvet smooth, jerk-proof pan and tilt action. Uses larger silicone dampening area than any other tripod in its class. Precision ball-bearings. Mounted on pan and tilt shafts for smooth-action and alignment.

Pan 360°—Tilt 80°—Silicone loaded—  
Temperature Range—130 to + 500° F—  
Aluminum Construction.

Has ball-type leveling at bottom of base with positive lock. Holds cameras up to 40 lbs. Has spirit level and telescopic pan handle with variable angle adjustment.

Designed for: TV Vidicon, 16 Mitchell, Eclair, Maurer, Camerette, Arri 16/35, Cine Special, Eymo, Filmo, Auricon (Cine Voice-600-1200).

#### PRICE:

TRIPOD and HEAD.....449.50

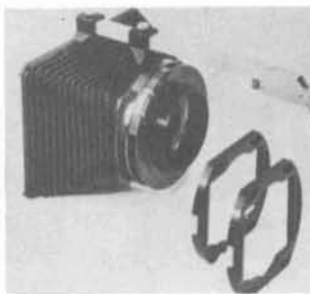
ACCESSORIES:	} MODEL "H"	Hi-Hat .....	37.50
		Case .....	29.95
		Baby Tripod .....	99.50
		Arri '35 Offset Plate .....	35.50

Call or write Mr. Erwin

Now at NEW ADDRESS:

**NATIONAL  
CINE EQUIPMENT, INC.**  
37 WEST 65th STREET  
NEW YORK, N.Y. 10023  
TEL. 212-799-4602

tion isolation and smooth aiming and tracking features of the larger mounts, weighs 88 lb. Features include internal electronics for automatic soft start and stop zoom, finger-tip controls for camera, motorized focus and variable speed zoom, and a self-contained rechargeable power pack for camera, zoom lens and focus. The vibration isolation unit adapts to dollies, boats, cars, tripods, etc. The rental fee of \$75 per day includes zoom lens, filter and two battery packs. An additional \$25 per day includes 16mm Arriflex camera, two magazines, power cables and changing bag. Tyler Helicopter Camera Mounts are available for rental in Hollywood, Miami (Lockrow-Robertson Production Services), London (Samuelson Film Service, Ltd.) and in New York from Art Bass, Tyler Camera Systems, 550 Fifth Ave.

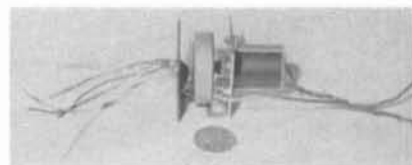


The Universal Matte Box for Arriflex 16S and Arriflex 16M cameras has been announced by Arriflex Corp. of America, 25-20 Brooklyn-Queens Expressway West, Woodside, N.Y. 11377. The new matte box was designed especially for use with Arriflex zoom lenses, the 12-120 Angenieux and the new Zeiss 12.5-75 Vario Sonnar. The new matte box also accommodates many long focal length lenses which could not be used with the standard Arriflex 16 Matte Box. It has a large aperture to accommodate modern lenses with large front-element construction. The front and rear stages are adjustable along the hinged sections of the support beam. The front section of the beam may be swung up out of the field of view of short focal length lenses. The two filter stages of the Universal Matte Box, one stationary and one rotatable for polarizing filters, accommodate a broad range of commercially available filters. Two universal filter holders are included which may be used with a wide variety of filters. The Universal Matte Box, including two filter holders, is priced at \$168.

A new Zolomatic Zoom lens for closed-circuit television has been announced by Zolomatic Corp., 5875 Melrose Ave., Hollywood, Calif. 90038. The lens has a 10:1 zoom ratio. Other features include a 15mm to 150mm focal length,  $f/2.4$  aperture; format covered 0.5 in.  $\times$  0.375 in., and a minimum focusing distance of 5 ft. The lens is 7½ in. long, 4½ in. in diameter and weighs 2½ lb. It is available in manual and motorized forms.

A new line of seven 35mm lenses called Kowa-Cine Prominar, designed for use in Mitchell cameras, has been announced by Mitchell Camera Corp., 666 W. Harvard St., Glendale, Calif. 91204. By means of a

simple cam change, the lenses can be made to fit existing follow-focus type systems. The color-corrected retrofocus lenses have short mechanical back-focal distances for compatibility with reflex mirror cameras. T-stops and other markings are positioned facing the lefthand side of the camera for speed and convenience in reading and changing settings. Sunshade and filter retainer are built into each lens. Focal lengths range from 20mm through 100mm including new focal lengths of 32mm and 40mm. The price range is from \$480 through \$710.



The Dial-A-Log, developed by Delonics Corp., 32 Union Square, New York, N.Y. 10003, is a device to provide waveshapes for test purposes. Applications are said to include use as a sine-wave generator, multiple waveshape generator, dc-ac converter, logarithmic amplifier bias supply and, in connection with other circuitry, a number of other applications. The device is based on Malus Law: The intensity of a beam of plane-polarized light, after passing through a rotatable polarizer, varies as the square of the cosine of the angle through which the polarizer is rotated from the position that gives maximum intensity. In operation, two or more photosensitive devices are placed in line with a light source whose spectral emission is matched to the response of the photosensitive device. A rotating polarized filter, located between the light source and the photosensitive device, has a spectral transmission matched to the photocell. Another polarized filter with a vernier control is in front of the cell. The device can operate within a frequency range of below 1 Hz through 1 GHz. Frequency accuracy is said to be  $\pm 0.005\%$  per day. Operating voltage is 1.5 to 120 V dc; 28 to 240 V ac; 50 to 400 Hz. Dimensions are 2.5 in. high, 1.5 in. wide and 1.5 in. deep.

Development of the PAL Field Sequence Display unit has been announced by the RCA International Div., Central and Terminal Avenues, Clark, N.J. 07066. The unit is designed to overcome certain problems in checking the correctness of a PAL signal. In operation, a trigger signal of 12.5 Hz is derived from a composite video input signal so that remote signals can be monitored. The trigger signal can be made of random phase by means of a switch, when, by depressing a button, the phase can be advanced one field at a time. Alternatively, when a selector switch is placed in the automatic position, fields 1, 2, 3, or 4 can be displayed, the unit identifying the fields from the incoming array of bursts. A switch position is also provided so that an appropriate staircase waveform can be added to the video to give a display of all four vertical sync intervals simultaneously, one above the other.

The unit requires only a composite video input and it provides a trigger pulse out-

## PROFESSIONAL SERVICES

### MAGNETIC SOUND STRIPING

16mm Super-8mm 8mm

- Precision Liquid Dispersion
- Processed or Raw Stock Film
- Quality Guaranteed—Fast Service

#### AERCO

Box 171 Pennsauken, N.J.

### HERMAN GALLI CAMERA SERVICE

formerly Bryhn Camera Service

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

### M. RETTINGER

Consultant on Acoustics  
Analysis, Room Design, Noise Reduction  
5007 Haskell Ave., Encino, Calif.  
Tel: 213-784-3985

### Professional Motion Picture Equipment RENTALS \* SALES \* SERVICE

Phone or write for latest  
Rental & Sales Catalogs

Birns & Sawyer Cine Equipment Co., Inc.  
6424 Santa Monica Blvd.,  
Hollywood, Calif. 90038  
(213) HO 4-5166

## RENT

16 mm, 35mm, 70mm  
Motion Picture Cameras  
High Speed Cameras  
Special Cameras  
Lenses  
Lights  
Processing Equipment  
Editing Equipment

### GORDON ENTERPRISES

5362 N. Cahuenga, North Hollywood, Calif.

### RESEARCH, DESIGN AND DEVELOPMENT OF EQUIPMENT FOR THE PHOTO INDUSTRY

Complete Line of Animation, Filmstrip and  
Special Effects Equipment  
RICHMARK CAMERA SERVICE, INC.  
516 Timpson Pl. Bronx, N.Y. 10455  
LU 5-0730 LU 5-5995

### MUSIC FOR EVERY MOOD

Complete background music library  
cleared for RADIO-TV-MOTION PICTURES  
Quality recordings by full-sized orchestras  
Complete selection of sound-effects records  
also available

WRITE FOR CLEARANCE APPLICATION  
FORMS AND CATALOGS  
THE CAMERA MART, INC.  
1845 Broadway, New York 23

### FRANK P. HERRNFELD

Engineering Consultant

(Formerly with  
Frank Herrnfeld Engineering Corp.)  
P.O. Box 34802  
Los Angeles, California 90034  
(213) 870-2867

### FILM PRODUCTION EQUIP. RENT • LEASE • SERVICE

World's largest source of equipment for pro-  
ducing, processing, recording, editing, etc.  
S.O.S. PHOTO-CINE-OPTICS, Inc.  
New York City: 387 Park Ave. S., 212/MU 8-9150  
N. Hollywood, Calif.: 10635 Burbank Blvd., 877-5326

### WORN FILM RESTORED

Now—no need to throw away damaged, stained  
or worn film! Send it to CAPITAL for speedy  
restoration to original, never-used quality! Our  
new "filmsaver" machine will completely restore  
your damaged originals of negatives and prints—  
protect and prolong the life of new prints.  
Write or phone today:

CAPITAL FILM SERVICES, INC.  
1001 Terminal Road  
Lansing, Michigan 48906 (517) 487-3735

### REELS • CANS • FIBER CASES

### MOTION PICTURE ENTERPRISES

Tarrytown, N.Y. 10592  
N.Y.C. Tel: 212 CI 5-0970

Quality and Service for the 16MM Movie  
Producer. Daily Processing of all  
Ektachrome Films\*

\*"Licensed by Eastman Kodak"  
"Triad" Color Printing—Scene-to-Scene  
Color Correction  
Send for Price List  
SOUTHWEST FILM LAB., INC.  
3024 Ft. Worth Ave., Dallas, Texas 75211  
A/C 214 FE 1-8347

### ZOOM LENS REPAIRS

Expert repairs and servicing  
on all types of Zoom lenses.  
18 years experience. Fast service.

CENTURY PRECISION OPTICS  
10659 Burbank Blvd., No. Hollywood, Calif.  
(213) 766-3715

### TUFF COAT

Cleans, kills static, lubricates and invisibly coats  
and protects all types of film against scratches  
and abrasions. SAFE, easy to use. NO carbon  
tet. Special type available for magstripe and  
video tape. Write for brochure "S"

NICHOLSON PRODUCTS COMPANY  
3403 Cahuenga Blvd. Los Angeles 28, Calif.

### STENCIL-HOFFMAN CORP.

- MAGNETIC FILM RECORDERS, 87, 16,  
17½ & 35MM, All Plug-In Transistor Elec-  
tronics
  - TAPE ¼" FOR MONO, STEREO & SYNC  
PULSE R70
  - BROADCAST LOGGING, 24 HOURS  
CONTINUOUS 7" REELS UP TO 4 CHAN-  
NELS
- 821 N. Highland Ave., Hollywood, Calif. 90038

### CRITERION

FILM LABORATORIES, INC.

Complete laboratory facilities for 16  
& 35mm black-and-white and color  
33 West 60th St., New York 23, N.Y.  
Phone: COLUMBUS 5-2180

SAVE  
25-50%  
ON  
PRINT  
COSTS

Users of Permafilm Protection and  
Perma-New Scratch Removal show  
savings ranging from 25% to 50%  
and more by lengthening the life of  
their prints. A money-back test will  
convince you.  
PERMAFILM INCORPORATED  
257 Park Ave. S., N.Y. 10010  
(212) 674-5700  
PERMAFILM INC. OF CALIFORNIA  
814 N. Cole Ave., Hollywood, Cal. 90038

### PROJECTION SCREENS

Professional, Seamless, Front & Rear Projection  
Consulting service custom sizes for theatres,  
TV & MP studios, viewing rooms. Rigid  
rear projection for plotting and display. New  
"Porta-Pro" portable.  
STEWART FILMSCREEN CORP.  
Formerly Stewart-Trans-Lux Corp.  
1161 W. Sepulveda, Torrance, Calif. 90503  
Phone 326-1422 (213)

### ELLIS W. D'ARCY & ASSOCIATES

Consulting and Development Engineers

8mm Magnetic Sound Printers  
Motion-Picture Projection

Magnetic Recording and Reproduction  
Box 1103, Ogden Dunes, Portage, Ind. 46368  
Phone: (219) 895-2585

### MONTREAL—CANADA

Color 16mm Ektachrome EF, ECO  
Processing & Printing  
Complete 35mm & 16mm B & W Lab Facilities  
Optical Transfers • Editing  
QUEBEC FILM LABS  
265 Vitre St. West, Montreal, Que., (514) 861-5483

### SOUND STUDIO EQUIPMENT

Selsyn distributors, fluid starting  
direct drive on run. From \$1,800.00  
Loop racks—Relay rack mount. \$175.00  
"Fishpole" mike booms telescoping 4'-8"  
6'-12", 8'-16"—\$35.00-\$40.00  
Don Walton, Studio Electronics Co. of Chicago  
5415 N. Clark St., Chicago, Ill. 60640  
(312) 561-0022

### DELONICS CORPORATION

electronic • chemical • mechanical  
ENGINEERING CONSULTANTS

Research, Design and Development  
32 Union Square, New York, N.Y. 10003  
(212) 982-2552

### DAMAGED FILM HOSPITAL

Why Junk Damaged, Scratched, Brittle,  
Stained, "Rainy," Worn Film?  
"THE FILM DOCTORS" Can Restore It To  
Original Screening Quality With Amazing  
R & R Treatments.  
RAPIDWELD: restores damaged originals of  
negatives and prints  
RAPIDTREAT: completely protects and pro-  
longs the life of new prints  
Rapid Film Technique, Inc., 37-02 27 St.,  
Long Island City 1, N.Y. STIlwell 6-4600

### AURICON & K-100 CONVERSIONS

to 400 & 1200 ft.  
Filter slot Auricons & Filmos  
Transistor amplifiers, processors, etc.  
Write for details  
GORDON YODER  
Professional Cine Products  
2959 Ladybird Lane, Dallas, Texas 75220



## Photo Research introduces an easier, faster, more accurate way to test TV cameras . . .



### The SPECTRA TV OPTOLINER\*

is a high resolution, precision TV camera tester that saves space by eliminating the elaborate test equipment formerly used for this operation. Now being used by RCA in their Burbank production facilities, the Optoliner attaches directly into the camera lens mount and provides microscopic alignment (within 0.002") of the slide mounted test patterns to the center of the camera lens. Ideal for use in production facilities, quality control operations or in standards labs, the Optoliner contains a constant, adjustable light source, and a special meter to indicate the exact illuminance and color temperature falling on the face of the camera tube. For more information on this simplified approach to TV camera testing, write, wire or phone today!

\*Trademark of Photo Research Corp.



Karl Freund,  
President

**PHOTO RESEARCH corp.**  
"Photometric Equipment for Science and Industry"

837 N. Cahuenga Blvd., Hollywood, Calif. 90038  
Telephone: (213) 462-6673 Cable: SPECTRA

put which has a variable advance so that an oscilloscope delay unit is not required. A video output is provided to which the staircase waveform can be added if desired. A prototype of the units has been built and commercial availability is expected to be announced later.

A new UHF Sweep Generator designed for television tuner alignment, filter testing, attenuator measurements and similar applications, has been announced by Telonic Instruments, 60 N. First Ave., Beech Grove, Ind. 46107. Designated the 1006, the generator is a solid-state unit featuring a wide range of optional equipment to fit various production line applications. The basic instrument covers a frequency range of 450 to 910 MHz with continuously variable tuning. The sweep width is also variable from 5 to 50 MHz and the instrument's output is 0.5 V rms. It is 8½ in. wide, 12 in. deep and weighs about 10 lb. The basic unit is priced at \$425. Options range from \$15 to more than \$150.

The Mark 81 multiplexer, a video signal multiplexer for use with general purpose video sweep generators has been announced by Ball Brothers Research Corp., P.O. Box 1062, Boulder, Colo. 80302. The Mark 81 adds EIA television synchronization pulses to the output of video sweeping oscillators. The composite video output is a test signal in television format for measuring frequency response of video amplifiers. The instrument also provides an output to synchronize a sweep oscillator with a TV vertical sync pulse for stable oscilloscope display. It is priced at \$390.



A new optical pickup device called Anapfet has been announced by Century Projector Corp., 729 Seventh Ave., New York, N.Y. 10019. The new device is a further development of a technique called Pfet, a method of picking up optical soundtracks by the use of photo field effect transistors. Based on an anamorphic lens principle, in combination with Pfet, the Anapfet is enclosed in a sealed dust proof, oil proof container. Anapfet is incorporated into all Century projector sound systems. Other sound systems can be adapted for Anapfet by means of a specially designed conversion kit, according to the announce-

ment. The new device is said to extend the volume range from optical soundtracks to approximately 80 dB SNR. Designed for single-track optical sound pickups, the sensitive surface of the photo field effect transistor is increased to expand the volume of reproduction from the optical soundtracks.

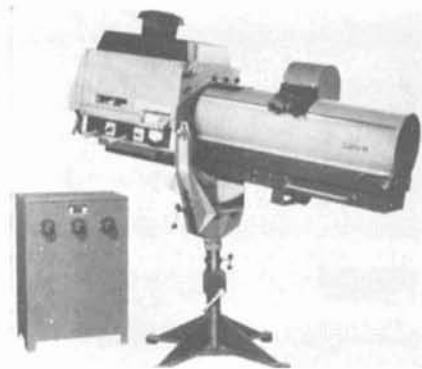
Sound system components, including an 80-W solid-state power amplifier and a series of solid-state plug-in preamplifiers and power supplies, are available from Ampex Corp., 401 Broadway, Redwood City, Calif. 94063. The power amplifiers have a frequency response of  $\pm 1$  dB, 30 to 20,000 Hz at full output. Model APM-1 preamplifier modules will accept inputs from microphones and phonographs and the Model APF series preamplifier modules will accept inputs from magnetic head devices such as tape recorders and motion-picture soundtracks. The Model APT-8 preamp trays will accept up to eight preamplifiers and the Model PS Series power supplies will feed up to 16 preamps. The power amplifier is 7 in. high and the preamp trays and preamp power supply are each 3½ in. high. All units are designed for mounting in a standard 19-in. rack.

The Revocon II, an improved version of the Revocon remote volume control system, has been announced by Altec Lansing, a division of LTV Ling Altec, Inc., 1515 S. Manchester Ave., Anaheim, Calif. 92803. Specifically designed for systems utilizing solid state preamplifiers, mixer-amplifiers and power amplifiers, Revocon II, when installed in or between these units, physically replaces their volume controls. The heart of the system is the 1521A slave network. Up to six 1522A remote volume control units may be ganged from a single 1583A power supply and the units may be bolted together to form a console of individual units for table or wall mounting, or for portable operation. The 1574A mixer panel provides local control of the amplifier input facilities, working in conjunction with the volume control unit. It will mount up to six accessory 40986A volume control switch assemblies. Either local or remote operation is possible with the panel. Prices of the various components of the system are: mixer panel, \$34.50; slave network, \$33.00; remote volume control, \$28.50; and power supply, \$42.25.

The LA 602 Integrated Circuit Amplifier designed for use in audio control consoles and distribution systems has been announced by Electrodyne Corp., 10747 Chandler Blvd., North Hollywood, Calif. 91601. The amplifier can be strapped for 35, 45, or 55 dB of gain. Distortion is said to be less than 0.5% Thd at +30 dBm output. Frequency response is  $\pm 1$  dB from 30 to 20,000 Hz. Noise level is equivalent to an input of -127 dBm, unweighted (20 to 20,000 Hz). Input impedance is 37, 150 or 600  $\Omega$ . Two isolated outputs are provided: one 600- $\Omega$  balanced or unbalanced with output capability of +30 dBm and one single-ended output capable of +18 dBm. Power requirement is 24-V dc regulated 30 mA for +30-dBm output. The amplifier is priced at \$158.

The ACC-803 Audio Control Console designed especially for public address and sound reinforcement systems in auditoriums, theaters, etc., has been announced by Electrodyn Corp., 10747 Chandler Blvd., North Hollywood, Calif. 91601. The unit is self-contained with eight microphones or line inputs using straight line mixers and, three main output channels with illuminated VU meters. Features include illuminated pushbutton channel and pan switching, six-position equalization with echo send on each input channel, echo return control, three-channel pan pot, three-gang straight line master attenuator, built-in patch bay and engraved panels. The console is priced at \$10,664.

A two-way microphone, designated D-200E, has been announced by AKG Microphone-Headphone Div., North American Philips Co., 100 E. 42 St., New York, N.Y. 10017. The new microphone is one of a series of two-way cardioid dynamic microphones which incorporate dual elements to maintain linear off-axis response and uniform rejection of unwanted sound from the rear. The D-200E uses two coaxially mounted elements with a 500-Hz crossover network. Each element is designed for independent reproduction of low and high frequencies. Compensating windings are included to cancel stray magnetic fields. The microphone is priced at \$69.



The Gladiator, a new carbon-arc follow spotlight with an output of 26,500 lm, has been announced by Strong Electric Corp., 91 City Park Ave., Toledo, Ohio 43601. An exclusive two-element variable focal length optical system employs a silvered glass reflector and provides a single-lever means of changing the size of the spot. With a trim of 11 mm  $\times$  20-in. L0110 orange tip positive and a  $\frac{3}{8}$ -in.  $\times$  9-in. negative at 108 A and 58 V nominal, the Gladiator is said to burn 1 hr and 20 min. The automatic carbon feed maintains a constant uniform arc gap to assure a steady light free from hiss or flicker. A separate selenium power supply operates on a 220-V, 3-phase 50/60 cycle line with current draw of 23.5 A and can be adjusted to compensate for line voltage fluctuations. In operation, at a 150-ft throw, the spot diameter can range from 14 in. to 38 ft. Without iris a spot 7 ft in diameter provides 900 fc at the center. At 200 ft the diameter can range from 18 in. to 50 ft. Without iris, a spot 9 ft in diameter provides 600 fc at the center.

The optical system includes a 6-color boomerang, ultraviolet filter, dimming

control, horizontal masking control and provisions for installation of a Lobsterscope (an accessory) to obtain stroboscopic and other special effects. The unit is priced at \$5,300.



A new recorder/reproducer that provides continuously variable time shift intervals ranging from 2.5 s down to 40 ms has been introduced by Leavers-Rich Equipment Ltd., 319 Trinity Rd., Wandsworth, London, S.W. 18. The equipment is available for two-channel operation using  $\frac{1}{2}$ -in. tape or for four-channel operation using  $\frac{3}{4}$ -in. tape. The machine accommodates reels of up to 10  $\frac{1}{2}$ -in. diameter. The tape transport has a special head-block system with micrometer adjustment to provide head traverse and movement of the head may be effected either manually or by means of a small driving motor. The head traverse is bidirectional and offers advance and delay facilities with a resetting accuracy of 0.0005 in. in a total traverse of 2.5 in. Two six-speed ranges are available covering  $\frac{1}{8}$  to 30 in./s or  $1\frac{1}{4}$  to 60 in./s. A range of electronic modular amplifiers can be supplied to cover direct mode or frequency modulated mode operation. A footage indicator with pushbutton reset is used to locate any particular information. The unit is contained in a trolley console.

A portable transistorized analog computer has been introduced by A. M. Lock & Co., Prudential Buildings, 79 Union St., Oldham, Lancashire, England. The computer, called Teachaid Mk I, is designed especially for use in schools, colleges, design laboratories, etc. Measuring 12  $\times$  7  $\times$  7 in. and weighing less than 10 lb, the computer has four operational amplifiers which can be used as integrators and which are shown graphically on the front panel of the instrument. Solutions to problems may be presented on a recorder or on an oscilloscope, and computation can be repetitive where oscilloscope display is being used for demonstration purposes. Several of the computers can be linked together to extend the range of applications. Problems that can be solved on the instrument include differential equations, up to third order, using conventional techniques, and differential equations of much higher order using transfer function and simulation techniques; linear and square law equations; algebraic equations with two variables; and simulation of simple control systems and chemical reactions. Solution operation rate is 25 c/s and the compute period is 35 ms, with a reset time of 5 ms. The computer will be priced at between \$560 and \$700.

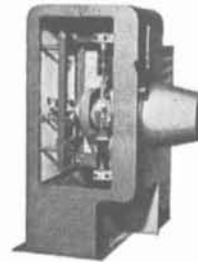
## XETRON PRODUCTS DIVISION

Special Light Sources for  
Audio Visual Applications

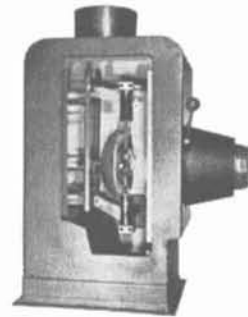
XETRON LAMPHOUSES

XETRON POWER SUPPLIES

XETRON BULBS



**CX-450**  
Miniature light source  
suitable for many 16mm  
and 35mm projector  
applications.



**CX-900** Ideal light source for screening rooms,  
laboratories and small theatres. Adaptable to all  
projection equipment.



**CJX-450**  
Console version of stand-  
ard JX-450 modification  
with power supply and  
control panel. High in-  
tensity type light provides  
great increase in screen  
brightness.

Also Available

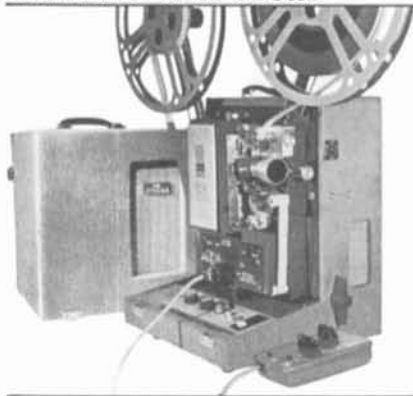
**CJX-1000** Provides maximum screen re-  
sults for 16mm projector.

Literature on request.  
Dealerships available.

## XETRON PRODUCTS DIVISION

**CARBONS, Inc.**  
10 Saddle Road  
Cedar Knolls New Jersey  
P.O. Box K 07927

# THE MATCHLESS FLICKERLESS WITH TRUE HI-FI SOUND



**L-W 16mm ATHENA for stop-motion analysis and theater-quality sound projection!**

## BRIGHTEST PICTURE

Twice as bright as competitive equipment. Faster pull-down permits wider aperture, lets more light through.

## SMOOTHEST, QUIETEST OPERATION

Smooth-as-cream, flicker-free projection at all speeds: 1, 2, 4, 6, 8, 12, 16, 24 fps. And no noisy, image-jarring solenoids in the drive.

## BEST SOUND

The only flickerless projector with high-fidelity, all-solid-state sound. Full 30-20,000 cps audio range. No tubes to burn out, no waiting for warm-up. Exclusive focussing exciter lamp lets you "fine tune" sound.

## BEST CONSTRUCTION

This is the rugged, dependable Eastman Pageant, built in America entirely of American-made parts and re-engineered by L-W for absolutely flicker-free projection.

## BEST TRACK RECORD

The most widely used flickerless sound projector in the world—made by the world's largest, most experienced manufacturer of flickerless equipment.

## BEST SERVICE

Factory-trained personnel at L-W factory service centers are always ready to give you fast, expert help.

- Unlimited hold time for stills—no film damage, no loss of brightness.
- Precise frame rates.
- Instant stop, start, change of direction.
- One-handed remote control of speed, direction and single-frame projection.
- Illuminated digital frame counter.
- Heavy-duty, fold-up reel arms handle 100' to 2000' reels.
- Mike and phono inputs.
- UNCONDITIONAL GUARANTEE.

**WRITE FOR FURTHER INFORMATION AND DEMONSTRATION**

## L-W PHOTO, INC.

15453 Cabrito Road  
Van Nuys, California 91406  
Phone: (213) 781-0457



Sold by authorized Eastman Kodak A-V dealers

A **Tape recorder deck** for home entertainment applications has been announced by the Viking division of Telex Corp., 9600 Aldrich Ave. South, Minneapolis, Minn. 55420. Features include an eight-position master switch for various recording and playback modes, four-digit counter and full complement of inputs and outputs. Frequency response is 40 to 18,000 Hz at top speed of 7½ in./s. The recorder is priced at \$389.95 with base.

A new **Canon super 8 movie camera**, the Auto Zoom Model 86C, has been announced by Bell & Howell, 7100 McCormick Rd., Chicago, Ill. 60645. Similar to the 85C, additional features include electrically powered zoom control with a wide-range 5/1 f/1.8 lens; slow motion capability (camera can be set at 36 frames/s or the normal 18); complete automatic exposure but with a manual control when high- or low-key effects are desired; and a grip contoured for maximum comfort. The camera is also designed to accept a 1.6× tele-lens converter to extend the zoom range to a maximum of 78mm. The camera is priced at about \$209.95. The optional converter is priced at \$99.95.

A **16mm sound motion-picture repeater projector** called Modular Moviematic Mark V-MC3 has been announced by Kalart Company, Plainville, Conn. 06062. The projector uses the Marc 300 light source. Other features include remote controls, a plug-in speaker and a 1,000-ft film magazine. The machine is designed for use in areas with high ambient light, such as displays, advertising and sales promotion exhibits. It is priced at \$1,420. Also available is a slide projection attachment for use with 70, 75 and 70-MC3 series Kalart/Victor 16mm projectors to provide a larger picture from a shorter projection distance. It is priced at \$38.

The company also announced a 1,000-W xenon lamp projector said to produce 2,200 lm. Called the Kalart/Victor 70-1600, the lamp is designed to be ozone free and to require no ventilation. It is equipped with a built-in time meter to record the number of hours the lamp has been used. It is priced at \$3,900.

The **axial Quartzline lighting system** announced by General Electric Co., Photo Lamp Dept., Nela Park, Cleveland, Ohio 44112, combines four elements into one unit, consisting of a quartz lamp, dichroic condenser lens, lampholder and socket. The lampholder contains a socket for the lamp and a faceplate to position the lamp and reflector for maximum efficiency. Intended for 16mm and 8 mm applications, six low-voltage models of the new system have been announced. Except for a 24-V, 200-W unit designed to project motion pictures in airliners, all are 21-V, 150-W systems. The lighting system is compact, designed to fit within a 2-in. cube and features a quartz lamp described as about the size of a jelly bean. Possible applications for the new units include fiber optics, card readers and information retrieving systems.

A **line of ac-operated xenon long arc discharge lamps** for use in continuous operation applications such as materials

testing, reproduction devices in graphic arts and photography, and repeating-type printers, has been introduced by PEK, Inc., 825 E. Evelyn Ave., Sunnyvale, Calif. The lamps employ quartz wall construction and may be water cooled with PEK quartz water cooling jackets. Power requirements range from 2,500 V A to 6,000 V A. Average life of the lamps is about 600 hr. Price range is from \$90 to \$125.

**Model M703**, a low-ripple power supply has been added to a line of 200-W power supplies for operation of short arc lamps developed by PEK, Inc., 825 E. Evelyn Ave., Sunnyvale, Calif. The new unit is designed for low-current operation of the PEK 200 Series short arcs and similar lamps. It features a current ripple of less than 1% rms. Power output, rated at 200 W, is adjustable over a 60-W range. The unit is metered for lamp voltage and current and has a built-in starter. It is priced at \$675.

**The Four-Port Splitter/Adder 080-101**, produced by Bishop Instrument, 440 Forest Ave., Portland, Maine 04101, is designed to interconnect any four 50-Ω sources and loads and to maintain 50-Ω at all ports. A signal can be split between three paths, or three signals can be combined into one path. The device can be interconnected with three-port matched signal splitters (080-001) to yield any desired number of ports. In the time domain, pulse reflections in a 140 ps system are said to be only 6% with transmitted pulse rise time of 100 ps. Equivalent frequency range is dc to over 2 GHz. Output voltage is one-third of the input at each port and outputs are in phase with each other. Power rating is 1½ W, 500 V peak. The instrument is priced at \$30 with discounts if ordered in quantities. Further information is given in a Product Bulletin available from the company upon request.

**Availability of Permanent Ceramic Magnetic Field Motors**, M-1500 and M-1600, has been announced by Rae Motor Corp., P.O. Box 518, McHenry, Ill. 60050. The motors may be substituted for shunt wound motors. Maximum power intermittent duty for M-1500 is ¼ hp and for M-1600, ½ hp. Available from 6-V dc to 115-V dc, the motors are available with ball or sleeve bearings. Price range for the M-1500 is about 6.75 to 7.00. The M-1600 is about \$8.50.

A **Joulemeter** for relaxed laser with digital display of the measurements has been announced by Schneider Radio Television, Division Electronique Professionnelle, 12 rue Louis Bertrand, 94, Ivry, France. The new sensing technique, based upon the French National Scientific Research Center method, has the advantage of not interfering with the laser beam path. The equipment is said to have a sensitivity ranging from 0.1 to 100 J and 0.1% resolution. Housed in a standard 19-in. cabinet, the instrument has also incorporated provisions for coded outputs for printing devices. The price range is from about 8,500 francs to 13,000 francs with an associated printer.