

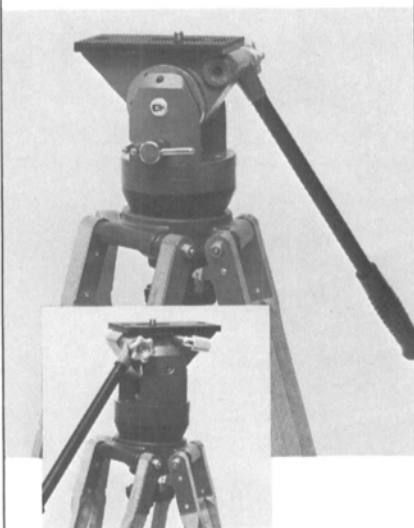
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CPT-24 Fluid Head Tripod



Features:

- Quick leveling ball-and-cavity system.
- Accommodates cameras weighing up to 24 lbs.
- Special leak-proof fluid.
- Efficient operation in temperatures from 20°F below zero to 120° above.
- Hardwood V-grooved legs extend from 40" to 66".
- Rugged construction.
- Reliable operation.
- Ultra lightweight.



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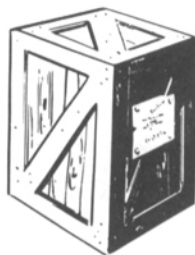


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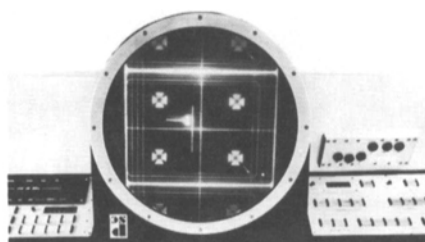


new products

(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 Canon 55mm aspheric $f/1.2$ lens has been announced by Cinema Products Corp., 2044 Cotner Ave., Los Angeles, CA 90025. It is one of a series of aspheric lenses (24mm, 35mm, 55mm, and 85mm) specially designed for use with professional 35mm motion-picture cameras. They are supplied in BNC reflex-type mounts. The new (55mm) lens is intended for use in night photography with available light. By causing the marginal rays to be in sharp focus and, at the same time, rejecting random or spurious rays, the aspheric lenses sharply reduce flare and improve definition and contrast of the scene, regardless of the variations of light level. Price of the new lens is \$1,800.



A computer-assisted film editor/printer, developed and built by the Acme Products Div. of PSC Technology Inc., 1200 Grand Central Ave., Glendale, CA 91201, was used to analyze photographs of the sun's corona made by a special telescope called a coronagraph which had been sent into space aboard Skylab. The coronagraph uses a series of discs to block off the face of the sun, creating an artificial eclipse so that photographs can be made of the corona above the obscuring blanket of the earth's atmosphere.

The Acme editor/printer was developed to meet requirements for extreme precision and reliability as well as for the ability to reorient the position of the images on a motion-picture negative so that they are aligned and to read, display and further process additional data encoded on the film.

To solve the alignment problem, the Acme editor/printer magnifies each frame 14 times and projects it onto a large, easy-to-view screen. Fiducial marks on the film are aligned with cross-hairs on the screen for registration accuracy within 0.0002 in.

At the same time the operator can perform a variety of other corrections, such as enlarging or reducing the size of the image, making allowance for incorrect exposure, adjusting color balance (if color film is used) and compensating for improper film advance in the camera.

At the time of exposure additional data are captured in the form of a dot matrix in one corner of each frame. The matrix contains such information as an identification number, the time, exposure data and details of certain mechanical conditions. The computer-controlled portion of the editor/printer is capable of scanning the dot matrices, converting the data to 7-channel NRZI format and recording it on magnetic tape for analysis by IBM computers. Also, the computer translates the data into alphanumeric characters for display on the editor printer control panel (for the operator) and for capture on the copy films that are produced. The computer is a 12K special-purpose minicomputer designed and built by Acme specifically for the editor/printer. It has the additional ability to search the film by frame number and find a specific picture.

The editor/printer is applicable to other data-logging activities. Such features as frame-by-frame visual review combined with data display and capture, high-speed search along a film by frame identification number and the ability to handle super-8, 16mm or 35mm film and to make same-size or enlarged or reduced copies make it useful for such applications as highway surveys, aerial mapping, missile testing and pollution monitoring.

A remote battery cable for CP-16 and CP-16/A cameras has been announced by Cinema Products Corp., 2044 Cotner Ave., Los Angeles, CA 90025. The cable permits removal of the battery for placement in the cameraman's pocket, or some other protected area, when filming in extreme cold. The Nicad battery measures 5 by 1 1/4 by 2 1/8 in. Price of the remote battery cable is \$28.



Two new low-light super-8 cameras have been announced by Bell and Howell Co., 2201 Howard St., Evanston, IL 60202. The 671/XL super-8 camera has the Focus-Matic distance-measuring device and an $f/1.3$ lens for optimum results under most low-light conditions when used with ASA 160 film. The camera can also use ASA 40 film for outdoor movies in bright light. Other features include a manual 8.5-24mm zoom lens, a warning indi-

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bleach costs and a small piece of our
environment**



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Hunt Cine Color Bleach
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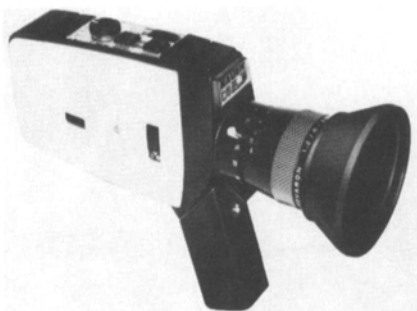
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cator for insufficient light, automatic exposure control, externally viewed footage counter and a permanently attached pistol grip. The price is \$179.95.

The 670/XL is a compact camera combining low-light capability with "pocket" size for ease of use. The price is \$119.95.



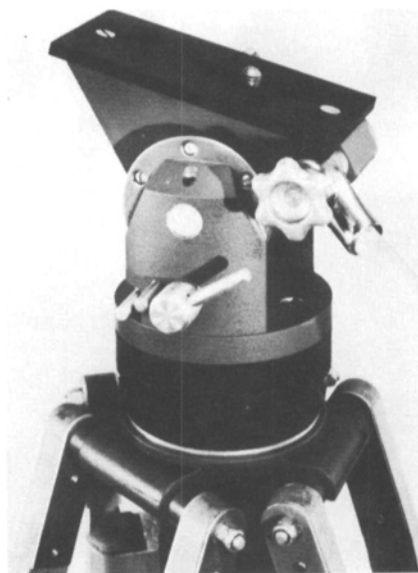
The Bauer C5X1, an existing-light, super-8 motion-picture camera with a 5:1 power zoom lens has been announced by AIC Photo, Inc., 168 Glen Cove Rd., Carle Pl., NY 11514. It has a 230° shutter, an $f/1.2$ lens and automatic behind-the-lens exposure control. The shutter delivers 40% more light than a conventional 165° shutter; in addition, a double-vane exposure control system allows all light from the subject to reach the film. A large viewfinder with cross-hair focusing has an f /stop indicator with a warning signal for extremely low-light or bright-light situations, a film run and film-end indicator and a battery charge light. Features include an electromagnetic "soft release" to ensure steady picture-taking and a single-frame cable release socket for single-frame or continuous shooting. The price of \$449.50 includes a lens hood, eye cup, wrist strap and remote control.



MAXIMUM VIEWING FIELD
CAMERA APERTURE FIELD
TV CUT-OFF FIELD

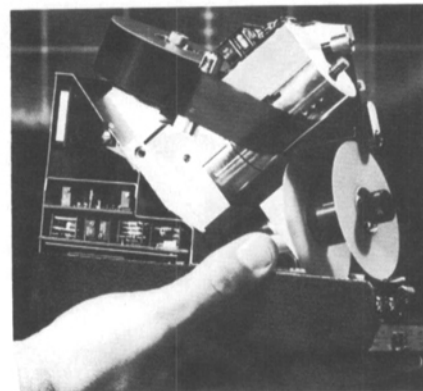
A 16mm camera viewfinder reticle, designed to allow the camera operator to see more than the camera aperture, has been announced by Angenieux Corp. of America, 440 Merrick Rd., Oceanside, NY 11572. The new reticle allows the cameraman to see the subject before it enters the camera field, giving the operator advance notice of any approaching event so that he can maneuver either the camera or lens to adjust to the situation. The TV safe action area is also indicated on the reticle so that a

view can be properly composed when filming for television.



The CPT-24 fluid head tripod has been announced by Cinema Products Corp., 2044 Cotner Ave., Los Angeles, CA 90025. The tripod is designed to accommodate cameras weighing up to 24 lb. Features include a quick-leveling integral ball-and-cavity system (with base-lock release knob) and hardwood V-grooved legs capable of extending from 40 to 66 in. The fluid head, supplied with a leakproof fluid, can operate in temperatures from -20 F to +120 F while providing smooth pan and tilt movements. Price of the CPT-24 is \$595.

The Pulse/Cine Locam, Model 51-0004, a new version of the Locam camera, has been announced by Redlake Corp., 2991 Corvin Dr., Santa Clara, CA 95051. The camera can operate in either the pulse mode or the cine mode with no change in motor or electronic speed control. The operating ranges are: (1) pulse mode, internally controlled — 0 to 15 pictures/s via integral intervalometer; (2) pulse mode — external source supplied by the camera owner — to 15 pictures/s; (3) cine mode — 16 to 200 pictures/s, infinitely variable. The camera can be used for time-lapse as well as for high-speed photography. The price is \$4,300.



The Miniscan instrumentation tape recording system has been announced by

Announcing a new edition
to be published January 1974

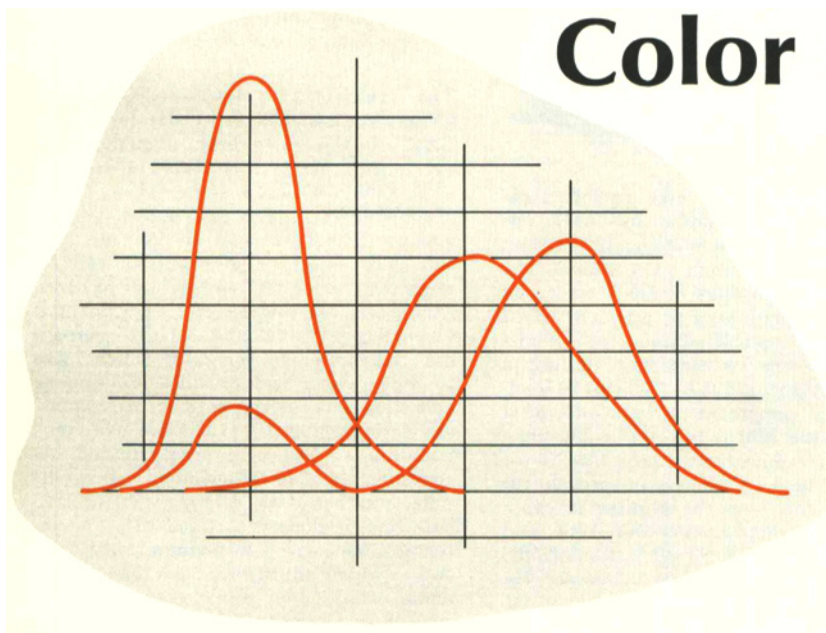
Principles of Color Sensitometry

THIRD EDITION

Edited by

Dr. Roderick T. Ryan

*With revisions and contributions
by a panel of industry experts*



Color motion-picture photography is an exacting endeavor, affording little room for operation by guess or even by estimate. It demands that the worker — whether he be film manufacturer, cinematographer, or processing lab technician — have accurate, quantitative knowledge of the materials in use, of the effects of laboratory handling and of the resulting photographic images.

Color sensitometry is the quantitative measurement of all the responses of a photographic material to exposure and development. It provides a tool for the evaluation of the chemical and mechanical conditions that produced the visible photographic results. It measures the processed images, determining their character or content in terms most useful for the product's application or most significant in an operation's adjustment or stabilization. Finally, it provides a means for observers to relate their quality judgments to the physical characteristics of the photographic material.

The third edition of *Principles of Color Sensitometry* outlines the fundamental concepts of this discipline and describes some of the methods and instruments employed in order to give a comprehensive view of the present state of the science. The treatment is not complex, and in some places instead of mathematical discussion there is simple, verbal description for better understanding; but the coverage is comprehensive. The authors have presented and discussed, on a step-by-step basis, the routines common to nearly all of the diverse applications of color sensitometry.

CONTENTS

- 1 Introduction
- 2 Fundamentals of Sensitometry
- 3 Sensitometric Exposures
- 4 The Processing of Sensitometric Tests
- 5 Quantitative Evaluation of Image Density
- 6 Densitometer Design Principles
- 7 Interpretation of Sensitometric Results
- 8 Statistical Aspects of Color Sensitometry

Appendix: Transformations Between Spectral and Analytical Densities

Bibliography

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33⅓% for 50 or more copies.*

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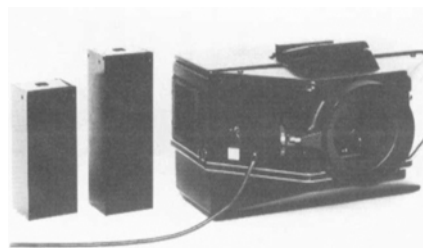
862 SCARSDALE AVENUE, SCARSDALE, NY 10583 914/472-6606

Ampex Corp., 401 Broadway, Redwood City, CA 94063. The system, designed for analog, digital, radar and television recording applications, uses a tiny (5-lb) video recorder, called the MS-1, and a data reduction unit called the MX-1. The MS-1 recorder uses 1-in tape and a helical-scan wrap to achieve a 20-min recording time capability. It requires only 40 W and can be operated by a nickel-cadmium battery pack designed to attach to the base of the recorder. The MS-1 can be handheld. The bandwidth is 3.5 MHz and the dynamic range is 32 dB. An airborne version has shock mounting attachments in a sealed case for operation in rugged environment applications.

The MS-1 recorder accepts signals from any analog or digital input device, including television cameras, infrared sensors or radar systems. The MX-1 laboratory playback recorder used four specially-designed servo systems. The playback recorder has a field-tested 100-ns peak-to-peak time-base-error. The Miniscan system is expected to be available early in 1974. The MS-1 recorder will be priced at about \$39,000. The MX-1, presently housed in twin rack cabinets, is priced at \$120,000.

The Model VC-1155 video camera, designed especially for closed-circuit TV and time-lapse videotape recording applications, has been announced by Sanyo Electric Inc., 1200 W. Artesia Blvd., Compton, CA 90220. Features include a $\frac{3}{8}$ -in separate mesh vidicon; internal crystal-controlled 2:1 interlace or external EIA drive;

600-line horizontal resolution; 1.0-fc sensitivity; and a 10,000:1 Automatic Level Control. The price is \$430.



A new large-format, high-resolution oscilloscope camera system has been announced by PSC Technology, 1200 Grand Central Ave., Glendale, CA 91201. The camera takes pictures of CRT traces on 70mm film (perforated or non-perforated) via a reflex optical system that allows through-the-lens focusing and viewing of the CRT. Up to 175 ft of film can be loaded into the camera in daylight and, after exposure, the film is fed into a jam-proof cassette for removal to the processor. In the automatic mode, the operator turns on the power, focuses, sets the number of exposures he wants and the exposure time, and presses the START/STOP button. Under control of a solid-state intervalometer, the camera makes the desired number of exposures and shuts itself off. The camera can also be operated manually and it can be operated from a remote location. When the operator completes the exposures, he presses the CUT/RELEASE button to run a measured length of film into the cas-

sette, cut it and eject the cassette for processing. The film can be processed in the automatic processor that is part of the system. The cassette is slipped into one end of the processor and the film exits at the other end, developed, fixed and dried. Price of the system, which includes the camera, a mount for an oscilloscope and the processor, is under \$8,000.

The TCG-1432 Television Character Generator designed especially for use in CATV systems has been announced by TeleMation, Inc., P.O. Box 15068, Salt Lake City, UT 84115. It provides 14 lines of 32 characters each and a 15th line for preview. The characters are 20 lines high and have edge shadowing to provide readability over all background pictures. Characters are matted directly into nput video. The TCG-1432 has a built-in broadcast synchronizing generator which locks to input video and provides stand-alone operation without the need for drive pulses. Various plug-in options are available, including an 8-page, internal, random access memory; two independent 7-line outputs; weather data display with a fixed title line; a clock with fixed title and interval timer; color background with one, two or three adjustable color bands; and audio coupler that provides tape recorder storage of alphanumeric displays and remote control by telephone line; and a teletype coupler (EIA RS-232) to provide remote control and computer control. Two basic configurations are available—the 1432 A, a single, self-contained unit priced at \$3,995, and the 1432B with rack mount electronics and a separate keyboard.

The 3600 Video Character Generator System has been announced by Laird Telemedia Inc., 2125 South West Temple, Salt Lake City, UT 84115. A basic configuration of the equipment includes such features as program and preview outputs; 10-line by 25-character format; 250-character solid-state memory; switchable video polarity; non-additive mix and horizontal edging. Keyboard control functions permit selective underline; overline; crawl, roll; box and flash; and also a special window format position feature. Several separate solid-state memories may be incorporated and unlimited access to both internal and external data sources is possible. A single character generator is capable of producing many simultaneous, but independent, video signals of identical or different information as well as combinations thereof. By this method, data source, such as Fixed Title, Time/Date and Up/Down Counter may appear in various modes and screen positions on any or all output displays with or without data composed from the keyboard. The price is \$2,550 including the keyboard.

The Model SP-125 Universal Time Code Generator has been announced by Digital Products Group, Datametrics, 340 Fordham Rd., Wilmington, MA 01887. The instrument has been designed to serve as a master time reference for distributing time code indexes for indexing various recording mediums, such as magnetic tape, camera film and oscillographs. Model SP-125 can

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the best.

The new CLD-1100 Sync Pulse Generator from CBS Laboratories features digital-circuit design. Unique design enables maximum adaptability in pulse systems and achieves virtually perfect timing between dissimilar studios. Unit stability is derived from a timing circuit employing a single servoloop where the 3.58 MHz color frequency is generated from a 14 MHz crystal reference source. Contact us for quotes on your new sync systems. From CBS Laboratories, of course.

CBS LABORATORIES
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Troubled by out-of-focus pictures?

Troubled by emulsion

pile-up in your camera gate?

Troubled by distracting camera

noise when shooting subjects who should not be distracted from what they are doing?

Troubled by cameras that are always in need of repair and adjustment?

If so, switch to Auricon, the only 16mm Camera that guarantees you protection against all these troubles, because it is so well designed! The Auricon is a superb picture-taking Camera, yet silent in operation, so that at small extra cost for the Sound Equipment, it can even record Optical or Filmagnetic sound in addition to shooting your professional pictures.



AURICON SUPER-1200, takes 1200 ft. Runs 33 min. \$6425.00 & up

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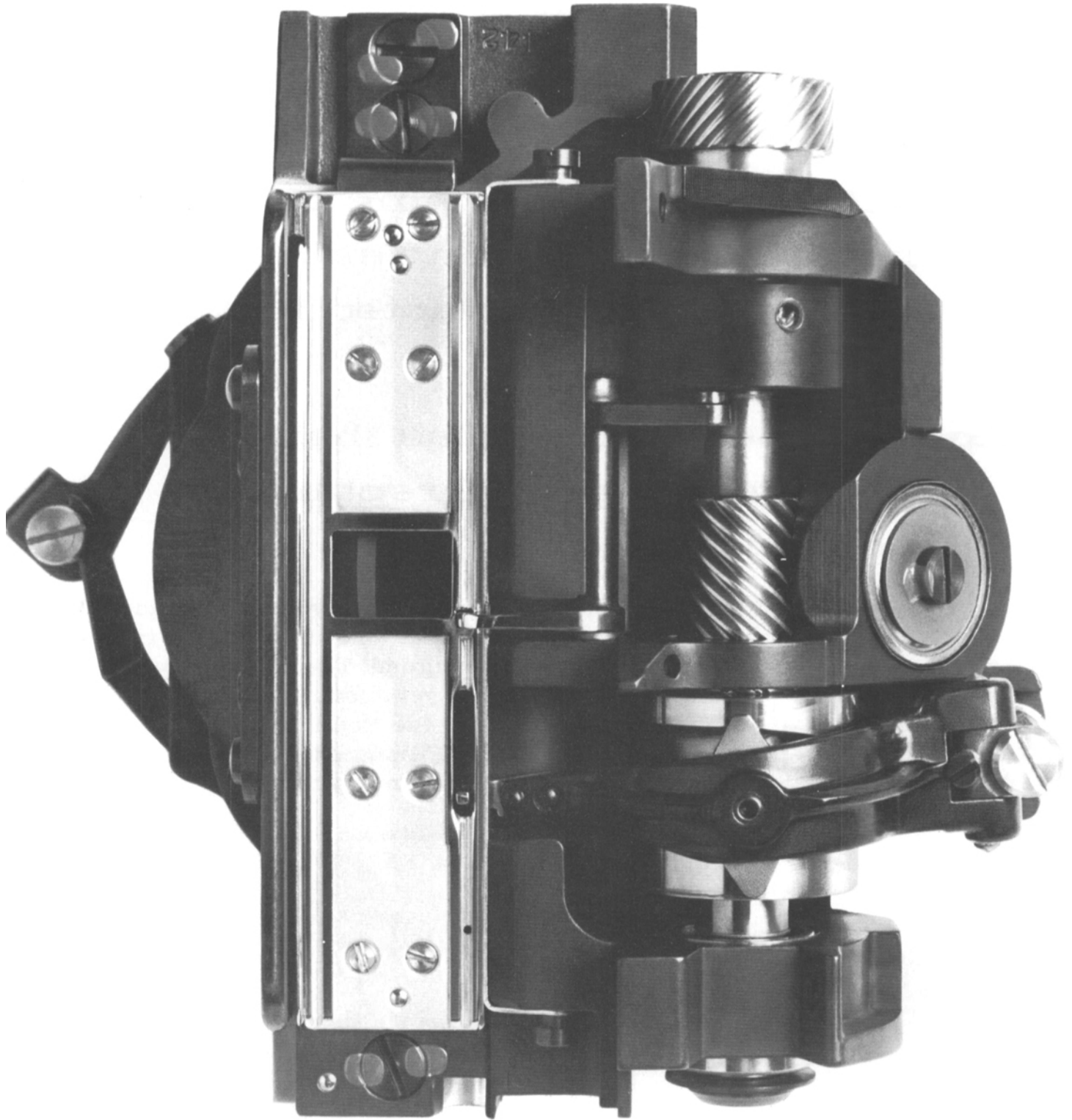
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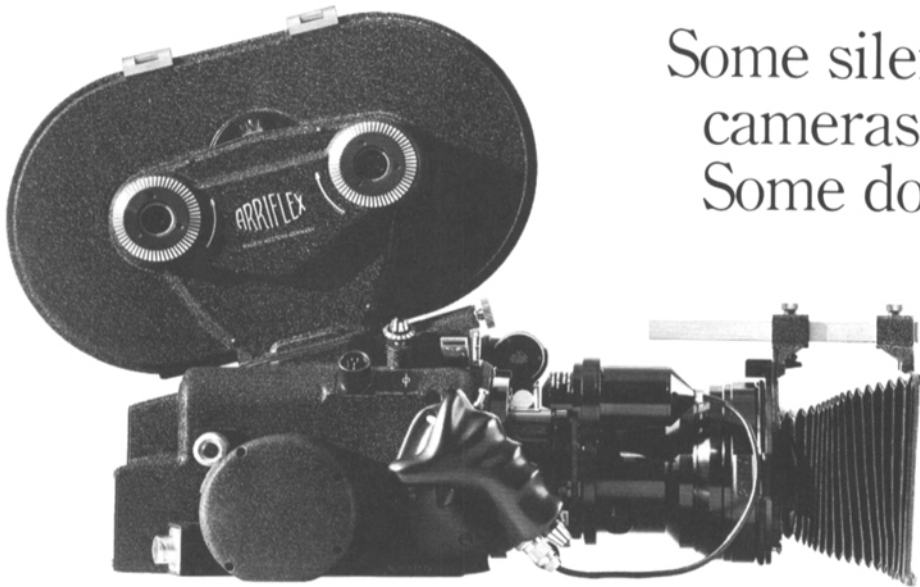
MANUFACTURERS OF PROFESSIONAL
16MM CAMERAS SINCE 1931



The Arriflex 16mm movement

Above all, you can depend on it.

Some silent-running cameras *stay* silent. Some don't. Why?



The most awkward aspect of designing cameras is film. The manufacturers do a superlative job.

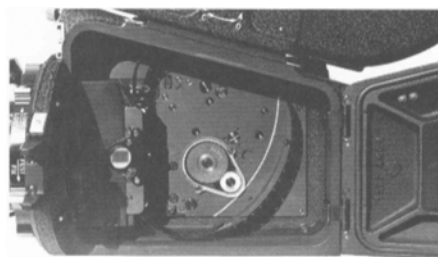
But it's still a strip of coated plastic with holes in it. The base can shrink and curl. Some emulsions swell and get sticky in hot weather.

The only *reliable* way to deal with these variables, is to use a cam-driven claw and a completely independent cam-driven registration-pin. Plus a long, straight film path, to keep the film flat in the gate.

Self-Blimped

That's how we do it in the 16S, the 16M and the 16BL. Of course, to make the 16BL silent-running, we have to en-

case it in a sound-proof casting. But that means the 16BL stays as silent after *years* of use, as on the day you bought it.



LONG LOOPS MINIMIZE FILM CURL IN THE GATE

Reliability First

Our design philosophy is: First build a reliable movement. Then make the camera silent. Some other designs build silence into their movements *at the expense of reliability*. And movements tend to grow more noisy with age.

Which Rawstock?

One of those designs has a *spring-loaded* claw and registration-pin that are *not* independent. This movement must be adjusted to match different rawstocks—and even then, it needs repeated tuning. You can set it for silence *or* for reliability. The two considerations *compete* with each other.

Indispensable

All designs are compromises, including ours, of course. You don't buy a Maserati for the same reasons you buy a Rolls Royce. With cameras, we think that reliability is the *one* feature that is indispensable.



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be slave synchronized to within $\pm 20 \mu\text{s}$ of an external received IRIG-B time code derived from another Master Time Code Generator. The unit has an internal time base oscillator to ensure continuous operation in the event of input code dropout during slave sync operation. It also has a fail-safe power supply to ensure continuous operation during primary power failure. The instrument can accommodate a wide variety of time code formats, including the SMPTE Time Code format which cues the video editing section in accordance with time information (time-of-day) plus frame number. Price range, depending on various options, is \$1,985 to \$2,485.

A new 2-MHz sweep function generator, Model 411, has been announced by the Data Pulse Div. of Systron-Donner Corp., 10150 W. Jefferson Blvd., Culver City, CA 90230. The upper swept frequency limit can be set to 2% of full scale; the lower limit is controlled by a sweep width adjustment. Frequency is specified in six decade ranges from 0.02 Hz to 2 MHz. Dial accuracy is $\pm 2\%$ of full scale. The unit may be frequency-modulated over 1000:1 ratio either internally or externally up to a rate of 10 kHz. Waveform outputs are sine, square, triangle, ramp and T²L compatible sync pulse square wave. Amplitude of the main output is 20-V peak-to-peak open circuit and 10-V into either 50- or 600- Ω load. The amplitude is variable over a 40-dB range. Sine distortion is less than 1% to 200 kHz and there are no

harmonics greater than -30 dB to 2 MHz; dc offset is continuously variable from -10 to +10 V open circuit, independent of amplitude settings and ± 5 V into 50 or 600 Ω . The combination of dc offset and signal are limited to ± 10 V when terminated in 50 or 600 Ω . The ramp sweep output is fixed, 5-V peak-to-peak with 600- Ω output impedance. The unit is 8% in wide, 3% in high and 12% in deep. The price is \$450.

A microwave sweep generator called Model 540 Multiband Sweeper has been announced by the Kruse Electronics Div. of Systron-Donner Corp., 735 Palomar Ave., Sunnyvale, CA 94086. The instrument, designed for a wide variety of applications, has more than 20 RF and accessory plug-ins with their options covering from one to three bands each with both internally leveled and unlevelled versions. Typical power output of Model 540 is 10 mW up through 4 GHz and 5 mW from 4 GHz through 18 GHz. Built-in stable low noise power supplies furnish dc and swept voltage or current. The instrument has low residual FM, typically 0.1-20 kHz peak and typical nonharmonic spurious signal is -60 dB. Price of the Model 540 is \$950.

A new overcoating technique for plated magnetic discs has been announced by Ampex Corp., 401 Broadway, Redwood City, CA 94063. Field-tested performance in head-per-track computer peripheral applications with the new overcoat showed

ability to survive (under controlled test conditions) more than a quarter of a million start/stop cycles with no deterioration of surface quality. (Ampex developed plated discs in 1967 for use as a buffer within a large-scale information storage system and shortly thereafter designed a version for the instant replay used in televising sports events.)

Basically, the plated disc permits video stop action, slow motion and instant replay; the technology has also been applied to instrumentation uses for signal analysis and processing. Plated discs have also been incorporated into computer systems for increased memory capacity; however, head-to-disc interface requirements for digital applications called for a new technique. (Video and instrumentation applications normally use a single-element, low-mass stepping head to read and write information on and off the disc, whereas the digital application uses a multi-element relatively high mass fixed-head configuration.)

The new overcoating technique has made the plated disc specifically applicable to computer OEM needs, the announcement stated.

The Aerial Mast Fth 40, a mobile aerial mast designed for outside radio and television transmissions away from stationary network facilities, has been announced by Rehquate-Perl, Industrial Consultants, 17 Battery Pl., New York, NY 10004. The mast is manufactured by Salzgitter Maschinen AG, Germany. The mast is mounted on a truck chassis and can be erected by two men in about 30 min. Fully extended, it reaches a height of about 131 ft. The mast top allows suspension of one or two 69-in diameter parabolic or directional aerials which can be turned horizontally and vertically, independent of one another. Fully extended, the mast can withstand wind velocities of up to 56 mi/h; if anchored with stay-wires it can withstand velocities of up to 100 mi/h.

The Autowind, a rewriter for EIAJ videotapes has been announced by Ultra Audio Products, P.O. Box 921, Beverly Hills, CA 90213. The rewriter has been designed to minimize head wear, tape damage and picture dropouts caused during tape rewind by the tape scraping against all heads on a helical-scan recorder. The Autowind can rewind an hour's tape in about a minute with automatic slowdown and shutoff at the tape's end. It is reported that it also reduces tape edge damage. The price is \$125.

Two floodlights using HQ1 metal-halide lamps have been announced by Cremer, 183 rue Lecourbe, 75 Paris XV, France. The floodlights, designed especially for outdoor use, are available in two models, one using a 2000-W lamp and the other a 3,500-W lamp. Both models have a color temperature of 6000 K. The 2,000-W lamp produces 170,000 lm and the 3,500-W lamp produces 300,000 lm. The floodlights cover large areas, shadow-free, with high light intensity; a variation of 50% to 100% in intensity can be obtained.

Housing for the units is made of sheet steel with ventilation slots; the reflector is



NEW

from **cinema products**

Mike/Lite Bracket for CP-16 & CP-16/A Cameras...

An ideal accessory for the "one-man-band" TV-newsfilm/documentary cameraman. The new Mike/Lite Bracket is easily mounted on all CP-16 camera models, and is supplied with interchangeable 1/2" and 5/8" studs for mounting microphones and lighting fixtures.




A specially designed locking pivot-arm on the bracket permits maximum flexibility in positioning the microphone and light fixture in relation to each other.

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CP-16/A camera is shown with Mike/Lite Bracket, RE50 microphone, and Cinema Products' new Sturdy-Lite quartz focusing spot (operating at 600 watt-120 volt AC/DC or 250 watt-30 volt DC).

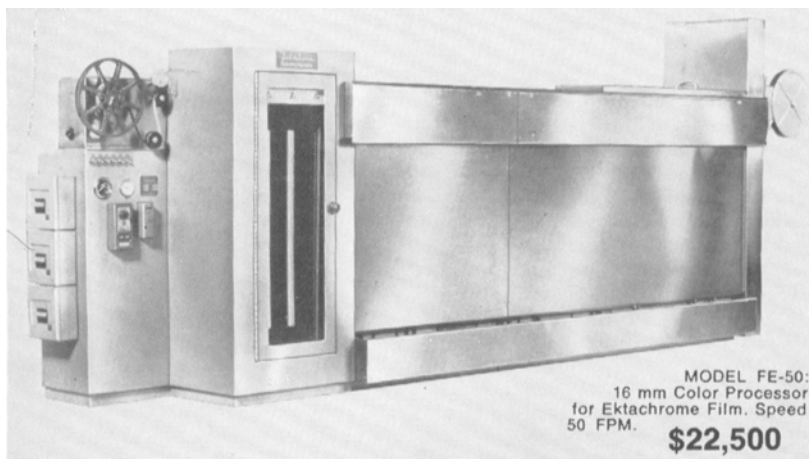
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FILMLINE'S professional color film processors for motion picture laboratories.

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.

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● **"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, WÁVY-TV, KTVI-TV, WCPQ-TV, KTAR-TV, WSYR-TV.



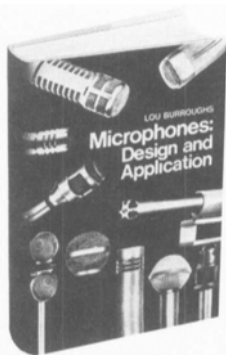
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- How are omnidirectional mics used for orchestral pickup?
- How does dirt in the microphone rob you of response?
- How do you space your microphones to bring out the best in each performer?

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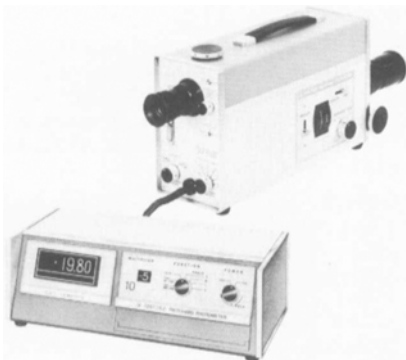
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made of pure, anodized aluminum. The strike unit is Type 236 PH for both the 2-kW and 3.5-kW lamps. It is located in the bottom of the unit. Designed for easy maintenance, two lateral reflectors kept in position by heat-resisting magnets can be pulled out for easy access to the lamp holders.

Other lighting equipment using metal-halide lamps, produced by Cremer, include the Studiode spotlights and Softiode fill lights described earlier in the Progress Report for 1972 in the May 1973 *Journal*.

Tungsten-halogen lamps, 120 V, ac, 250 W, for projection applications have been announced by Spectra-Tek, Inc., Commerce St., Chatham, NJ 07928. The Bi-Pin base lamp features a color temperature of 3200 K with compact filament. Price of each lamp (if 100 or more are ordered) is \$6.00.

A new high-intensity infrared light source, designated Model CTSB-100, has been announced by Moxon Inc., CTS Div., 2222 Michelson Dr., Irvine, CA 92664. Intended for night use on silicon diode array vidicon TV cameras, the unit has an infrared filter and a 12-V dc 85-W tungsten-halogen light source. It can be mounted on any portable TV camera. The light source, designed for 12-V dc operation from a car battery or a battery pack, provides 40,000 candlepower at 12.8-V dc or 20,000 candlepower at 10.5-V dc. In operation the unit produces less than 0.001% visible light. The passband of operation is 800 to 850 nm with greater than 85% transmission. Price of the CTSB-100 is \$320.



The new Spectra Pritchard Pulsed-Light Photometer, Model 1980-PL, has been announced by Photo Research, 3000 North Hollywood Way, Burbank, CA 91505. The instrument has been designed to measure the integrated (average) value of sources from 10^{-5} to 10^7 fL-s (full-scale) for pulses as short as 10.0 μ s. The photometer is equipped with a high-speed (video) amplifier which can be used in conjunction with a high-speed oscilloscope to study the shape and peak value of pulses as short as 1 μ s.

The 1980-OP Pritchard Photometer Optical Head with 7-in lens, five standard apertures (2, 6 and 20 ft, 1° and 3°), photoptic, red, blue, neutral and polarizing filters and spectral response calibration data for photoptic response is priced at \$2,995. The 1980-CDB Pritchard Photometer Control Console with 3½ digit digital readout, Auto-Comp System and BCD output jack for 115 or 230 V is priced at

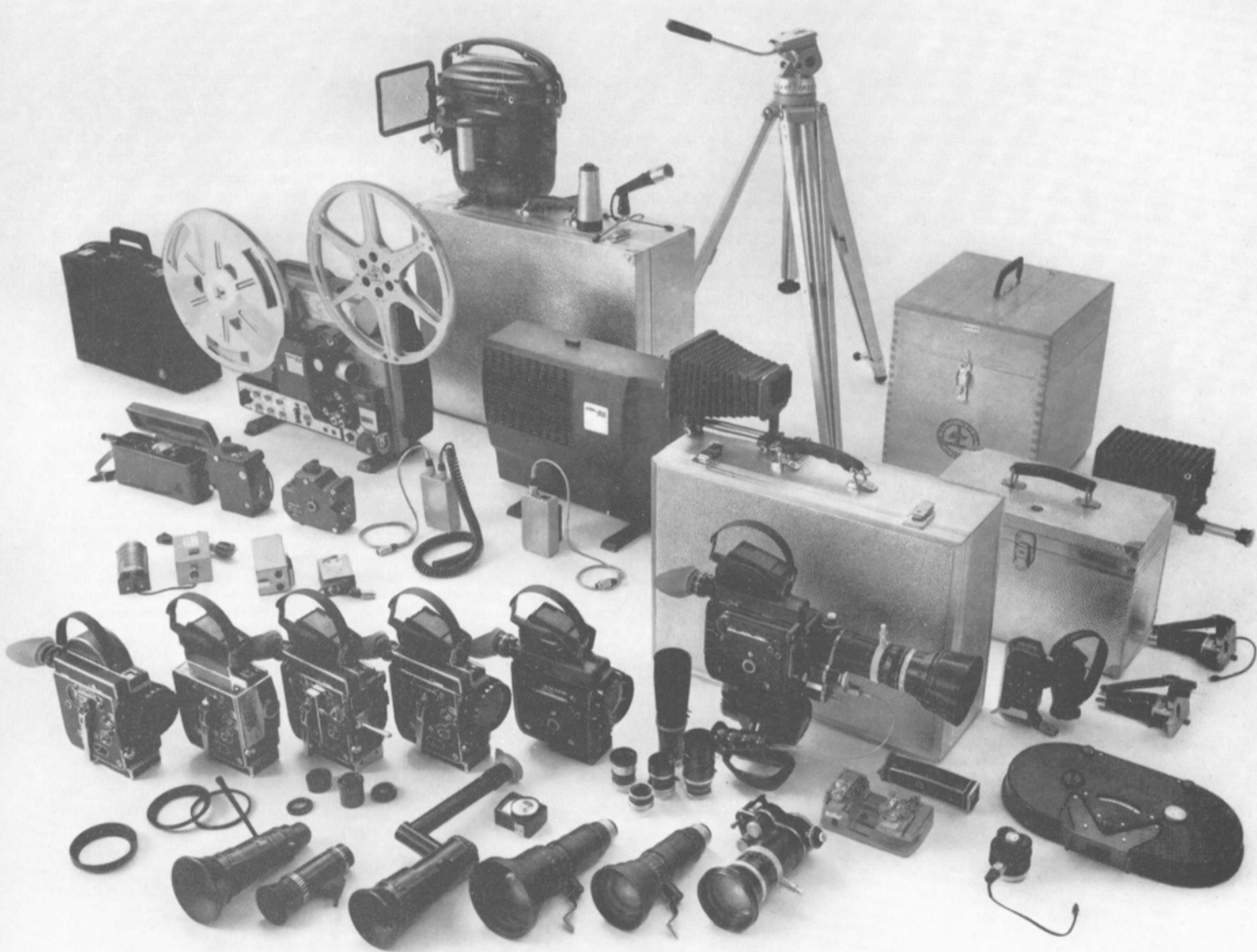
\$1,545. The 1980-CM Pritchard Photometer Control Console with 5-in taut-band panel meter and Auto-Comp System for 115 or 230 V is priced at \$1,425.

Three new photometer/radiometer heads for measurements in the 250- to 650-nm range have been announced by Gamma Scientific, Inc., 3777 Ruffin Rd., San Diego, CA 92123. The heads utilize vacuum diodes for detectors. Applications include photographic and photocopying problems and ultraviolet radiation measurements for health and safety requirements. The 820-5 head uses a photodiode with an S4 characteristic with peak sensitivity at 400 nm and 10% response at 320 nm. It is priced at \$335. The 820-17 head utilizes an S5 photocathode with peak sensitivity at 350 and 10% response at 230 nm. It is priced at \$405. The 820-6 head utilizes the S4 photodiode but has the added ability of integrating the energy in flashlamp applications. It is priced at \$430. Both the 820-5 and 820-6 are supplied with photoptic correction filters for fc or lx measurements. Special radiometric calibrations are available depending upon customer requirements.



The DL42 Cardiline, a long-reach microphone featuring greater sound rejection at the sides, has been announced by Electro-Voice Inc., 600 Cecil St., Buchanan, MI 49107. To prevent wind noise during outdoor use or for rapid panning in the studio, the DL42 is equipped with an Acoustifoam windscreen. Shaped low-frequency response also reduces wind noise problems. A new shock-mount is provided to reduce susceptibility to mechanical shock. A special coil cord is included to diminish shock transference from the mounting bail to the microphone. The lightweight (13-oz) balanced design makes the microphone useful for boom, fishpole or handheld use. A screw-on handle is supplied for manual control when the bail is removed. Price of the DL42 is \$300.

The Model 671 ball-type, single-D cardioid microphone emphasizing low frequencies when used close up, has been announced by Electro-Voice, Inc., 600 Cecil St., Buchanan, MI 49107. A new head design and an exclusive hologram-designed volumetric diaphragm provide exception-



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The cameras: You get to choose from five rugged camera bodies designed for hand held or tripod use. With either three-lens turret or bayonet mount, with spring motor or electric drive, with 100' to 400' film capacity, for silent filming or sync sound with sync pulse generator or crystal. And that's just the beginning.

Consider features like: automatic threading, flickerless reflex viewing and focusing with complete depth of field control, a filter slot behind the lens, single-frame counter, unlimited film rewind, variable speeds for accelerated and slowmotion filming, single frame filming, variable shutter with automatic control possibility, registration claw for total accuracy in picture steadiness even when films are blown up to 35mm.

The lenses: With the Bolex system, you can choose from 7 fixed focal length lenses, ranging all the way from 10mm super wide angle to long 150mm telephoto. And they all have built in macro focusing, automatic depth of field scales and diaphragm presetting so you can step down the aperture without taking your eye off the reflex finder. You can choose a lens as fast as $f/1.1$, or one that can focus down to one inch without accessories.

The system offers you seven zoom lenses with zoom ranges from 5:1 to 10:1. One of those is the Vario Switar 100 POE-4 with built-in power zoom, automatic light measuring through the lens, focusing as close as four feet and picture sharpness equal to any good fixed focal length lens.

The works: You can extend your basic equipment almost indefinitely with a wide range of accessories.

For instance: if you choose a spring-wound camera, you can automate easily with any one of three auxiliary motor drives, for time-lapse or animation, for variable speed shooting or for filming with sync pulse generator or crystal. The system offers you tripod; monopod; camera grips; blimps; an automatic fading device; cable releases; matte boxes (complete with masks); an underwater housing; attachable exposure meter; 400' magazine; closeup lenses; extension tubes; optical magnetic sound projector.

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ally wide, linear response at all angles of incidence for high gain-before-feedback in sound reinforcement applications. The head assembly contains a newly designed shock absorber to isolate the transducer assembly from mechanical noises. An internal Acoustifoam filter allows close talking without excessive "P-popping" and prevents dirt and magnetic particles from accumulating on the diaphragm. Price of the Model 671 is about \$54.75.



The E200 Lowline, a desk-high sloping-top professional audiotape recorder has been announced by Leever-Rich Equipment Ltd., 319 Trinity Rd., Wandsworth, London SW18, England. The new design

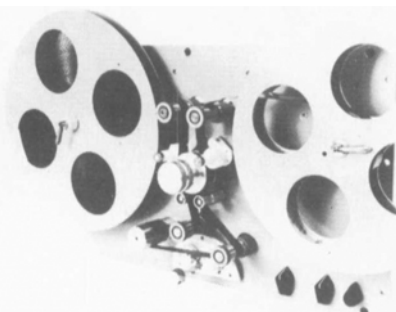
makes it possible to integrate mastering and broadcast machines with other desk-high equipment, such as sound mixing desks, and also makes it possible for the operator to be comfortably seated with a good view of the deck and with all controls easily at hand. It is available with any of the Leever-Rich E200 1/4-in tape decks (full-track, half-track, twin-track or stereo). Features include a control panel offering a complete selection of audio and headphone monitoring with VU or peak program metering, and fully professional faders by Penny and Giles. The electronics are modular with plug-in subassemblies which are interchangeable and can be used away from major repair facilities. Preset controls are not visible so the levels cannot be accidentally altered. The deck hinges upward on the horizontal plane for access and the electronics are mounted in the pedestal and swing out for servicing. The base is 23 in (584 mm) wide and 26 in (660 mm) deep. The height is 28/31 in (711/787 mm). The price range is from £1,135 to £1,600, depending on metering, monitoring, fader and head configuration requirements.

The Optasound lip-synchronization system for super-8 sound movie making will be handled by Eumig (U.S.A.), Lake Success Business Park, 225 Community Dr., Great Neck, NY 11020, according to an agreement between Eumig (U.S.A.) and Optasound Corp. of New York City. The Optasound system can be adapted to al-

most all silent super-8 cameras. The system consists of the Optasound Cassette (priced at \$169.95); perforated Optasound Film/Sync Tape (\$2.79 for a Philips-type cassette with 2-mil acetate tape for a 50-ft super-8 film cartridge at 18 frames/s; and Optasound prepaid envelopes (\$6.50 each) for factory processing and striping 50-ft loads of exposed super-8 film plus sound transfer from the recorded tape to the film stripe. The resulting sound-synchronized film can be played back with any standard magnetic sound projector for super-8 films.

Sound and picture synchronization is electronically interlocked in the system. The equally-spaced perforations on the Optasound Film/Sync Tape correspond on a 1:1 basis with the sprocket holes in super-8 film. The speed with which the tape passes through the magnetic head of the Optasound Cassette Recorder is monitored by the frequency with which a light beam from a built-in exciter lamp passes through the tape perforations to a photocell. The photocell impulses control the frame-to-frame speed of the camera motor through an electrical cable between the recorder and the camera.

Also announced was the new Optasound EST (Editor Sound Transfer) unit. The unit permits the filmmaker to do his own Optasound film and tape editing as well as to transfer the sound from the recorded Optasound tape to the processed, striped film. The price is about \$795.



The Dual-Lock R107U, an audio recorder that incorporates a device serving as a mechanical interlock to a 16mm or 35mm projector, or as an electrical interlock to be used with existing systems, has been announced by Multi-Track Magnetics, Inc., One Ruckman Rd., Closter, NJ 07024. If a mixing setup should be required the R107U units can be mechanically coupled. Designed especially for use in universities, screening rooms, transfer and mixing studios, etc., the recorder is available with a 16/35mm capability; 16mm and super-8 models are also available. The R107U is priced at less than \$2,700.

The Model 400 Audio-Frequency Selective Limiter, designed to limit high frequency energy below a fixed value, has been announced by Audio/Tek Inc., P.O. Box 5012, San Jose, CA 95150. The device operates much like a standard program limiter except that it does not cover the full audio bandwidth; only the high-frequency components are controlled. Designed especially for cassette duplication, masters processed using the Model 400 Limiter significantly reduce high-frequency distortion, such as sibilant sound, on

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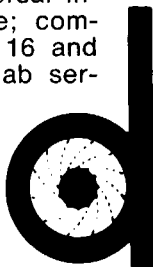
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the duplicated tapes. Model 400 has an internal power supply making it entirely self-contained. A single knob controls primary power and limits in/out functions. Front panel lamps provide visual indication of limiter modes. The price is \$1,050.



The Model 235 series tape loaders for audio or data processing cartridges has been announced by Audio/Tek Inc., P.O. Box 5012, San Jose, CA 95150. Three versions are available. The first loads prerecorded material only and uses a cue-tone pickoff head to separate individual albums. The second version incorporates a tachometer and digital switching for setting exact lengths of blank tape. The third version loads both blank and prerecorded material and features a combination of the features of the other two versions. The price range is from \$1,160 to \$1,385.

New automatic audio cartridge and cassette loaders have been announced by Ramko Research, 3516-B La Grande Blvd., Sacramento, CA 95860. The ACL-60 series for blank tape loading features a digital control panel to set tape length exactly at 30 in/s winding speed, and a one-button reset/run for fast operation. The ACL-60 series offers blank tape loading, tone detection or the combination of tone and blank options in one machine at 60 in/s winding speed. All models have torsion control for proper tape pack and winding of various hub sizes, utilizing TTL digital control circuitry. The ACL-60 series can accept up to 14-in pancakes; this capability is optional on the ACL-25. Prices range from \$159 for the ACL-25 to \$350 for a fully-loaded ACL-60BT.

New Cinelux theater projection lenses designed to replace the Kollmorgen Cinelux line of lenses have been announced by Schneider Corp. of America, 154 Lodi St., Hackensack, NJ 07601. The new lenses will be interchangeable with their counterparts in the present Cinelux series.

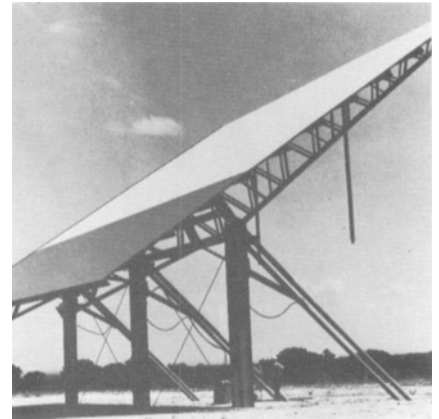
Cinelux Outdoor Lenses, designed to provide screen brilliance and clarity have an increase in speed from $f/1.7$ to $f/1.6$. They can be used with xenon and pulsed discharge lamps.

The new Cinelux 35 lenses for use in indoor theaters have a slight reduction in speed from $f/1.9$ to $f/2.0$ which is offset by improved definition, stronger contrast and a better color rendition.

The Cinelux 70/35 lenses used for 70mm and longer focal length 35mm applications have a speed which has been increased from $f/2.0$ to $f/2.4$.

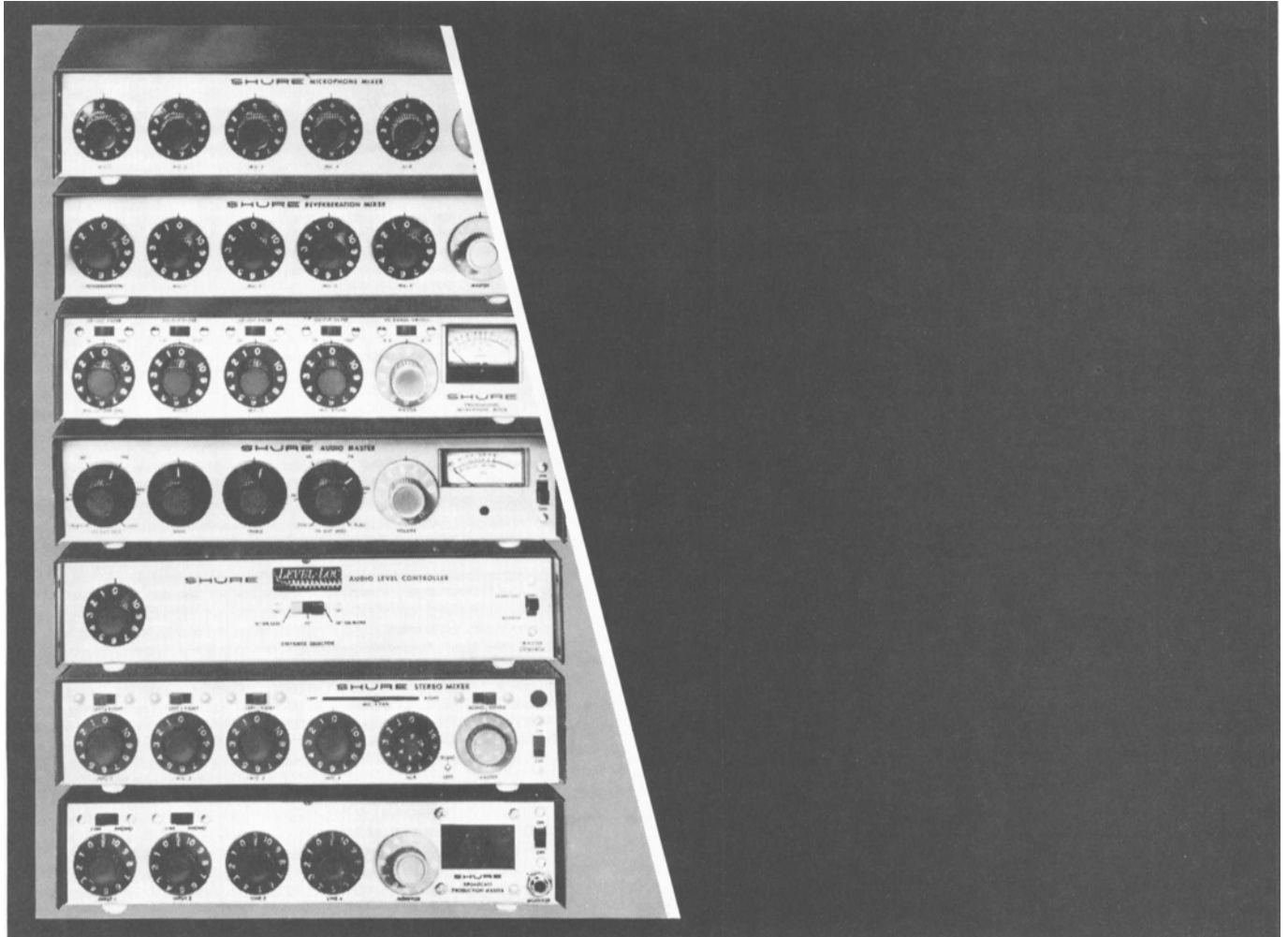
The new Kollmorgen-ISCO KA-298 anamorphic attachment used for Cinema-Scope productions provides a better picture and accommodates a greater range of projection distances than the present Kollmorgen KA-298. The new attachment is compatible with both the old and the new Cinelux lenses.

Price range (depending on focal length) for the Cinelux Outdoor Lens is \$475 to \$750; for the 35, \$375 to \$475; for the 70/35, \$550 to \$650; and for the ISCO Kollmorgen KA 298, the price is \$650.



An hydraulically operated outdoor theater screen designed to withstand coastal winds of 50 mi/h while being raised or lowered has been designed and developed by D. A. Hasty of D & D Fabrication and Erection Co., 4200 White St., Fort Worth, Tex. The prototype screen is 80 ft wide and 60 ft high when standing vertical. It is hydraulically lowered into a horizontal position for simplifying maintenance, including painting. The prototype model stands on a structural steel framework fabricated from I-beams and channel with a single skin of corrugated galvanized steel painted white with a blue skirt. The hydraulic system powering the theater screen was developed by Industrial Air & Hydraulics Inc., of Arlington, Tex. The system develops a maximum pressure of 2250 lbf/in². It has three cylinders each of which develops 75,000 lbf for a total of 225,000 lbf. The lifting system was designed to operate in winds with a velocity of 50 mi/h. When velocities are higher the theater screen can be left upright to withstand winds of 100 mi/h or horizontal to withstand winds of more than 150 mi/h. Price of the screen, including the hydraulic system and installation is about \$30,000 to \$35,000.

The Modu-Line Mobile Film Library and Transport cart, a film storage unit that can be used as a portable library housing more than 75 films, or as a mobile picking cart for recirculating library operations, has been announced by Plastic Reel Corp. of America, 640 S. Commercial Ave., Carlstadt, NJ 07072. The inside shelves are fully adjustable and can accommodate either shipping cases or film cans. The shelves can be adjusted by removing wire inserts and exchanging them for inserts of the proper width. The unit is priced at about \$150.



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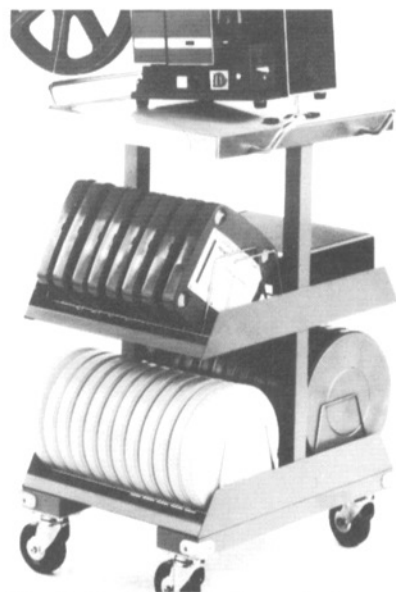
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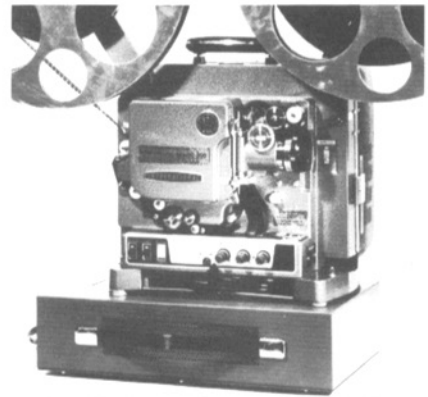
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Phone: (201) 939-0875. Cable: Cinecraft Moonachie



The Modu-Line portable projector stand and film transport cart has been announced by Plastic Reel Corp. of America, 640 S. Commercial Ave., Carlstadt, NJ 07072. It is a heavy-duty steel unit designed for rugged use with a tough formica top to resist scratches and 4-in wheels for ease of movement. The unit can hold film shipping cases, reels and videocassettes. It is 42½ in high and 17½ by 20 in without handles or 24 by 20 in with handles. A rubber bumper protects the transport cart while it is in motion. The price is \$148.



A Double-Duty Conversion Package, providing any International 16mm classroom projector with the extra brightness required for showings to large audiences, has been announced by International Audio Visual, 119 Blanchard, Seattle, WA 98121. The package has two basic components — a Plug Installation Kit (PIK) that modifies the projector to accept the more powerful Marc 300 lamp and a Colorarc Power Supply (CPS). The PIK contains wiring harness, mounting hardware and either a General Electric Marc 300/16 or a Sylvania Colorarc 300/16. Both lamps have the coolness of a 300-W lamp, but give much greater screen brightness than conventional incandescent lamps. Price of the complete conversion package is \$600 with a \$25 installation charge.

A tape tension gage for audio, video and computer tape transports has been announced by Tentel, 1210 Camden Ave., Campbell, CA 95008. The instrument,

called the Tentelometer, measures dynamic or static tension of magnetic recording tape of ¼- to 2-in widths. Dynamic tension measurements made with the Tentelometer show tensions at the heads or at the reels, transient or intermittent tensions and tension loss. Dynamic measurements also serve to detect servo-wander, head and clutch wear, belt slippage and other factors affecting signal distortion. The unit is handheld and is completely mechanical, operating without batteries or levers. Readings are given in ounces and grams with accuracy of ±5% of reading. Models for horizontal or vertical tape transports are available in 12- or 20-oz ranges. The price range is from \$198 to \$265.

The Zetachron, a stopwatch that reads in bright neon numbers, has been announced by Zeta Timetel Corp., Santa Ana, CA 92705. Available in two models, the Pro I reads out minutes, seconds and hundredths of seconds. It is priced at \$200. The Pro II reads out hours, minutes and seconds; minutes, seconds and hundredths of minutes; minutes, seconds and hundredths of seconds. It is priced at \$250. The Zetachron, about the size of a small transistor radio, is designed primarily for use in studios or control rooms as an aid to newscasters.

The 451C, a portable professional sound level meter with "C" rating for flat response, has been announced by Scott Instrument Laboratories, 30 Cross St., Cambridge, MA 02139. The pocket-sized meter has a range of 45 to 130 dBC sound pressure level, permitting measurements of ambient and background noise as well as the signals of interest. The meter reads directly in dBC without interpolation or computation. It is housed in a rugged all-metal case and uses a single transistor radio battery. The price is \$98.

The 970A Digital Multimeter, a self-contained pocket-sized instrument for measuring ac and dc volts and ohms over five ranges, has been announced by Hewlett-Packard, 1501 Page Mill Rd., Palo Alto, CA 94304. All electronics, including the display and batteries, are in one small, handheld package. There is only one function control to set and only two input terminals to use instead of the usual three to eight. The probe is 6½ in long, 1½ in wide and weighs 7 oz. A five-digit LED is incorporated in the 3½-digit multimeter so that all probe voltage readings are in volts and resistance readings in kilohms. There are no scales to misinterpret and decimal placement is automatic. Since the display is close to the point of measurement, a user working in closely-packed circuits can hold the probe in one hand without having to look away from the circuit to read the meter. Three tips which can be extended to various lengths are included with the Model 970A. A short tip is used for most applications, a longer tip for reaching difficult circuit test points and a concave tip to cup wire-wrapped terminals and test pins. The tip detents into three working positions as well as a folded storage position. A standard banana plug with a clip lead can be plugged into the probe tip socket for measurements requiring two clip

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The Buhl QBC 24 High-Resolution Slide Projector, a modification of the Kodak slide projector, has a 250-W compact filament projection lamp for better resolution and superior light distribution, has been announced by Buhl Optical Co., 1009 Beech Ave., Pittsburgh, PA 15233. A specially designed aspheric condenser fits in front of the lamp. A spherical reflector fits behind it. The condenser nearest the slide can be easily changed to match the focallength of the objective lens. The normal 250-W lamp is rated for 70 h of life. When used at a low light level setting the light output is equivalent to 150 W with a corresponding increase in lamp life. Price of the modified projectors ranges from \$318 to \$379.



A new Hahnel editor-viewer for 8mm and super-8 film has been announced by AIC Photo, Inc., 168 Glen Cove Rd., Carle Pl., NY 11514. Designated the VB214 it has a 5½- by 4¾-in Fresnel screen for clarity of image and reduction of on-screen flickering. The screen has been color-corrected. The machine uses the "V" channel



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The Super-8 Editing Guide, a 2-ft aluminum guide with a permanent adhesive back, has been announced by Sly-Fox Films, Inc., 1025 Currie Ave., Minneapolis, MN 55403. Frame numbers on the durable super-8 scale are time-based on 18 and 24 frames/s. Sound sync advances and running times are also shown. The Guide is priced at \$1.25.

The STI Model 2034 Reflex Photoelectric Control System utilizing invisible infrared light has been announced by Scientific Technology Inc., 1157 San Antonio Rd., Mountain View, CA 94040. The system uses 2½-in³ hermetically sealed optics assemblies which may be mounted up to 100 ft from the supporting electronics. As a reflex control, the range is 1 to 25 ft with a standard 3-in retro-target. Additional targets extend the range. As a proximity sensor, unaided by a reflective target, the unit can detect the arrival or departure of almost any object up to 14 in from an optics assembly. A visible LED indicator is provided as an alignment aid. Standard outputs of the STI 2034 are digital or analog logic and mechanical or solid-state relays. Modular design permits a number of plug-in options, including single or dual time delays, one-shots, etc. Among many other applications, the unit can be used to monitor a film web and to set an alarm, or shut down a machine in the event of a web break. Price of Model 2034 is \$119.

solid state technology. BS/MSEE with electronics or communications option, plus experience in design and operation of color video signal handling methods. Knowledge NTSC-SMPTE video standards a must. **Electronic Equipment Maintenance Engineer:** Heavy emphasis on video display units. BSEE plus in-depth experience in test and repair of complex electronic equipment. Resumes to: R. J. LaEace, RCA Corp., 6550 E. 30th St., Indianapolis, IN 46219. An equal opportunity employer M/F.

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