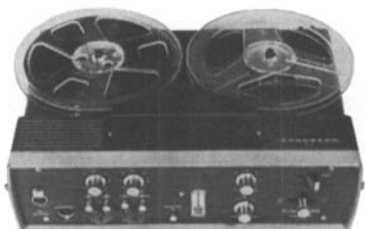


TANDBERG PRESENTS

THE HAPPY ALTERNATIVE



**The Pilotone
Portable Recorder
that costs about half
what you thought
you'd have to spend.**

Point for point, the Tandberg 11-1P is an unbeatable value for full-fidelity recording and picture-sound synchronization. Four heads, three speeds with electronic servo-control, limiter-amplifier to prevent overload, servobrake for constant tape tension, flutter-filter and full neo-pilotone synch facilities.

Everything you need—in the studio or in the field for post-synch shooting—at just about *half* the price of comparable top-quality equipment. Of course, a resolver is available.

Ask for it at your dealer's, see if our alternative doesn't make you happy.

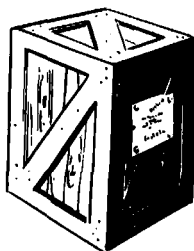
**TANDBERG
OF AMERICA**

P.O. Box 171, 8 Third Avenue
Pelham, New York 10803

flood lights; Super Intensity single and multicircuit Cyclorama strip lights; grip equipment; replacement tungsten-halogen quartz lamps; color gellatines and acetates; diffusion scrims and a wide range of mounting equipment. The catalog includes complete descriptions, specifications and price lists.

The Relamping Guide: Stage/Studio Lamps (SS-3) is intended to help users of stage and studio lighting equipment determine the proper General Electric light sources for their fixtures. The *Guide* contains tables listing both the old and new

equipment of most of the manufacturers of stage and studio luminaires. It is intended to be used in conjunction with another GE booklet, *Quartzline and Incandescent List (SS-1)*. Both booklets are available upon request from the Inquiry Bureau, General Electric Co., Nela Park, Cleveland, OH 44112. The equipment is grouped by manufacturer and subdivided into generic groups. Each listing consists of the manufacturer's catalog number or model, description of the unit, the manufacturer's recommendation of maximum watts allowed in the fixture and where the lamp or lamps that fit the fixture are found in booklet SS-1.



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 new Bauer C Royal Super-8 Camera, manufactured in Germany by Robert Bosch Elektronik und Photokino GmbH and marketed in the United States by Allied Impex Corp., a division of AIC Photo, Inc., 168 Glen Cove Rd., Carle Pl., L.I., NY 11514, has a number of advanced features, including the capability of making soft scene transitions in the form of lap dissolves. This and other features of the new camera are expected to make it useful to students of the motion picture at the university level, especially those engaged in the making of experimental films.

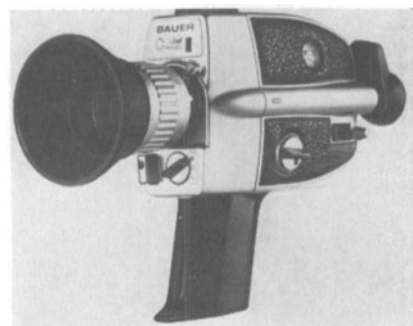
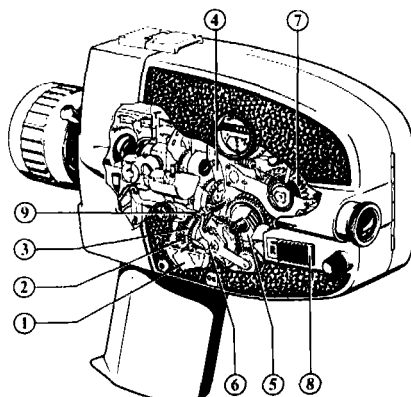
The camera uses an ingenious mechanical design to overcome one of the major limitations of the popular super-8 camera cartridge, that is, the inability of the cartridge camera to permit lap dissolves — the technique in which a scene slowly fades

out, while another scene slowly fades in on top of the first one.

In order to produce this effect the film must be rewound a certain number of frames between the fade-out and the fade-in. This is easily done in cameras using rolls of film. The camera cartridge, which today largely determines the design of super-8 cameras, presents a seemingly insurmountable mechanical difficulty, however. It is not suitable for backwinding of the film between fades, because the supply roll in the feed chamber is not fitted on a core, and, on the other hand, the take-up core features a reverse action lock. The purpose of this lock is to prevent the already exposed film in the take-up chamber from coming loose because of its own springiness, in case the cartridge is removed from the camera between scenes. Loose film in the take-up chamber could cause transport trouble as well as picture unsteadiness, especially if the take-up chamber contained a relatively large amount of loose film.

The Bauer C Royal S8 camera overcomes the action of the reverse action lock in such a way that normal operation and film movement in the cartridge is always maintained. The cutaway diagram shows how the system works. While the camera is running, the variable bar knob, (1) on diagram, is rotated beyond a detent. This starts the fade-out by gradually closing the shutter. Simultaneously the take-up core drive is arrested, but the transport claw continues its movement and pushes the film loosely into the take-up chamber, for the length of the fade-out.

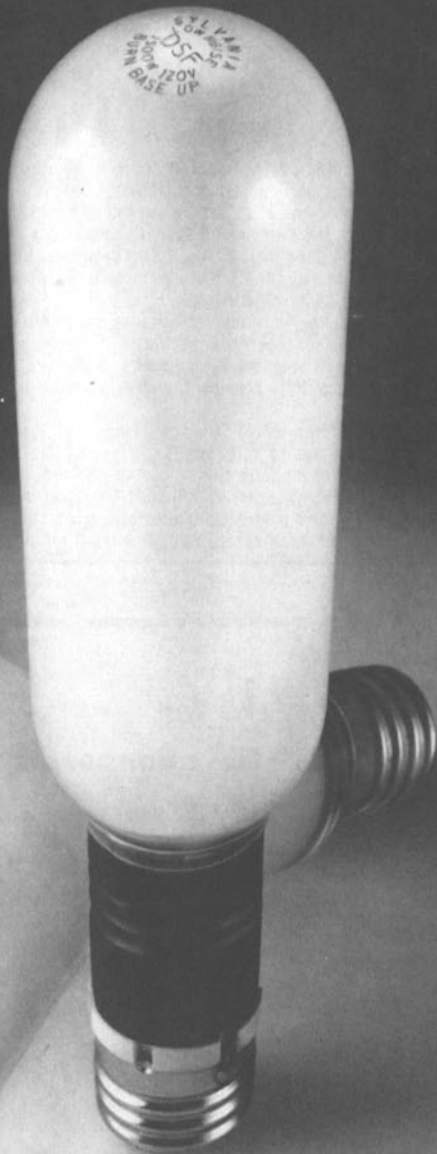
The length of film which can be pushed in this way into the take-up chamber depends, of course, on the amount of already exposed film previously accommodated in this chamber. The designers found that the maximum length of loose film which can thus be made available for lap dissolves is



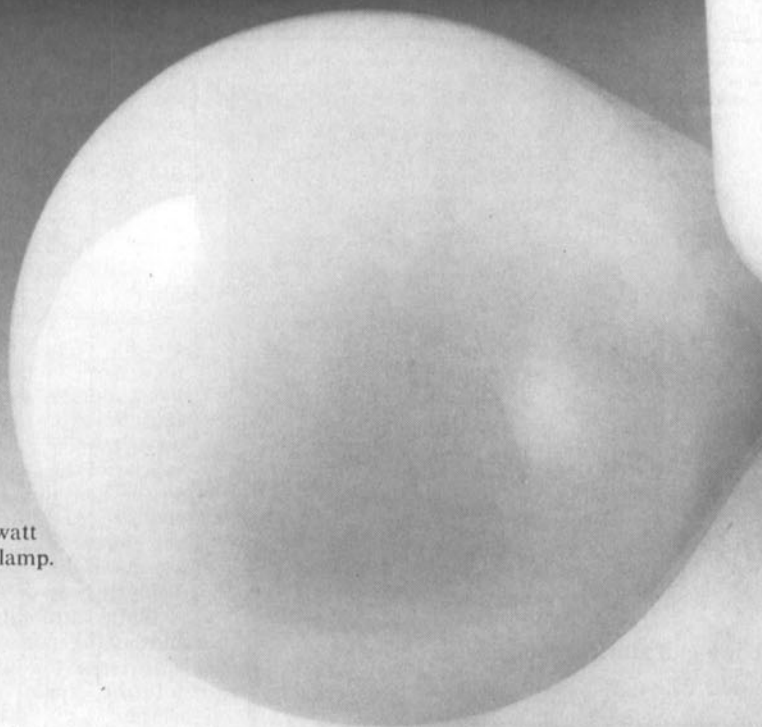
**Our new krypton-halogen replacement
for the PS52 fits the same fixture,
lasts twice as long and maintains
constant color temperature for life.**

That's some replacement.

New DSF 1500-watt
krypton-halogen studio lamp.



PS52 1500-watt
incandescent studio lamp.



When you replace a PS52 studio lamp you can replace it with something better.

The something better is Sylvania's DSF krypton-halogen lamp, which fits the same fixture as the PS52.

Its average rated life is 250 hours. More than twice the life of the PS52.

And that's useful life, because the DSF is as bright at the end of its life

as it was at the beginning. There's no darkening with age as in the PS52.

And its 3200° K color temperature is there right from the beginning. And it's still there 250 hours later. Constant.

The DSF has low-noise construction. There are no loose parts to resonate when used with SCR dimmers.

With all these advantages, the DSF is more than a replacement.

It's a major improvement.

*Sylvania Electric Products Inc.,
100 Endicott St., Danvers, Massa-
chusetts 01923*

SYLVANIA
GENERAL TELEPHONE & ELECTRONICS

The new Stellavox Sp7 will become a giant in the recording industry.



All 8 lbs. of it.

Up till now, perfect stereo location recording meant lugging unportable portables.

So we've come up with a rugged precision instrument, the Swiss-made Sp7. It's small—8"x10"x3". It's light—only 8 lbs. with batteries. And, despite its size, Sp7's features measure up to any portable you're now using..

Plus giving you several advantages you'll get nowhere else, regardless of size.

Like four standard tape speeds. 3¾, 7½, 15 and 30 ips. It is also continuously variable from 0-30 ips.

Another exclusive: Our many tape head assemblies with up to four heads. They plug in. Are quickly exchanged in the field. And each one contains the components to equalize the electronics precisely for a particular tape speed, track configuration and tape oxide. With Neo-pilot for mono

and "Sychrotone" for stereo sync recording!

Then there's our 10½" real adapter. It gives you more recording time than any portable ever.

Plus: hands-off automatic stereo level control, dual peak indicating meters, internal powering for two condenser mikes, external AC supply and battery charger, and an internal quartz generator.

We expect this tiny Stellavox Sp7 to live up to the highest hopes of the industry. Because you don't have to be big to be a giant.

STELLAVOX

exclusively by

GOTHAM
AUDIO CORPORATION

2 West 46th Street, New York, NY 10036 (212) 265-4111
1710 N. LaBrea Avenue, Hollywood, CA 90046 (213) 874-4444

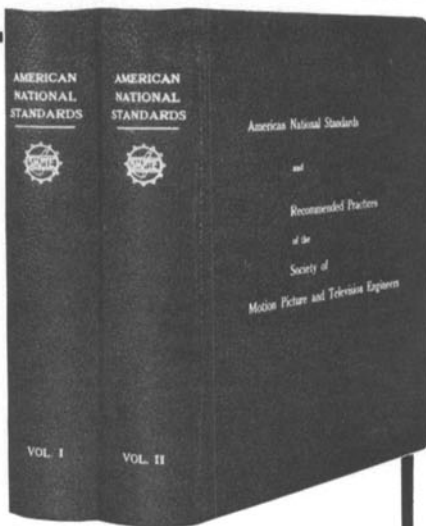
Binders for SMPTE - sponsored American National Standards and SMPTE Recommended Practices

for convenience in assembling and storing your file of Standards and Recommended Practices.

Order these high-quality, durable leatherette ring binders, in sets of two, from SMPTE Headquarters. Price per set including mail charge: \$11.00: North American Continent; \$12.00: Elsewhere.



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



90 frames of super-8 film, or 5 s of filming time at 18 frames/s.

During the rewind phase, with closed shutter, the same claw pushes this portion of loose film back into the supply chamber. An ingenious electromechanical timer, which acts as a "computer" during the fade-out phase, ensures that the rewinding is automatically stopped when the exact length of the fade-out, that is, the exact number of frames, has been rewound. The camera is then ready for the fade-in run of the next scene.

The length of the fade-out is determined by the speed with which the bar knob (1) is moved beyond its detent towards its final stop. This "closed" position should be reached in no more than five seconds, since the timer will stop the camera after this maximum time. Shorter fades are of course possible. The fade-in should be held to the same length as the fade-out.

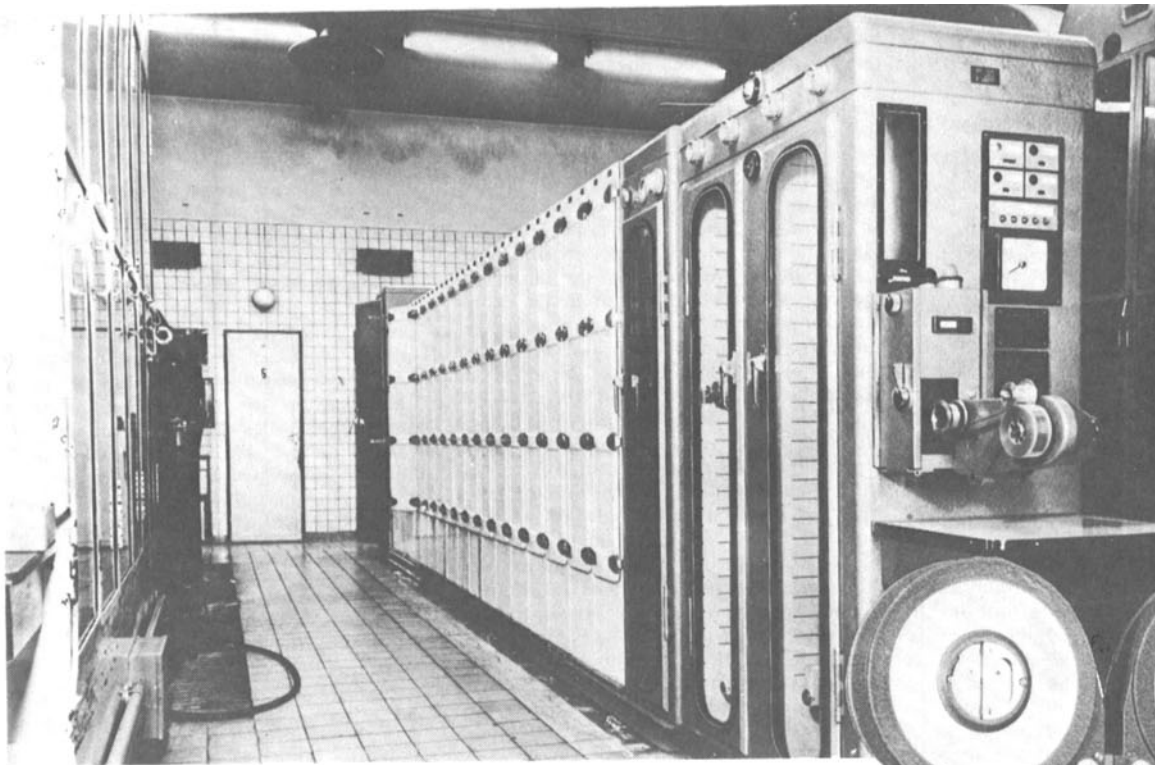
The technical functioning of this camera for lap dissolves is shown by the diagram. Fade-out is accomplished by rotating with the desired speed, the variable shutter bar knob (1), while the camera is running. Turning this knob beyond the initial detent position starts the gradual closing of the shutter and simultaneously arrests the take-up core drive (7). The shutter (4) is varied by means of a crown gear assembly (2) and a differential (3). The shutter closing movement is of a continuous mode. Upon completion of the knob rotation, when the end stop is reached, the shutter is closed completely and the camera is stopped electrically.

When rotating the bar knob (1) beyond its initial detent position, an electromechanical timer (5) starts operating. This is coupled to the claw system via a lever system (6). The timing element is a contact disk which works against a spring. Its timing angle is equivalent to the length of film used for the fade-out (tolerance ± 1 frame). The capacity of the timing device is limited to exactly 90 frames of super-8 film.

The camera is automatically and electrically stopped when 90 frames have been used for a fade-out. This means that the bar knob for varying the shutter opening must reach its "closed" position within no more than 5 s (equivalent to 90 frames); otherwise the fade *would not be completed* by the time the camera stops. Shorter fades than 5 seconds are of course possible, and the shutter will be closed and the camera automatically stopped, as soon as the bar knob (1) reaches the "closed" position.

While still holding down the camera run button, the user now actuates the backwind switch (8). The claw will then push back into the supply chamber the exact length of film used for the fade-out, with the shutter completely closed. The backrun will also be stopped by the timer when the correct amount of film has been rewound. Simultaneously with the backrun the original timing will be "erased" and the camera is then ready for the next and final step, the fade-in.

When the camera run button is pressed, a lever system (9) releases the take-up core drive for normal operation. However, the camera will start running only when the shutter bar knob (1) is being rotated from the "closed" toward the "open" or normal

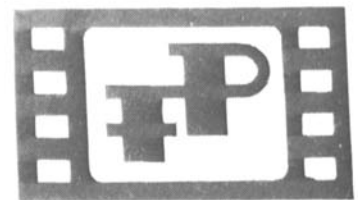
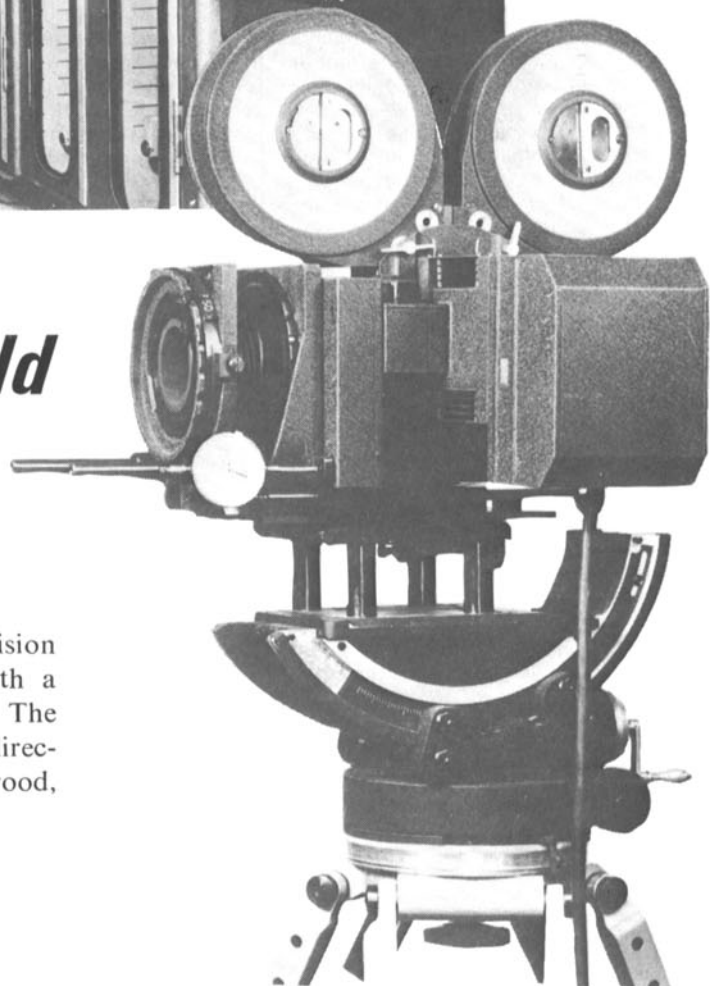


The wonderful world of art is within your reach.

We offer you the means. Up to date film and television equipment, laboratories and studios, designed with a long tradition and the most contemporary way. The same equipment that helped the Czech and Slovak directors and actors enjoy international success in Hollywood, Brussels, Montreal and Mannheim.

You are cordially invited to visit our
Stand No. 10, Halle 11 at the
"PHOTOKINA" Koln 1970.

Catalogue of equipment for film taking, film processing,
printing, auxiliary cinematographic equipment and equip-
ment for motion picture theaters on request.



**Foreign Trade Company Limited, Václavské nám. 56,
Praha 1, Czechoslovakia**

A Technical Guide to Underwater Photography from Wiley-Interscience

IN-WATER PHOTOGRAPHY Theory and Practice

By LAWRENCE E. MERTENS, *RCA Service Company* and *Florida Institute of Technology*

A Volume in the Wiley Series on Photographic Science and Technology and Graphic Arts, edited by Walter Clark

"Considering the relative newness of the field and the still small band of active practitioners, a surprisingly large number of books and articles have been published on underwater photography. . . . Yet despite this progress, there appears to be a serious lack of quantitative measurements and data. . . . The increasing requirements and growing complexity of underwater systems seem to call inevitably for a broad systems approach based on detailed scientific and engineering analysis. I believe that a serious need exists for a book that presents the basic theory and shows how it can be applied to practical problems. . . . this represents my basic objective for writing *In-Water Photography: Theory and Practice*."

—from the Author's Preface

Emphasis is placed on the physical and optical transmission characteristics of this photographic medium. The book also describes the theory of operation and performance capabilities of each of the basic in-water photographic components. Wherever possible, equations have been supplemented with charts and graphs so that the effects of important parameters can be easily visualized. A separate chapter on new techniques reviews range-gated systems, synchronously scanned systems, image processing, holography, and acoustic imaging. 1970 464 pages \$19.95

WILEY-INTERSCIENCE

a division of JOHN WILEY & SONS, Inc. 605 Third Ave., New York, N.Y. 10016
In Canada:

22 Worcester Road, Rexdale, Ontario

Gentlemen:

Please send me _____ copy(ies) of IN-WATER PHOTOGRAPHY at \$19.95 each.

Enclosed is my check (money order).

Please bill me.

If I am not satisfied, I may return the order within 10 days after receipt at no cost other than postage.

NAME _____

TITLE _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

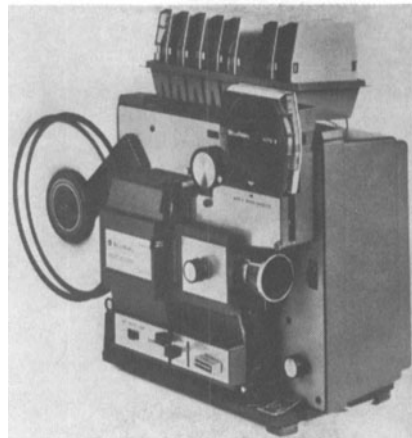
Send to: **WILEY-INTERSCIENCE**

a division of JOHN WILEY & SONS, Inc. 605 Third Avenue, New York, N.Y. 10016

position. For a perfect lap dissolve the fade-in should have the same length as the fade-out. This can be achieved by counting the same number of seconds for the closing as well as for the opening rotation of the bar knob (1).

The Bauer C Royal Super-8 Camera is shown in the photograph. Other features of this camera are: Three running speeds, 18, 24 and 54 frames per second with fingertip switch-over control while the camera is running, and with fully automatic exposure compensation for each running speed. Single frame exposures are also available, thus allowing animation or time lapse work. The camera is provided with an f/1.8 Schneider zoom lens with an 8:1 range, wideangle 7mm to telephoto 56mm focal length. The lens focus is from 3 ft to infinity. The viewfinder is of the aerial-image type, provided with cross hairs for perfect centering. Visibly indicated in the finder is the variable shutter, as well as a remarkably sensitive through-the-lens CdS exposure meter. Also visible are film-end indicator and battery check. The camera batteries operate the zoom motor, film advance and exposure meter. Exposure is adjusted automatically and continuously for the respective viewing angle of the zoom lens, for correct exposure at all times.

The camera is marketed in U.S.A. by Allied Impex Corp., a division of AIC Photo, Inc., 168 Glen Cove Rd., Carle Place, L.I., NY 11514, at the list price of \$524.50 for the camera and \$19.95 for the special carrying case.



The Auto 8 movie cassette system featuring automatic rewind has been announced by Bell & Howell, 7100 N. McCormick Rd., Chicago, IL 60645. Cassettes in 50- to 400-ft sizes can be snapped into place and the entire film projection cycle accomplished at a touch of a control lever. The system also allows projection of super-8 and regular 8mm films contained on standard reels. At the end of a completed film the film is automatically rewound back into the Auto 8 movie cassette. A 50-ft cassette can be rewound in about 10 to 12 s. A feature of the design is Multi-Motion with normal projection at 18 frames/s, slow motion at 6 frames/s, step motion, which permits viewing movies as slowly as 2 frames/s, and still projection. The 469Z Auto 8 is priced at \$219.95.

A new low cost system of converting motion-picture film from its standard 1.85 to

1 or 2.55 to 1 aspect ratios to videotape using the standard TV ratio of 1.33 to 1, has been announced by Vidtronics Division of Technicolor, Inc. The new process, which has been designated as the Technicolor Pan and Scan System, reduces present costs by as much as 50%. In addition, by eliminating film processing procedures, delivery can be made within 48 hours. The new Technicolor camera system is reported to produce the highest network quality achievable today. The system can also be used to adapt film material for videotape cassettes, and can be used in all known cassette systems. The Pan and Scan allows for breaks for commercials or station identifications to be inserted wherever designated. Titles can be matted with any desired design. The system eliminates all film laboratory work by using an electro-optical system which reduces a film editor's "Shot Sheet" to a small length of punched, coded computer-type tape. The tape is then fed to the system, which has seven pan positions. The videotape is made as the film print rolls and the time required is the film's actual running time.



The Spectra Film Gate Photometer, a printing machine exposure meter designed to provide complete control over the color printers in a laboratory, is manufactured by Photo Research Corp., 3000 North Hollywood Way, Burbank, CA 91502. Three special photo probes, provided with selected silicon cells to ensure maximum stability and repeatability, can be used with the new instrument. The first probe measures average exposure, intensity or illuminance, as well as color balance, directly at the film plane. Successive readings are taken through separate red, green and blue filters selected to match closely the spectral sensitivity of typical print film materials. Color balance and exposure can easily be brought to certain pre-established levels. The second probe measures illumination or field uniformity over the film plane at a number of selected points. If the printer's optical system has been rearranged, and a heat glass, a lens, a lamp or any other element of the optical track has been replaced, the probe makes it easy to realign the elements correctly. The third probe measures intensity variations during the printing process through the eyepiece of a unit.

The photometer is a solid-state unit with a 5-in readout meter which provides a linear scale calibrated in 0.025 Log E steps in two ranges—0-40 and 40-80 printer steps. The photometer is priced at \$985. Probes range in price from \$295 to \$850 depending upon the application. The instrument was described in a paper by Mehrdad Azarmi and Richard A. Walker presented at the Society's 108th

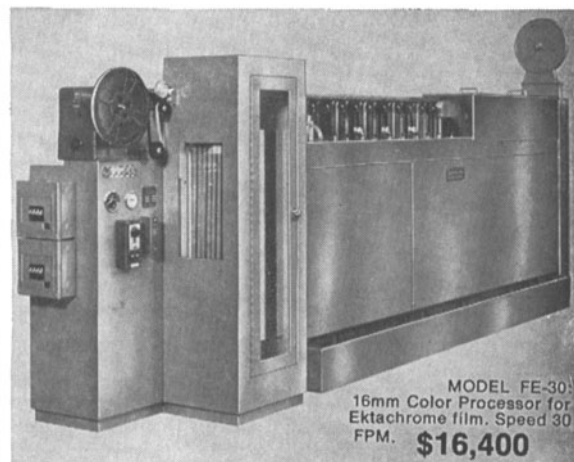
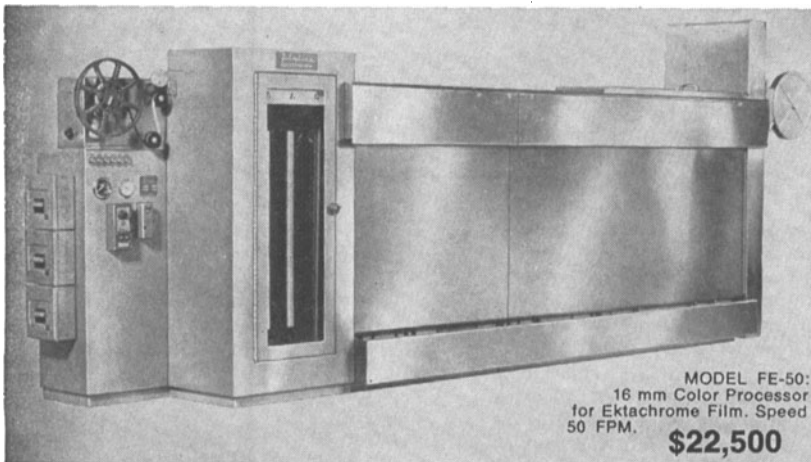
The Money-Makers

FILMLINE'S professional color film processors for motion picture laboratories.

The Filmline Models FE-30 and FE-50 are fast, foolproof, troublefree and long-lasting. They turn out consistently superior work. The design is backed by Filmline's reputation as the world's leading manufacturer of film processors for the motion picture laboratory industry.

Now enjoy the benefits of professional equipment incorporating exclusive Filmline features that have paced the state-of-the-art in commercial, industrial and defense installations at a cost lower than processors offering less.

Check the exclusive Filmline features below:



● "FILMLINE OVERDRIVE FILM TRANSPORT SYSTEM"

This marvel of engineering completely eliminates film breakage, pulled perforations, scratches and operator error. The film can be deliberately stalled in the machine without film breakage or significant change of film footage in solutions. The heart of any film processor is the drive system. No other film drive system such as sprocket drive, bottom drive or simple clutch drives with floating lower assemblies can give you the performance capability of the unique Filmline Overdrive Film Transport System.

● "TORQUE MOTOR TAKE-UP" gives you constant film take-up and does not impose any stress or strain on the film itself. Completely independent of the film transport system. This FILMLINE feature is usually found in professional commercial processors but is incorporated on the FE-30 and

FE-50 models as standard equipment. Don't settle for less!

● "TEMP-GUARD" positive temperature control system. Completely transistorized circuitry insures temperature control to well within processing tolerances. Temp-Guard controls temperatures accurately and without the problems of other systems of lesser sophistication.

● "TURBO-FLOW" impingement dryer. Shortens dry-to-dry time, improves film results, and carefully controls humidity content of your valuable (and sometimes rare) originals. Immediate projection capability is assured because the film dries flat without the usual curl associated with other film processors.

● "ZERO DOWN TIME" The reputation of any film processor is only as good as its reliability. The

combination of the exclusive and special added Filmline features guarantees trouble-free operation with absolute minimum down-time and without continual operator adjustments. Recapture your original investment in 2 years on maintenance savings alone. Filmline's "Push the button and walk-away processing" allows inexperienced operators to turn out highest quality film.

● "MATERIALS, CONSTRUCTION AND DESIGN" All Filmline machines are constructed entirely of metal and tanks are type 316 stainless steel, heliarc welded to government specifications. The finest components available are used and rigid quality control standards are maintained.

Compare Filmline features to other processors costing more money. Feature-by-feature, a careful evaluation will convince you that Filmline offers you more for your investment.

Additional Features included in price of machine (Not as extras).

Magazine load, daylight operation ■ Feed-in time delay elevator (completely accessible) ■ Take-up time delay elevator (completely accessible) ■ Red brass bleach tank, shafts, etc. Prehardener solution filter ■ Precision Filmline Venturi air squeegee prior to drybox entry ■ Air vent on prehardener ■ Solid state variable speed D.C. drive main motor ■ Bottom drains and valves on all tanks ■ Extended development time up to two additional camera stops at 50 FPM ■ Pump recirculation of all eight solutions thru spray bars ■ Temperature is sensed in the recirculation line ■ All solutions temperature controlled, no chilled water required ■ Built-in air compressor ■ Captive bottom assemblies assure you constant footage in each solution ■ Change over from standard developing to extended developing can be accomplished in a matter of seconds ■ Impingement dryer allows shorter put through time.

Partial listing of Filmline Color Installations:— NBC- New York, NBC- Washington, NBC- Cleveland, NBC- Chicago, CBS & ABC Networks, Eastman Kodak, Rochester.

Laboratories: De Luxe Labs, General Film Labs (Hollywood), Pathe-Labs, Precision Labs, Mecca Labs, Color Service Co., Capital Film Labs, Byron Film Labs, MGM, Movie Lab, Lab-TV, Technical Film Labs, Telecolor Film Labs, Guffanti Film Labs, A-One Labs, All-service Labs, NASA Cape Kennedy, Ford Motion Picture Labs.

TV Stations: WAPI-TV, WHP-TV, WMAL-TV, WXYZ-TV, WWL-TV, WMAR-TV, WJXT-TV, KETV-TV, WTOP-TV, WEAT-TV, WCKT-TV, WAVE-TV, WAVY-TV, KTVI-TV, WCPQ-TV, KTAR-TV, WSYR-TV.

All prices F.O.B. MILFORD, CONN.



Dept. SO-70

Send for Literature.

Time & Lease Plans Available.

"When you buy quality Filmline Costs Less"

See us at the SMPTE Convention, October 4-9, New York Hilton, Booths 52, 53, 54.



PRICE REDUCTION

Elements of Color in Professional Motion Pictures

NOW \$4.00

A broad discussion of the fundamental problems associated with the use of color in motion pictures. Written for professionals and students.

6x8¾. 104 pages, including 27 pages in color and an 8-page insert — *Motion Picture Prints from Color Originals*

SMPTE

9 East 41st Street
New York, NY 10017

Enclosed is a check for \$_____.

Please send _____ copies of Elements of Color.

NAME _____

ADDRESS _____

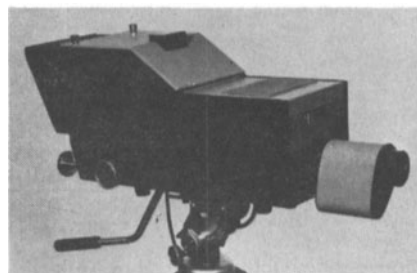
CITY _____ STATE _____ ZIP _____

Technical Conference in New York—"A New Photometer for Control of Color Printers."

Three new silver recovery units, Agtec Model 600, the Midi-Agtec 240 and the Mini-Agtec, have been announced by Cin-Tel Corp., 11801 W. Olympic Blvd., Los Angeles, CA 90064. The recovery units adjust the plating amperage to the amount of silver in the fixer, thus, variables other than silver concentration are accounted for in the circuitry and automatically biased out. The current control system also permits reuse of the fixer by preventing sulfiding of the fixer solution. Model 600 is priced at \$2,295. Midi-Agtec 240 is priced at \$595 and the Mini-Agtec is priced at \$200.

Two new large-screen color monitor/receivers for use with videotape recorders and CCTV systems have been announced by Sony Corp. of America, Video Products, 47-47 Van Dam St., Long Island City, NY 11101. Model CVM-1810 has an 18-in screen and is housed in a compact, shielded metal cabinet; Model CVM-2210 has a 22-in screen suitable for viewing by large groups. The new units incorporate special circuitry to provide a high-quality color picture from any video signal source. Back panels accommodate UHF video, XLR audio and 8-pin record/playback connectors, permitting broad versatility of application. Both models can be used as regular TV receivers and as tuners for off-the-air recording by a videotape recorder. The manufacturer has listed the prices at \$700 for the CVM-1810 and \$800 for the CVM-2210.

Two new Setchell Carlson solid-state color TV monitors have been announced by SC Electronics, Inc., 530 Fifth Ave. N.W., St. Paul, MN 55112. Model 5MC914 is a 25-in monitor. Model 9MC914 is a 19-in monitor which is also available in a rack-mount version which fits 19-in racks. Major operating controls are located on the front panel and setup controls are located behind a hinged front panel to prevent accidental misadjustment. Setchell Carlson Unit-Ized plug-in circuit modules provide on-the-spot maintenance. Horizontal resolution is 300, lines (color), variable with a front panel detail control. Two video inputs can be selected by a front panel control. Vertical and horizontal linearity is 2% and a front-panel internal/external sync selector is provided. The 25-in model weighs 100 lb. It is priced at \$1195. The 19-in model weighs 80 lb. It is priced at \$1095.



A large-viewfinder camera, for monochrome videotape recording, Model AVC-4000A, has been announced by Sony Corp. of America, Video Products, 47-47 Van Dam St., Long Island City, NY 11101. The camera has a 7-in electronic viewfinder which also serves as a playback monitor, and a convenient single-rod zoom control positioned at the rear. A special rack adjustment moves the entire vidicon yoke assembly for extreme close-ups and for sharp focusing in zoom shots. Features also include 2/3-in separate-mesh vidicon, head phone jack, tally light, C-mount, internal/external sync, RF output, AGC and completely solid-state circuitry. Three versions of the new camera are available: Model AVC-4000A, without lens; Model AVC 4000A/V-5, with 5:1 zoom lens; and Model AVC-4000A/V-10, with 10:1 zoom lens. Manufacturer's suggested list prices are \$1,100, \$1,550 and \$2,200, respectively.

Lightweight television support equipments have been announced by CinTel Corp., 11801 W. Olympic Blvd., Los Angeles, CA 90064. The new line is for use with lightweight color and monochrome cameras, including studio, closed-circuit and CATV. The new line of lightweight equipments includes a pedestal, tripod, tripod dolly and a cradle head.



The new Mini-Pro Go Kit, by Berkey-ColorTran, 1015 Chestnut St., Burbank, CA 91502, has been designed to meet the demand for a lightweight, rugged and professional quality lighting kit. The kit has already been in service with network news crews, cinematographers, and photographers around the world. Designed for use with 30-V battery power or 120, or 220 V, the Go Kit includes three sturdy Mini-Pro heads, which are fast focusing and produce a smooth field of light without hot spots. These Mini-Pro heads are coupled with ColorTran's new Pro Stand, which allows the legs to expand from a conventional 31-in base to a 46-in base. The Kit and all its accessories weighs only 29 lb, and is briefcase size. The kit sells for \$342.00.

An accessory seat for the ColorTran Mini-Crab Dolly has been announced by Berkey-ColorTran, Inc., 1015 Chestnut St., Burbank, CA 91502. The seat is collapsible with heavy-duty canvas, chrome tubing, aluminum cast base and rubber foot pads. It is priced at \$350. A carrying case is priced at \$75.

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

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

SMPTE MEMBERS!

Are you a consultant?
... or self employed?
Advertise in the SMPTE Journal
Professional Services page
Only \$60.00 per year.

Write: Advertising Manager,
SMPTE Journal
9 E. 41 St., New York, N. Y. 10017

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

FRANK P. HERRNFELD

Engineering Consultant

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

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 Kero Rd., Carlstadt, N.J. / (201)-938-5220
315 W. 43rd St. N.Y.C. / (212)JU 8-1420
HOLLYWOOD/MIAMI/D.C.

ZOOM LENS REPAIRS

Expert repairs and servicing on all types of Zoom lenses.

23 years experience. Fast service.

CENTURY PRECISION CINE/OPTICS

10659 Burbank Blvd., No. Hollywood, Calif.
91601 (213) 766-3715

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

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

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

REELS • CANS • FIBER CASES

MOTION PICTURE ENTERPRISES INC.

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

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

FOR SPARKLING FILM

ECCO 202 Film Cleaning System
Cleans 400 ft. of movie film for 2 cents

ECCO 1500 Anti-static Solution
cleans, conditions, stops dust, lint, etc.

ECCO 121 Anti-static Wetting Agent

See your supplier or write

ELECTRO CHEMICAL PRODUCTS CORP.
89 WALNUT ST., MONTCLAIR, N.J. 07042

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.

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

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

RESEARCH, DESIGN AND DEVELOPMENT OF EQUIPMENT FOR THE PHOTO INDUSTRY

Complete Line of Animation, Filmstrip and Special Effects Equipment

RICHMARK CAMERA SERVICE, INC.
816 Timpson Pl. Bronx, N.Y. 10455
LU 5-0730 LU 5-5995

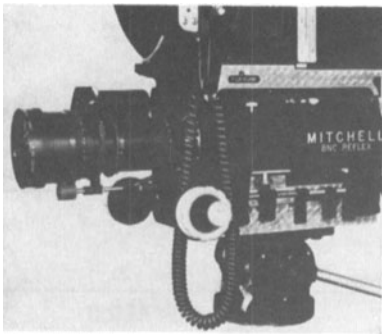
AURICON & K-100 CONVERSIONS to 400 & 1200 ft.

Filter slot Auricons & Films
Transistor amplifiers, processors, etc.

Write for details

GORDON YODER

Professional Cine Products
2959 Ladybird Lane, Dallas, Texas 75220



A new Angenieux zoom lens, the 6×20 L2 for 35mm cinematography has been announced by Angenieux Corp. of America, 440 Merrick Rd., Oceanside, NY 11572. With an aperture of $f/2.6$, T3 and a $6 \times$ focal length range of 20-120mm, the lens can be focused as close as 3 ft from the image plane. The T3 aperture permits filming under cooler lights and under ambient lighting conditions. The new lens is presently available in mounts to fit Mitchell Reflex cameras. It is priced at \$4,750.

Two new zoom drives have been announced by Arriflex Corp. of America, 25-20 Brooklyn-Queens Expressway West, Woodside, NY 11377. A transistorized zoom drive motor for the Zeiss 10-100mm Vario Sonnar zoom lens is supplied with a contoured hand control which contains all the electronics. The transistorized circuitry provides a wide range of operating speeds from about 6 s to 50 s. The drive can be



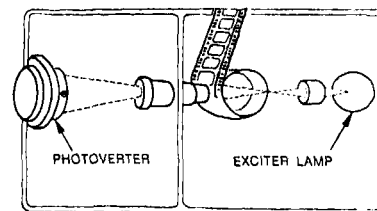
operated from the Arriflex 16-S 8-V battery or from any dc power source ranging from about 5 to 16 V and capable of supplying about 0.25 A. The price is \$295.

A new zoom drive for Arriflex 16BL lenses features functional centering of the controls with the most essential controls centered in the righthand camera grip for easy handheld camera operation. The new drive works from the camera's main battery pack and provides a speed range from 8 s to 24 s. An original factory installation of the 16BL motorized zoom drive is priced at \$496.

A new animation board has been announced by Hollywood Camera Co., 6838

Sunset Blvd., Hollywood, CA 90028. The board is made of stress-relieved aluminum with a double bar. It has pegs above and below the field in sliding bars. There is a glass insert in the working area and the board is machined to nest in the hole in the animation table for rotation. The disc is 20 in in diameter and the window is 9.5 by 15.5 in. The price is \$115.

An audio programmer for use in producing synchronized, tape-recorder-controlled multimedia programs has been introduced by MacKenzie Laboratories, Inc., 10355 Vacco St., South El Monte, CA 91733. The unit plugs in to any stereo tape recorder and is both an encoder and a decoder. Programming is a pushbutton operation. The basic unit provides three independent control signals and is equipped to operate a three-projector, three-screen show. The unit, called Tri/Tone I, is equipped with cables to connect to three Kodak Carousel slide projectors. The price is \$345.



A new optical sound reproducer which will be incorporated in all future Century sound systems has been developed by Century Projector Corp., 165 W. 46 St., New York, NY 10036. The sound reproducer, called the Century TR4, utilizes a system call reverse scanning in which the exciter lamp and the photoelectric translator are on opposite sides of the film from where they have been in the past. The optical soundtrack is floodlighted on the base side of the film. The soundtrack, which is on the emulsion side of the film, is focused onto a slit placed directly in front of a newly developed device called a photo-verter. The front scanning method was devised to eliminate optical deficiencies, lens flare, reflections, etc. The photo-verter, designated the R4-280 incorporates the photoelectric translation of light to electrical energy and also incorporates transistor amplification into one completely sealed module. Two wires connect to the photo-verter. The output level is high and the frequency characteristic essentially flat. The LP-84, a new exciter lamp, is used to give a more uniform floodlighting of the film with longer life. The R4-140 relay lens operates with the exciter lamp to give uniform illumination across the entire soundtrack. The film stabilizer incorporates the hydro flutter suppressor that has been used on all Century sound reproducers since 1947.

Two accessories for the Bauer P6 16mm sound projector, a changeover device for uninterrupted programs with two projectors and a rear-screen projection attachment, have been announced by Allied Impex Corp., 168 Glen Cove Rd., Carle Pl., L.I., NY 11514. The changeover device is connected to the control and loudspeaker

Why Settle for Less?

Strong 1600 Watt

MIGHTY MITE XENON LAMPHOUSE



IDEAL FOR MINI THEATRES
16 or 35 mm

Easily mounted on 35mm and 16mm carbon arc projectors, and most incandescent projectors.

Illumination is eight times that obtained from incandescent sources for 16mm projectors, the maximum the film can withstand.

Illumination equals that of low powered carbon arcs for 35mm projection.

The steady, high intensity daylight white light projects big, brilliant pictures with faithful color reproduction.

No moving parts. "Mighty Mite" Systems in 450, 900 or 1600 wattages include lamphouse, silicon transformer-rectifier supply and bulb.

Bulb life expectancy of over 2,000 hours.

Send for brochure.

THE STRONG

ELECTRIC CORPORATION

Phone (419) 248-3741
539 City Park Ave., Toledo, Ohio 43601



CLASSIFIED ADVERTISING

First 3 lines \$5.00

Each Additional line \$1.00
per inch \$13.00

BUSINESS FOR SALE

Retiring after 30 years manufacturing of professional and amateur motion picture printers contact continuous and optical reduction and enlarging 35, 16, 8 and super 8 mm models. World wide distribution. Inventory, all equipment and two buildings value \$100,000. Uhler Cine Machine Co., 15762 Wyoming Ave., Detroit, Michigan 48238, Tel: 313 861-4663, Cable: UHLCIMA.

Wanted: 28mm Pathoscope or Safety Standard films and projectors: Pathe, Victor, etc. John Carroll, 276 N. E. 104th St., Miami Shores, FL, 33138.

sockets on both projectors and to a single speaker or loudspeaker system. The projectionist then starts the first reel on one projector and cues up the second reel on another. The changeover control unit provides a motor start button and a sound and picture start button. An emergency stop button automatically shuts off whichever projector is running. The changeover device is priced at \$175.

The rear-projection device is a first-surface mirror on a special mount which reverses the image for correct left-right relationships in rear projection and angles the image 90° permitting the projector to be mounted parallel to the screen to conserve space. It is priced at \$135.

The Metrologic Laser Communicator, a system that provides two-way communication over laser beams, has been introduced by Metrologic Instruments, Inc., 143 Harding Ave., Bellmawr, NJ 08030. The system modulates a laser beam with voice, video or data signals and transmits the beam for distances of several miles. The laser transmitter is built around a modulatable helium-neon gas laser tube developed by Metrologic for low-cost production. The ruggedized tube starts automatically within 10 ms and generates an intense collimated beam of red light at a wavelength of 6328 Å. Output power is 0.3 mW. The unaided laser beam provides communication up to 300 ft and diverges only 3 in in 300 ft. In receiver operation, a photocell converts fluctuations in laser-beam power directly to a fluctuating current which is amplified to drive the speaker. In kit form the transmission system consists of the chassis, tube mounts, microphone, preamplifier, integrated circuit amplifier, driver, transistor modulator and power supply. The receiver section includes a photosensor, integrated circuit preamplifier and amplifier. The Laser Communicator is priced at less than \$150 in kit form and less than \$200 completely assembled.

The Model AF-3 Extended Range Amplifier, designed primarily as a driver for light modulators and other devices having a capacitive loading impedance, has been announced by Lasermetrics, 19 Legion Pl., Rochelle Park, NJ 07662. An input voltage of 1.5 V peak-to-peak is sufficient for an output voltage of 700 V peak-to-peak. The machine can drive light modulators with a capacitance as high as 150 pF. The AF-3 is 5.25 in high, 8.5 in wide and 10 in deep. It weighs 12 lb. The price is \$495.



**employment
service**

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

Positions Available

A/V Equipment Salesman. Hardworking, aggressive man for rapidly expanding division. Must have experience in field. Knowledge of 35mm equipment desirable. Top salary, benefits and excellent opportunity for advancement. Send résumé and recent photo to: Don Sahlein, Gordon Enterprises, 5362 Cahuenga Blvd., Hollywood, CA 91601.

Sound Director—Technician. Film producer, in business since 1953, about to expand the scope of its organization, is rejuvenating its sound department. Applicant must be able to handle mixing, transfers, postrecording—ability to work with directors and producers in achieving high quality dramatic dialogue sound tracks for both motion pictures and slidefilms is essential. Must be able to handle normal maintenance and supervise other sound personnel. Write or call, giving full details and salary requirements on first contact: Bob Allen, Canyon Films, Inc., 834 North 7th Ave. Phoenix, AZ 85007, (602) 252-1718.

Theater Equip. Salesman Wanted. D. Sahlein, Gordon Ent., 5362 Cahuenga, N. Hollywood, CA (213) 985-5500.

Positions Wanted

Sales—Sales Management or Mfg. Rep. 18 years experience selling to sound recording studios, television stations and film producers. Résumé on request. John E. Rishel, 22611 W. Outer Dr., Dearborn, MI 48124, (313) 563-3282.

Mechanical Design Engineering. Recent Experience: super 8mm sound projector system, dual 8mm cartridge projector system, 16mm and 35mm camera systems, electrostatic office copy machines. Seeking a challenging and lucrative position with a progressive company in the New York area. No résumé. Interview with principals only. Write M. L. Grossman 32-40 89 St., Jackson Heights, NY 11369.

Audio-Visual Product Engineer—Four years experience in design and development of commercial grade 16mm sound motion-picture projector. Specialized in mechanism design with four patent disclosures. Considerable knowledge of many polymers, elastomers and powdered metals. Also knowledgeable in designing for die casting, injection molding and economical machining techniques. Available immediately/Will relocate. Write or call R. Kongelka, 315 Allison Ave., Houston, PA 15342 or call (412) 745-0987.

Audio-Visual Product Engineer—Ph.D. in Mechanical Engineering with four years experience in design and development of commercial grade 16mm sound motion picture projector. Specialized in stress, vibration analysis, sound stabilization and simulation of design improvements. Available immediately/Will relocate. Write or call E. Yang, 129 Sherwood Drive, McMurray, PA 15317 or call (412) 941-8633.

YES
7252 ECO-3
PROCESSING
*Can be force developed one stop
Computerized printing*
ALSO PROCESSING ECO-2
*Color corrected answer and release prints
Edge numbered work prints, same day service*

united film
industries, inc.
1028 ACOMA STREET
DENVER, COLO. 80204
PHONE 303/244-4629