

is organized in four major divisions: *Principles Employed in Electronics Engineering*, Sections 1-5 inclusive; *Components, Devices and Assemblies*, Sections 6-11; *Circuits and Functions*, Sections 12-18; and *Systems and Applications*, Sections 19-27. The 138-page section devoted to the properties of materials is, to the Editor's knowledge, the most comprehensive compilation of data on materials used in electronics ever to appear in print.

Donald Fink has achieved his aim. No electronics library can be considered complete if it does not include this *Handbook*. — *Edit.*

## Handbook of Super 8 Production,

Mark Mikolas and Gunter Hoos, 750 Third Ave., New York, NY 10017. Published (1976) by United Business Publications Inc., 324 pp. Illus. 8 X 11 in. Softbound. Price \$14.95

In 1972 Gunter Hoos and Mark Mikolas left their jobs at the Rockland Children's Psychiatric Hospital to set up their own company, Super 8 Film Group. Since then they have been active in promoting the use of the super-8 format in professional filmmaking, as a "do-it-yourself" production medium. This book is intended mainly to assist newcomers to the medium, by providing a comprehensive resource for super-8 production know-how, showing the interdependence of the various elements in a film production, with the main emphasis on planning production projects.

Thirteen chapters and a section on "Resources: Super 8 Products and Services" cover the entire range of film production in super 8 from the original recording to projection or transfer to videotape, and additional material on animation, widescreen, underwater filming, etc.

The authors take a novel approach at the outset, in the first two chapters, where an overview is given of available options under the heading "Systems," and that most important aspect of film production, "Budgeting." In this chapter sample budgets are presented for three different types of productions to serve as points of departure in applying super 8 to specific film projects, in realistically weighing factors in decisions on film routes and production methods, and determining the inter-relationship of cost factors.

Other chapter headings are: Cinematography and Sound Recording; Preparing to Edit; Editing; Getting Sound Tracks Mixed and Onto Stripe; Print Making; Optical Printing, Effects and Blow-Ups; Striping, Treatment and Cartridging; Front Projection; Rear Screen; Production and Projection; Super 8: Videography and Broadcast.

Super 8 and video were made for each other, the authors claim. The flexibility, universality, relatively low production costs and amazingly high quality make super 8 an ideal color/sound origination medium. Converting the film image to an electronic image often results in a television picture that looks better than the original film.

The *Handbook* is profusely illustrated with excellent photographs, drawings, graphs and charts, and interspersed in the text are short essays contributed by filmmakers and others with a special interest in super 8.

Throughout the book the attitude towards super 8 is one of enthusiasm, typified by the following statements in the introduction to Chap. 3: "Shooting super-8 film is a joyful experience. More than one filmmaker, moving

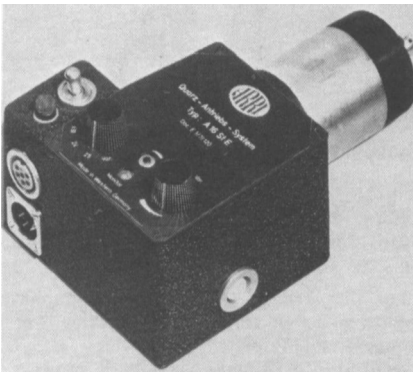
down from 16mm to super 8, has remarked on what a delightful experience it provides." There is a tendency to exaggerate, and overstate the capabilities of super 8, but on the whole the *Handbook* provides a wealth of information, especially helpful for newcomers to film production and those becoming involved with super 8 for the first time.

It would have been helpful if in Chapter 2,

under the heading, "Optimal Applications for Super 8," the authors had given more specific information on the limitations of the super-8 medium, but then, as they have said "In the main, those working in super 8 have found ways to use it as a valuable tool to do things in film that they could not, or would not, have done in 16mm or videotape." *Rodger J. Ross*, 3 Orchard Ave., Cobourg, Ont., Canada K9A 1S9.

# New Products & 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.*



**An all-purpose, quartz-crystal regulated motor for Arriflex 16S cameras**, designed for operation from suitable 12-V dc power supplies, has been announced by Arriflex Company of America, Box 1102C, Woodside, NY 11377. The new motor can drive the 16S camera for virtually any practical filming assignment. For example, it can run the 16S at a synchronous 24 or 25 frames/s with an accuracy of  $\pm 1/2$  frame in a 400-ft take. It can also develop a 50 Hz or 60 Hz pilotone output. No separate pilotone generator is required.

Features include a selector switch and rheostat combination that allows the motor to run at variable speeds from 10 to 50 frames/s. The motor can also be set for single-frame operation allowing the camera to be used for basic animation work and for time-lapse applications. The motor can be switched for either forward or reverse operation and is designed to stop with the camera mirror shutter invariably in the viewing position.

A standard 16S used exclusively with 100-ft daylight spools would require no modification. In most other cases it would be necessary to replace or convert the 8-V torque motor for the magazine to 12-V dc. Price of the Arriflex Crystal Motor is \$2040.

**The Yashica Sound 50XL Macro**, a new super-8 sound movie camera with macro-focusing and low-light capabilities, has been announced by



Yashica Inc., 411 Sette Dr., Paramus, NJ 07652. Features include a super-fast  $f/1.2$  Yashica zoom lens and a  $218^\circ$  shutter slot. The 50XL is keyed for high-speed 160 ASA daylight and 250 ASA tungsten type films as well as for Type G and slower films. The filming speed is 18 frames/s with sound or silent film cartridges. Other features include a footage counter linked to a filming time calculator for accurate measuring of the length of a scene. There is also a provision for manual zooming. Price of the 50XL is about \$500.

**Three super-8 sound-on-film movie cameras** have been announced by Minolta Corp., 101 Williams Dr., Ramsey, NJ 07446. Designated the XL-660, XL-440 and XL-225, the cameras can be used to film synchronized sound movies without special lighting or separate recording equipment. Each camera records the sound on film as it takes the picture and automatically controls both the exposure and the recording level. Each model has a power-zoom lens, an information-center finder and external run light. The XL-440 and XL-660 models offer 4X and 6X zooming. In addition to directional sound pickup a number of optional accessories enable both conventional and wireless recording and mixing of various combinations of microphones and/or other audio sources. Prices are: XL-660, \$400; XL-400, \$360; and XL-225, \$300.

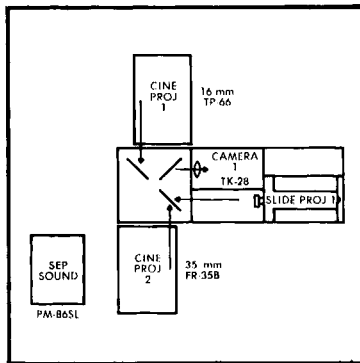
**The 2143XL, a super-8 silent movie camera**, has been announced by Bell & Howell/Mamiya Co., 7100 McCormick Rd., Chicago, IL 60645. Features include a full-time dual-speed push-button power zoom with manual lever; a manual exposure override to obtain a variety of special exposure effects and an exposure meter "trim" control; filming speed of 18 frames/s with in-

# Latest Technology For Today's Telecine Needs

## RCA Keeps You A Step Ahead

Teleproduction and broadcast requirements for telecine have become increasingly stringent, demanding superior picture and sound fidelity. To meet these critical quality and performance standards, RCA's current telecine products incorporate advanced technical features.

Start with the impeccable performance of the TK-28 camera, the popular choice worldwide. Same order of quality as those reproduced by live studio cameras. For unprecedented film handling versatility, add the FR-35B, the new RCA 35mm Projector with servo controls and a host of useful features. Complete the system with the latest RCA cine/telecine product—the servo-driven, jitter-free PM86SL Magnetic Record/Reproduce system for sep-sound. The result is a total system that utilizes latest technology to keep a step ahead of today's telecine needs.



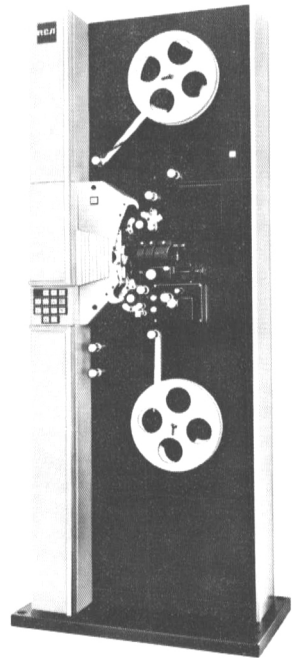
Let us inform you about RCA "sound-on-film" and "sound-for-tape" products. Call or write for details.

- Magnetic Recorders and Reproducers
- Electrical and Electronic Interlock Systems
- Projectors for direct or telecine applications
- Stereo and Monaural Optical Recorders
- Automatic magnetic bulk tape erasers

## New FR-35B— The 35mm Projector that acts like a non-sprocketed machine

The servo-controlled FR-35B is a new concept in 35mm projectors, incorporating features never before available in sprocketed machines. It offers Instant Stop, Instant Start and "freeze-frame" capabilities. It can be equipped for variable speed operation—from 0 to 48 fps. It cues on frame. It operates in Forward and in Reverse at cine speed (24 or 25 fps) or at six times cine speed—with extremely accurate picture registration. It locks to line, to TV vertical sync, or to external drive source. And it meets worldwide operating standards with no conversion needed.

Wherever a high performance 35mm film projector is needed, the new FR-35B must be considered: for film-to-tape transfers; motion picture post-production; telecine, and direct projection applications.



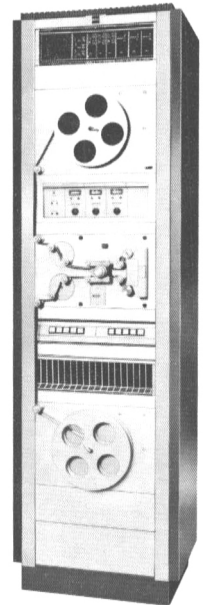
## New PM-86SL Magnetic Sound System

This new system interfaces with both film and tape machines to facilitate post-production in motion picture and teleproduction operations.

A new, built-in electronic interlock facility permits synchronous operation with sprocketed and non-sprocketed machines—film, audio or video tape. The interlock features precision "count memories" for storage of position error for automatic error correction. A push button "Auto Sync" control returns all machines to the originally established sync status.

There is more: Servo controls for better system performance and film protection. A smooth, continuous speed sprocket drive system. Interchangeable sprockets for 16 and 35mm film.

Send for more information on the PM-86SL Series Magnetic Systems and on the FR-35B 35mm Projector.



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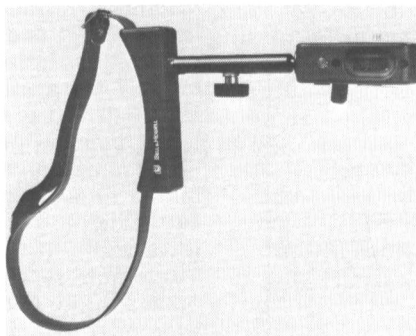


stant slow motion; a viewfinder aperture scale that shows both automatic and manual camera settings from  $f/1.2$  to  $f/45$  with over- and under-exposure warnings; and many others. The camera operates on four AA alkaline batteries and weighs 1.5 lb without the batteries. The price is about \$234.90.

**Two new Fujichrome 8mm films** with magnetic sound striping, R25 (ASA 25), a reversal film for daylight use, and RT200 (ASA 200), a color reversal film for indoor use in available light, have been announced by Fuji Photo Film U.S.A., Inc., 350 Fifth Ave., New York, NY 10001. Both films are said to have excellent color reproduction and clear sound as the result of Fuji's coating techniques and the use of a stronger, thinner film base to ensure closer contact between the sound stripe and the re-

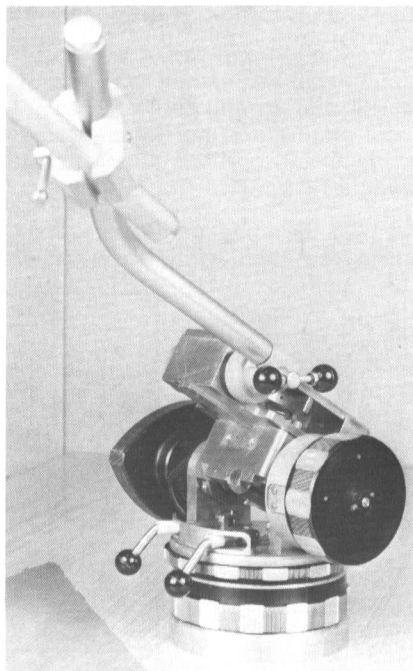


coding head. The Fujichrome R25 with processing is priced at about \$8.45; the RT200 with processing is priced at about \$9.00.



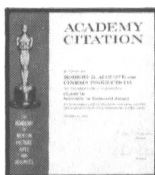
**A shoulder pod accessory** that can be fastened to the tripod socket of a movie or still camera has been announced by the Bell & Howell/Mamiya Co., 7100 McCormick Rd., Chicago, IL 60645. Behind the base plate that attaches to the camera is a ball joint socket with a locking lever to adjust the angle of the spring-loaded, locking

arm that extends to the curved shoulder brace. The photographer can adjust the length and angle of the shoulder pod so the camera can be held close to his eye. The shoulder pod accessory is priced at \$29.95.



**The Vinten Fluid Head**, manufactured in Great Britain, has been announced by Listec Television

## CRA-6 and CRA-6/A Crystal Controlled Motors for Arriflex 35mm Cameras



Cinema Products' Academy Award winning crystal controlled motor — designed for Arriflex 35mm cameras — is now available in two new models: the CRA-6, which runs at 24 fps; and the CRA-6/A, which runs at 24 fps or 25 fps (controlled by a selector switch). All the electronics are contained within the motor housing — making the CRA-6 and CRA-6/A crystal controlled motors the lightest and most compact motors available for the Arriflex 35mm camera. CRA-6 and CRA-6/A motors are ideally suited for normal hand-held sync shooting from any standard Arri battery pack.

CRA-6 and CRA-6/A motors utilize the very latest COS/MOS integrated circuitry for extremely compact, efficient operation. These motors contain the same advanced crystal oscillators as in all of our previous motors, with an accuracy of  $\pm 15$  parts per million over a temperature range of  $0^\circ$  to  $140^\circ$ F.

Complete CRA-6 and CRA-6/A motor packages are  $\frac{1}{4}$ -lb. lighter than the existing constant speed motor, and are smaller in diameter, providing a much more convenient handgrip.

CRA-6 and CRA-6/A crystal motor housings are designed for use with standard Arriflex 35 tripod heads, including Ronford, Sachtler & Wolf, and other similar heads.

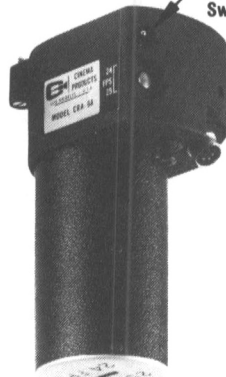
### TECHNICAL SPECIFICATIONS

- Power Consumption: 1.5 amps maximum full load current.
- Out-of-sync warning tone integral with motor package.
- Built-in resettable circuit breaker.
- Instant start button.



**MODEL CRA-6**  
(24 fps)

Speed Selector Switch



**MODEL CRA-6/A**  
(24 fps/25 fps)



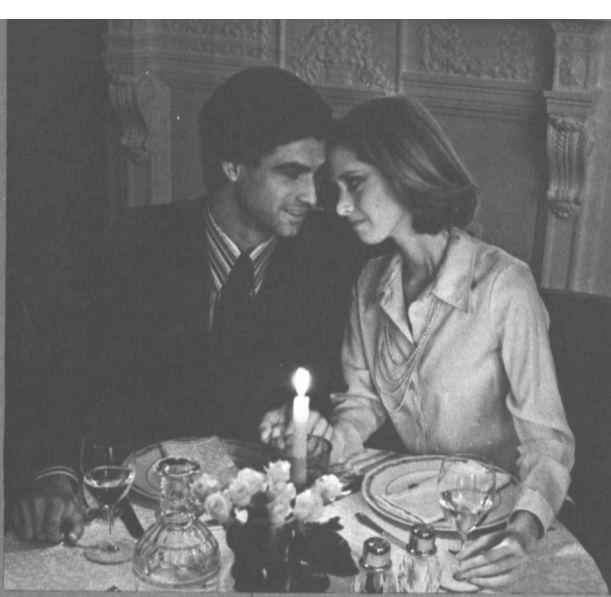
**FLAT BASE**

Optional Flat Base includes digital footage counter and fits in "Cine 60" blimp or Arri 120 S blimp. (Note: Adapter bracket is available for Arri 120 S blimp.)

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## The new Spectra® Electronic Meters: Sensitive and accurate beyond your wildest dreams!

Imagine a meter that's able to give you readings in light so dim it requires an 8-minute exposure at f1.4 with ASA 25 film! That can go from there to the brightest snow scene... and read both instantly, with utmost accuracy!

This is one measure of the capabilities you command with the new Spectra Series II meters. Built with silicon blue cells and solid-state electronic circuitry, they offer total accuracy from 0.004 to 100,000 footcandles—a twenty-five-million-to-one lighting ratio!

They also give you instant, direct f-stop readings for still and cine cameras with the touch of a button. Choice of incident or reflected light measurements. And a complete new accessory system, too. Your dealer is ready to demonstrate these remarkable new Spectra meters to you. Or write for Lit/Pak P-70. Ehrenreich Photo-Optical Industries, Inc., Woodbury, N.Y. 11797. 

### New Spectra® Combi™ II

- Widest sensitivity range: EV minus 6 to plus 18.5 with ASA 100.
- Exclusive dual silicon cells for built-in incident or reflected measurements; choose either or average both simultaneously at the flip of a switch.
- Wide-range calibrations: exposures 8 hrs—1/8000th sec., 1-256 fps; apertures f0.7—f90; footcandles 0.004—100,000; ASA 0.1—25,000.
- Pointer "memory" lock.
- Accessories: 1° spot attachment, fiber optics probe, enlarging/densitometry attachment, ground-glass reader, microscope/telescope adapter.

### New Spectra® Professional™ II

- Sensitivity range EV minus 5 to plus 18.2 with ASA 100.
- Incident or reflected measurements without accessories.
- Easy-to-read scales: exposures 8 hrs—1/8,000th sec., 1—256 fps; apertures f0.7—f90; footcandles 0.008—80,000; ASA 0.1—25,000.
- Pointer "memory" lock.
- Accepts same accessories as Combi™ II.

### New Spectra® Lumicon™

- Silicon-cell footcandle meter (for illuminance measurement only)
- Three measuring ranges: 0.004—10 fc, 0.4—1,000 fc, 40—100,000 fc.
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- Accepts accessory 1° spot attachment for direct Foot-Lambert (luminance) readings, plus all other Spectra Series II accessories.



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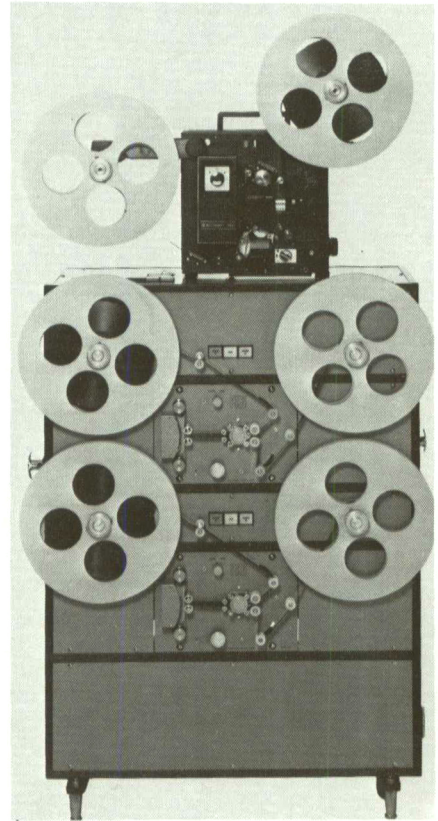
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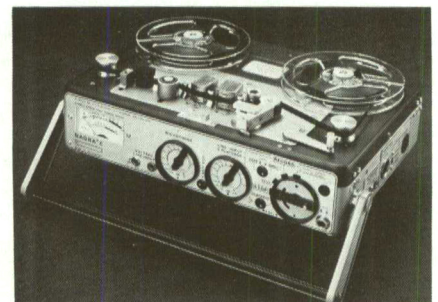
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Equipment Corp., 35 Cain Dr., Plainview, NY 11803. Features include 50 lb capacity at 8-in center of gravity and an externally adjustable vertical center of gravity up to 9 in. Other features are a 50° tilt fore-and-aft; quick return friction override; a 4-in horizontal center of gravity adjustment; and variable friction and brake controls for both pan and tilt modes. The head has adjustable torque of 80-800 inch ounces at one r/min. The price is \$1495.



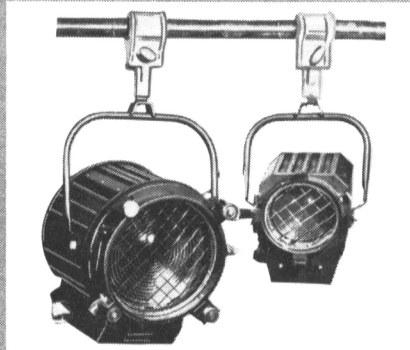
The P.A.G. Mini-Rack, a modular magnetic film sound recording system, has been announced by KLM Associates, Inc., P.O. Box 34102, Bethesda, MD 20034. The unit can contain from one to four 16mm film transports (two channels each side) all running in lock with a 16mm or super-8 projector. The operator can start with a double head replay system and expand into a four-channel broadcast-quality dubbing system, center or edge track with pickup recording on both. The system is compact and self-contained. The wow and flutter is 0.1% (typically 0.07% DIN), the SNR is 65 dB, and the frequency response is 30 Hz to 15 kHz ± 2 dB. Price of the P.A.G. Mini-Rack (three replay channels and one record/replay channel including projector (24 frames/s)) is \$17,482.50.



The Nagra E audio recorder has been announced by Nagra Magentic Recorders, Inc., 19 W. 44

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Multi-Q has the lighting under control from the first cue to the last, from the small shows to the big ones. Multi-Q combines the most advanced computer technology and Strand Century's extensive systems design experience to give you flexibility, reliability, and great potential at about half the cost of most memory systems. With Multi-Q you can have a lighting control system with as few as 32 channels and still get the most advanced

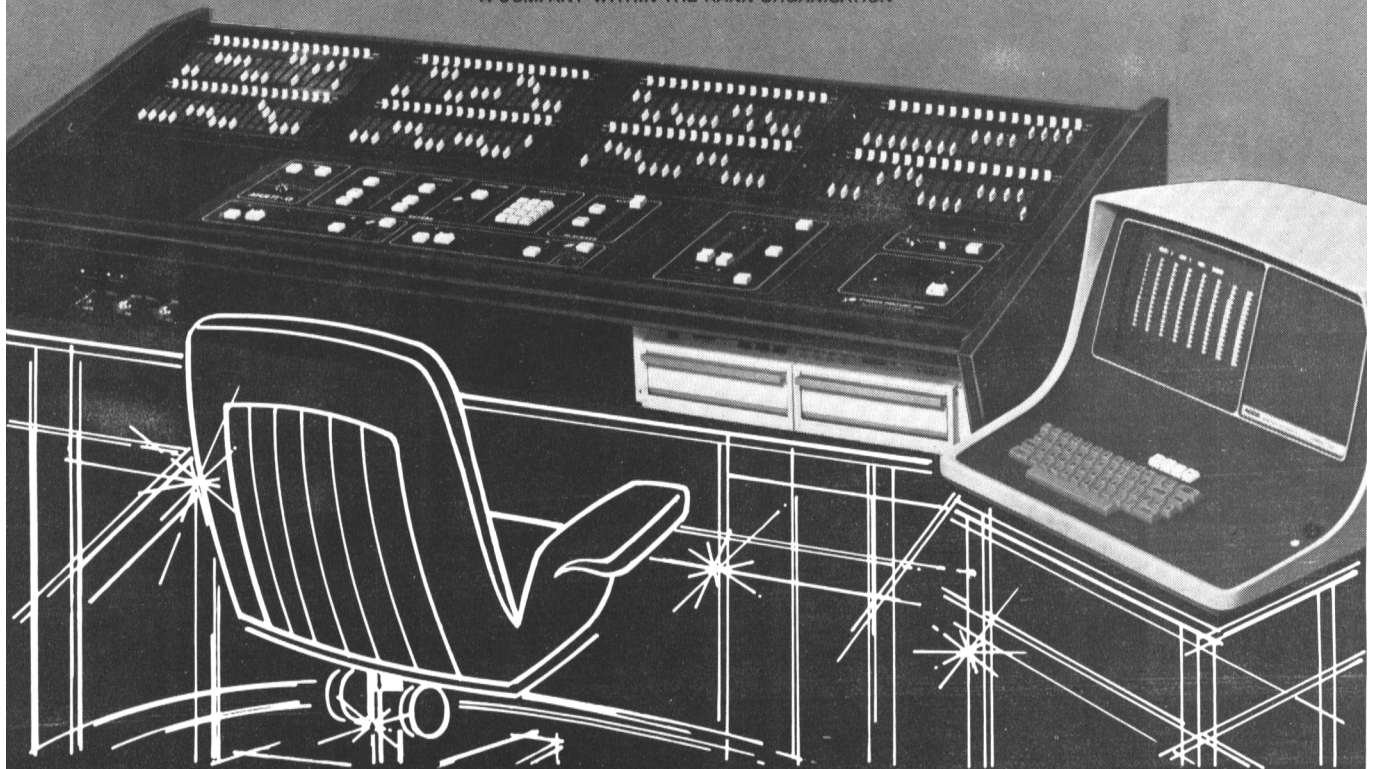


features of a large memory system. Features include: Two dipless crossfade units, Instant modification of channel level without matching, CRT dynamic cue display, fade time recording, cue insert/delete capability and Multi-Q provides for alteration of level setting by individual controller and digital call up. Get the full story on Multi-Q from Strand Century. We speak your language.



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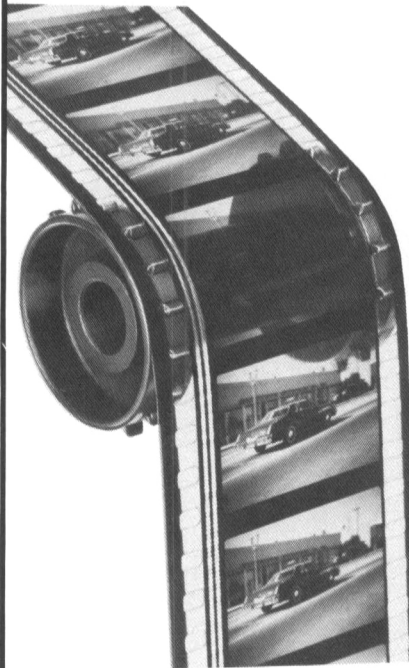
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LaVezzi Posi-Trol positive control sprockets go a long way to controlling the lateral movement of 35mm film across a camera or projector aperture for more accurate filming and projection — .004" maximum to be exact! That's tight when compared to tolerances available with standard sprockets.

What's more, Posi-Trol sprockets are designed to maintain film integrity, relieving problems of torn perforations. And Posi-Trol sprockets can limit the need for secondary guide components to simplify camera and projector design.

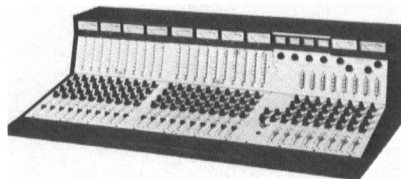
Posi-Trol sprockets are available for drive and hold-back use, and for low-inertia intermittent applications, or to your specifications. For more information call Worth Baird, sales manager (312) 832-8990, or write LaVezzi Machine Works, Inc., 900 Larch Avenue, Elmhurst, Illinois 60126.

*LaVezzi*  
machine works, inc.

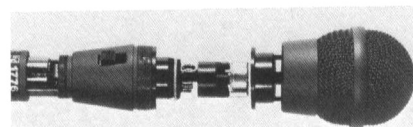
St., Room 715, New York, NY 10036. The new Nagra ("E" for economy) has the same features as the original Nagra except for being smaller and lighter in weight without the miniaturization of the Nagra SNN. Price of the Nagra E is \$1772.



A new full-track version of the MX-5050 professional audio recorder has been announced by Otari Corp., 981 Industrial Rd., San Carlos, CA 94070. The new recorder provides full-track single-channel record and reproduce capability, plus half-track two-channel reproduce capability. The new machine incorporates all the professional features of the earlier MX-5050 models including front panel edit and cue controls, motion sensing, precision-mounted splicing block on a flip-up head cover and a built-in test and cue oscillator. The price is \$1450.



A new recording studio console designated Model 2008-RS has been announced by Opamp Labs Inc., 1033 North Sycamore Ave., Los Angeles, CA 90038. It is a 20 input, 8 output, four echo buss, 16-track mixdown-monitor system. The input channels consist of mix slide pot, film type, with 90 dB of attenuation. It has 20 Echo send controls, 4 Echo return gain controls, 8 Echo return assign pushbuttons (lighted) for 4 echo busses. There are eight output assign lighted alternate action pushbutton switches. There are eight master pots, 16 stereo earphone pots, 16 mixdown concentric pan-gain potentiometers, talkback and slate pushbuttons, microphone, gain controls, a built-in 5-frequency oscillator, stereo record and monitor amplifiers and external rack-mounted power supplies. Prices are (kit) \$9515.30; (wired) \$15,225.30.

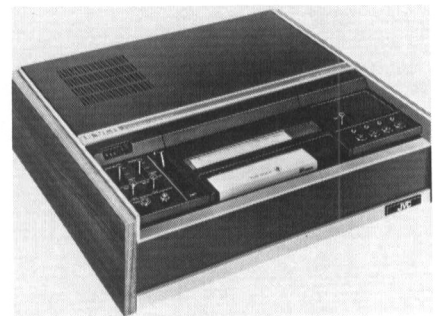


A new cardioid condenser microphone, Model 1776, has been announced by Electro-Voice, Inc., 600 Cecil St., Buchanan, MI 49107. De-

signed for both handheld and stand use, the microphone is built with a strong die-cast and machined case and tough metal screen protecting the head making it useful for on-the-road applications. The 1776 electret has a permanently charged element and needs no bulky electronics for powering. Frequency response of the 1776 is 60 to 18,000 Hz. It is said to have a high output that results in more sound output from the amplifier and also allows the 1776 to be plugged into almost any tape recorder input. The microphone is a Single-D cardioid with good off-axis reduction of sound pickup. The price of \$99 includes a 15-ft professional cable and stand clamp.

An extension assembly designed to increase microphone floor stand height has been announced by Atlas Sound, a division of American Trading and Production Corp., 10 Pomeroy Rd., Parsippany, NJ 07054. Designated Model FB-20, the assembly, designed to add up to 20 in of adjustable height or length, includes a 3/8-in diameter chrome-plated cold rolled steel tube. The price is \$6.50.

The improved electronic audio signal filter Model 505 has been announced by Spectra Sonics, 770 Wall Ave., Ogden, UT 84404. The operational temperature range has been expanded and reliability increased by extending the power voltage range requirement without degradation of the performance specifications. Model 505 accepts two inputs and can provide four outputs — essentially two filters on a printed circuit card. It can be used with other power amplifiers where Bi/Tri or quad amplification is desired. The filter is available in 19 standard frequencies ranging from 100 Hz through 7 kHz. Custom frequencies may be specially ordered. Model 505 is designed to divide an audio signal at a low level into selected frequency segments. The segments of the audio signal are then fed directly to loudspeakers. Model 505 is suitable for either professional or amateur use. The price is \$109.



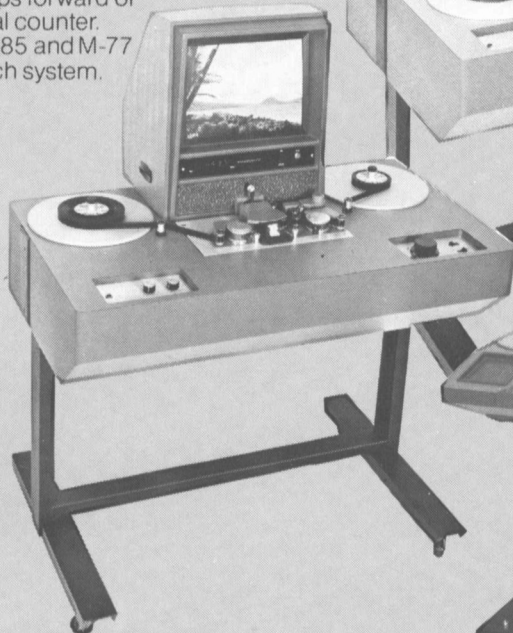
The CP5000U color videocassette player has been announced by JVC Industries, Inc., 58-75 Queens Midtown Expwy., Maspeth, NY 11378. Designed to play back pre-recorded 3/4-in U cassettes through a single video monitor, the player can also feed multiple monitors via RF or accessory distribution amplifiers. Addition of an optional RF converter permits playback through any standard television set. Automatic phase control and automatic color control assure picture sharpness and color accuracy. Tracking, skew and color lock controls permit clear viewing of any correctly recorded U-standard cassette. For videocassettes that are old or have been abused, a built-in dropout compensator helps clean up the image. The electronic circuits are all solid state and mechanical features are de-

# EDITING PROBLEMS COME IN 3 SIZES.

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## **SMALL**

Moviola M-84 2-Plate Editing Console. 16mm composite optical/magnetic picture head, 0-240 fps forward or reverse, digital counter. Masters to M-85 and M-77 with servo-tach system.



## **MEDIUM**

Moviola M-85 4-Plate Editing Console. 16mm composite optical/magnetic picture head; interchangeable 16mm and 35mm sound modules for second set of plates; 0-240 fps forward or reverse, digital counter. Multi-track mixing capabilities. Masters to M-84 or M-77 with servo-tach system.



## **LARGE**

Moviola M-77 6-Plate Editing Console. 16mm composite optical/magnetic picture head; two sets of sound heads (16 or 35mm interchangeable modules). 0-240 fps forward or reverse, digital counter. Extensive mixing capabilities. Masters to M-84 or M-85 with servo-tach system.



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Last year, Sony Broadcast introduced the prototype of a new 1" high band video recorder. The BVH-1000.

The BVH-1000 produced picture quality difficult to believe. In fact, broadcasters didn't believe it. They had to see it for themselves. And they snapped up every prototype we could deliver.

Since then, we've made some changes. Added more features. Expanded the BVH concept to include a portable model, the BVH-500, for professional 1" production in the field.

And we've sold a lot of machines.

If you're considering the move to 1", consider the advantages of the BVH-1000.

**1. The Advantage of Shared Sector Scanning.** The Sony Broadcast BVH-1000 and BVH-500 both use an exclusive system of scanning that records video and sync (lines 1-17) with separate heads. Which means the entire vertical interval is captured and available for encoding any signal required in the future by the FCC.

Color banding is eliminated. And generation after generation, the BVH-1000 picture retains incredible clarity and precision.

**2. The Advantage of BIDIREX.** Film editing techniques, with a professional video recorder?

That's what you get with the BVH-1000. Not one, but two control modes are provided to give editors a true "film" feeling. In shuttle mode, the tape can be moved in either direction, from stop to 30 times normal speed. With a recognizable picture, so you can make fast editing decisions.

In jog mode, the BVH-1000 lets you move the tape as though you were positioning the reels by hand—while you monitor a fully locked picture.

**3. The Advantage of Interchangeability.** 1 dB down is the specification. Need we say more?

Sony's interchange is guaranteed by a gimmick-free devotion to precision mechanics and supported by the experience of building several hundred thousand video recorders.

**4. The Advantage of Color Framing.** Some high end production recorders don't offer color framing. Others make it available as an expensive option.

But both the BVH-1000 and BVH-500 provide color framing capability as standard equipment. Add that to a logic system ideally suited for computer assisted editing, and the Sony BVH-1000 is your best bet to produce that "word from our sponsor."

**5. The Advantage of High Fidelity Audio.** Not one, not two, but three isolated audio tracks with frequency response from 50 Hz to 15 kHz. With over 50 dB isolation between tracks.

Never before has any production recorder offered the level of audio quality found in these two new Sony Broadcast machines.

And a special wide band amplifier is automatically switched onto the cue track in search mode, to accommodate SMPTE code playback in high speed.

But it is impossible to describe all the advantages of the Sony BVH-1000 and BVH-500 high band recorders. You must see them to believe them.

Contact Sony Broadcast today, and ask for a demonstration. You'll see why networks and production companies alike are buying this remarkable new recorder.

## Sony Broadcast

Sony Corporation of America, 9 West 57 Street, New York, New York 10019  
New York: (212) 371-5800 Chicago: (312) 792-3600 Los Angeles: (213) 537-4300 Canada: (416) 252-3581

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## MICRO MONITOR

Top quality ENG-professional color monitor/rcvr; weighs only 6 kilos (14 lbs), five inch Sony Color screen, BNC input connector, Monitor converter switch, audio input.....\$795  
W/rechargeable battery power supply.....\$895



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Super Stix with Miller F .....\$695  
Super Stix with Ronford F-2.....\$995  
Super Stix with O'Connor 30.....\$960

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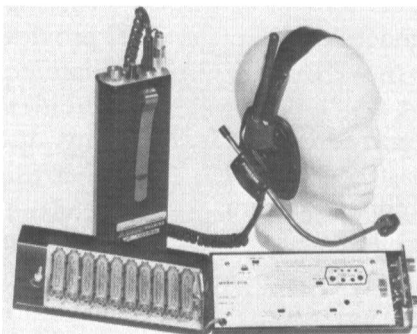
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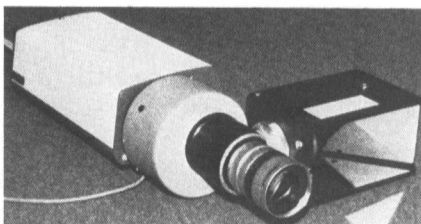
signed for easy operation and long-term dependability. The player has an auto-repeat function that permits the viewing of a program repeatedly without operator intervention and two audio tracks can be used for stereo sound or bilingual applications. Power requirements are 2130 V ac, 60 Hz. Power consumption is 90 W. Price of the CP5000U is \$1100.

A 10-min Scotch brand mini-U-Matic videocassette and a mini-U-Matic head-cleaning cassette have been announced by 3M Company, P.O. Box 33600, St. Paul, MN 55133. The UCA-10S blank tape mini-videocassette exhibits the same capabilities and characteristics of the standard U-Matic tape format twice its size. The tape in the new videocassette, like that of the 20-min version, features a proprietary high-energy oxide specifically designed for the smaller format.

The head-cleaning videocassette (UCS-HC) contains a pre-recorded color-bar signal that indicates when the tape has finished its job. The UCA-10S is priced at \$22.40. The UCS-HC is priced at \$29.

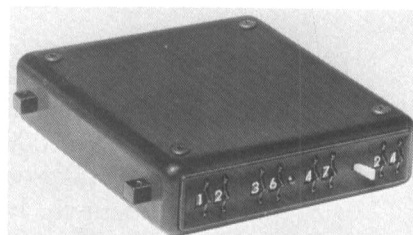


The Mark 200 communication system, designed to provide wireless communication in high-noise environments or in the field, has been announced by Swintek Enterprises, 1098 W. Evelyn Ave., Sunnyvale, CA 94086. The system consists of two transceivers, each operating in a continuous transmit mode, internally powered, with two antennas, carrying case and batteries. Typical useful range is about half a mile. Closed-loop sidetone capability allows verification of the communications link and the system may be used as a conventional telephone if desired. The system is portable and can be interfaced with any private-line system or headset. Prices begin at \$1950.

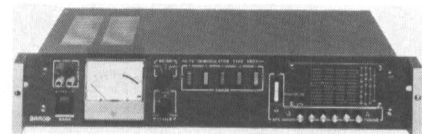


The TL 155 split lens system designed specifically for use with low light level television cameras to provide two images on one monitor with different magnifications and different scenes has been announced by Visual Methods Inc., Box 644, Westwood, NJ 07675. The optical image splitting systems uses two collecting lenses and a movable front surface mirror to image two different (or the same) scenes under different (or the same) magnification onto a standard vidicon. The two scenes are displayed on a standard

monitor, each scene occupying one-half of the monitor face. By eliminating the need for an extra camera, an electronic splitter and a monitor, the lens system can provide cost savings. Used mainly for surveillance, the TL 155 is priced at \$920 without the front and side lens.



The 4220, a frame-accurate edit-code comparator, has been announced by BTX Corp., 438 Boston Post Rd., Weston, MA 12193. The instrument compares any preset SMPTE time code with any parallel decoded SMPTE data off tape and provides a command signal to start or stop VTRs and audio recorders. It activates an LFD signal light when the dialed-in tape location is reached. The comparator operates in both play and rapid shuttle modes and in both forward and reverse tape motion. Typical applications include controlling VTRs and audio recorders using SMPTE time code for accurate frame-by-frame editing and upgrading existing tone editing systems for SMPTE time code compatibility. Price of the 4220 is \$495.



The Barco VSD2 Demodulator, a TV demodulator continuously tunable through VHF, UHF and CATV and which allows presetting of any five channels, has been announced by Rohde & Schwarz Sales Co., 14 Gloria Lane, Fairfield, NJ 07006, exclusive distributors in the United States for Barco Electronic. The VSD2 frequency coverage is 47 to 860 MHz. It features 0.1 mV sensitivity and has a separate input for UHF/VHF. It has two video and two sound outputs and a video and sound level meter. It also provides monostandard multichannel overall gain independent of the picture content. The design is solid state and modular. The demodulator can be used for monitoring a remotely operated broadcast transmitter; for relaying; for remodulating well-defined carriers, for example HF-wired TV networks and CATV antenna sites; for accurate videotape recordings; and as a reliable signal source for CATV studios. The price is \$1800.

A VIT (Vertical Interval Test) Distortion Meter, Type UPF has been announced by Rohde & Schwarz Sales Co., 14 Gloria Lane, Fairfield, NJ 07006. Of modular design the new VIT meter consists of the basic unit, test parameter plug-in limit monitor, and a display unit. A selection of test parameter plug-ins provide flexibility. The basic unit contains the power supply and the four basic plug-in cassettes (gain control, sync separator, timing program and luminance bar amplitude). The unit is capable of providing test information on linear distortion, non-linear distortion, interference voltages, operating parameters, and measurement ranges and error limits of other parameters. Pilot lamps and sig-

# The VTR Format of Tomorrow. While others are still talking about it... Bosch already has it: the BCN System.

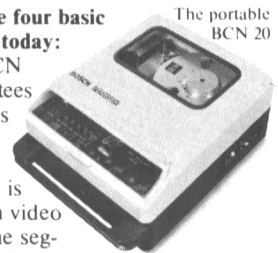
Since the BCN was first introduced, more than 370 of these systems have been ordered from all parts of the world.  
More than 150 of them have been delivered and are in operation.

The four basic requirements placed on a new VTR format:

- Top broadcast quality for all TV standards.**
- Universal applicability.**
- Reel-to-reel and cassette handling.**
- Adaptable to future developments.**

The BCN System meets these four basic requirements for a new VTR format today:

The compatible and economical BCN 1" format produced by Bosch guarantees broadcast quality in all TV standards and color systems (PAL, PAL-M, SECAM, NTSC). For all fields of telecasting and VTR applications. It is adaptable to future developments in video tape and video head technology. The segmented-field process makes purely electronic switching of writing speeds possible. As a result, the BCN is already an economical and universal VTR with a guaranteed future today.



The portable BCN 20

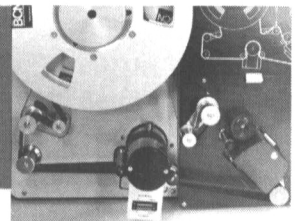
The BCN System offers two different portable versions: the portable BCN 20 with a tape capacity of more than 60 minutes on one reel – and the BCN 5, the 20-min. cassette recording and play-back version. Both versions operate under all conditions with full broadcast quality. In the future, the BCN cassette version will also be used in an automatic multi-cassette VTR.



The BCN 5 cassette VTR

The BCN System features electronic editing with:

Single-picture display – for an unlimited time with no danger to the tape.



Tape guidance system in the BCN 20

Jogging – single-picture search mode, forward and reverse.  
Slow-motion, fast-motion – variable take-search mode.  
And all this with a state-of-the-art digital store.  
The BCN format also offers the possibility of filing over 100,000 single pictures (for example, slides) on a 90-min. video tape with an extremely short access time to each single picture.

The BCN System is designed for both basic tape-handling methods: reel-to-reel and cassette handling in full broadcast quality, in both portable and stationary VTR's.

The secret of success: the BCN scanner

The BCN System is not only a broadcast VTR:

It is also an electronic alternative to film. For the quality- and economy-minded industrial user, and for all professional non-broadcast applications.

The BCN System is offered by four leading manufacturers of "broadcast" equipment, and it is produced in both Europe and the USA.

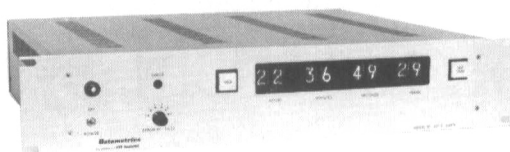
**BCN – a format with a guaranteed future.**

**BOSCH FERNSEH**

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### FEATURING

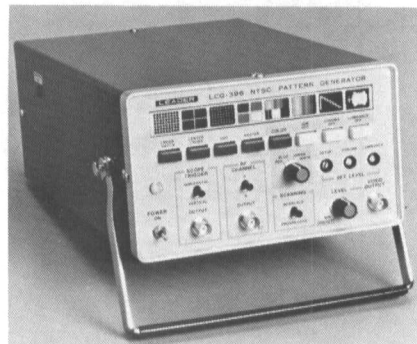
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naling lines indicate the various irregularities in signals. In addition to pure VIT line tests, measurements in the full field range are possible and other operating parameters, such as sync and burst amplitudes or hum can be determined. The instrument can permit simultaneous analysis of several characteristics of a signal under test. The price is about \$18,000 depending upon the configuration.



The Leader LCG-396, a video signal generator which can generate NTSC colorbars and diverse patterns, has been announced by UAP/Telaudio Centre, Box 921, Beverly Hills, CA 90213. Displays include crosshatch with raster center-dot; single crosshatch; dots; NTSC colorbars with I&Q signals; full-field colorbars; four rasters (white, red, green, blue); luminance and chroma killers; RF and video outputs with broadcast-grade sync; and digital circuitry. The generator is portable and can be rack-mounted. The price is \$899.

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7 Valley St. Hawthorne, N.J. 07506 USA

Made in U.S.A.

The new Magnaflex 16 Mark III double band projector is exclusively imported into the United States by Victor Duncan, Inc., 2657 Fondren, Dallas, TX 75206. Based on the Bell & Howell model 1694 16mm projector, the Magnaflex, a versatile and portable double system interlock projector, is offered in three basic models for post-production applications. Model MF 810100 is a preview/playback unit only. Model MF 810101 can perform transfers from side to side (from the Sepmag side to the Commag side or vice versa) and, by means of a recording preamplifier incorporated into the basic model, it allows the filmmaker to do nonsynchronous transfers from outside sources, i.e. a simple audio transfer from an outside source. (Such transfers cannot be critical, however, since the speed stabilization of the Magnaflex is 24 frames/s ± 1%.) Model MF 810102 is a synchronous recording and playback projector similar to the MF 810101 but with a 110-V, 60 Hz synchronous motor allowing transfers from 1/4-in sync tracks.

All Magnaflex 16 Mark II projectors feature direct mechanical coupling for positive synchronization. They have the capability of disengaging the mechanical linkage between the picture (Commag) side and the track (Sepmag) side (de-clutching) to allow exceptionally rapid synchronizing of the soundtrack with the picture. The double band side may be de-clutched for independent inching of the fullcoat sound film. All models feature three-tooth claw for safe projection; two-bladed shutter for maximum light output; and manual threading for easy access to the film path for marking, synchronizing, etc. Most Bell & Howell accessories can be adapted to the Magnaflex for added versatility. The figure of the projector was published

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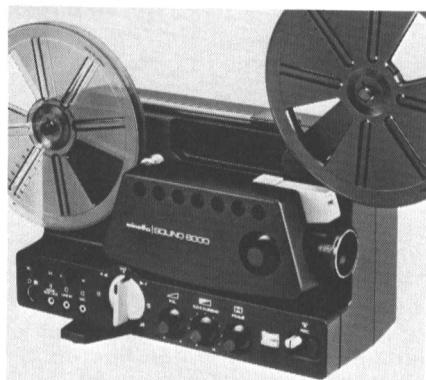
*We are a quality-oriented lab...  
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We do the job right!*



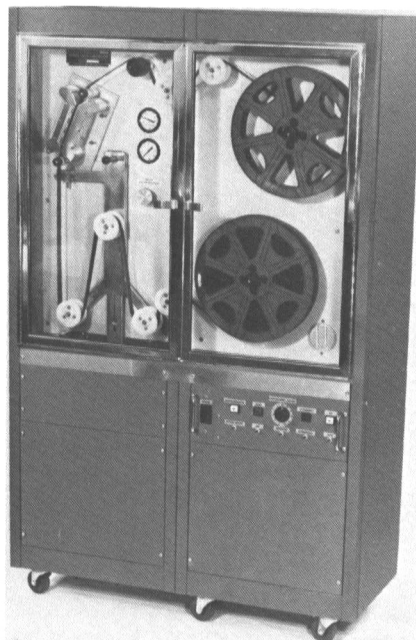
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on page 342 of the May issue of the *Journal*. Price of the Model MF 810100 (playback only) is \$3495; MF 810101 (playback and record), \$3995; Model MF 810102 (sync), \$4695.



The Minolta Sound 6000 projector, complementing XL sound movie cameras, has been announced by Minolta Corp., 101 Williams Dr., Ramsey, NJ 07446. A super-8/single-8 projector, its features include sound-on-sound dubbing capability, a Rokkor lens and automatic reel-to-reel threading. Built-in circuits and controls permit adding sound to silent films that have a magnetic striping, adding music, voice or sound effects to sound films and erasing or replacing existing soundtracks on either. In addition to an input jack for the microphone supplied with the projector there is one for other audio sources, such as tape recorders, radios, televisions or record players. Automatic or manual sound control can be selected and an illuminated meter continuously indicates the level of sound being recorded. The reel capacity of 600 ft allows showing of up to 60 min of 8mm or 40 min of super-8 magnetic sound or silent films. The 6000 projector is priced at about \$400.



The Ultrasonic CF200 Film Cleaner has been announced by Lipsner-Smith Corp., 6110 Madison Court, Morton Grove, IL 60053. Described as "microscopically perfect," the "cleaning action removes all surface contamination from both the support and the emulsion side of the film. Scratches are cleaned. Nothing touches the film but liquid and air. A non-

### Old good reasons

Most compact, most portable soft-light anywhere: a full 23 x 21 x 7"; yet folds up into a 28 x 16½ x 4½" case for travel and storage.

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### New good reasons

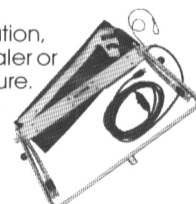
Improved output—thanks to new shell and increased capacity. Softlight 1500 is just as soft...but now, twice as bright. Brighter, in fact than most 2K softlights—125 foot candles at 10 feet, using just two 750-watt, 120V clear lamps. (Gets even more output with two 800-watt, 220/240V lamps.)

Improved reflector shell—textured foil bonded to space-age Nomex® fabric is 50% more efficient; won't scorch or discolor with temperature or age.

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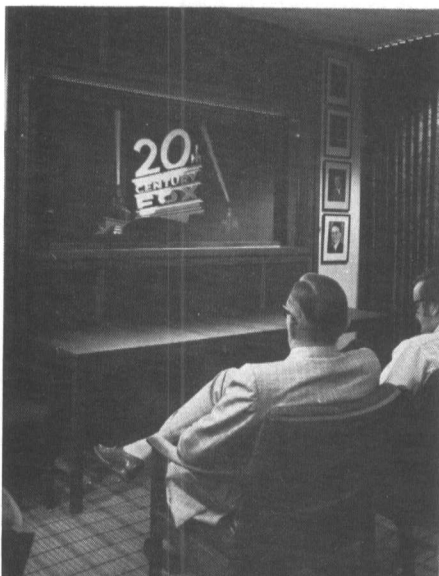
For more information, see your Lowel dealer or send for our brochure.

\*Softlight 1500 shell available separately, to increase capacity of original Lowel Softlight.



# lowel

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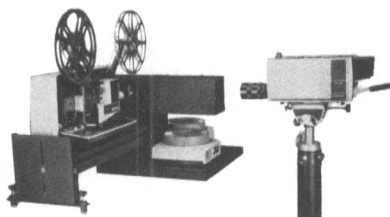
## Rear projection screen offers advantages

A built-in Da-Lite Da-Plex™ "Picture Window" rear projection screen works in normal room lighting and eliminates distracting projector noise. It is superior for screening, briefing and conference rooms. Da-Lite has a complete line of standard and custom designed screens. Write or call today for the name of your nearest Da-Lite Audio-Visual Specialist.

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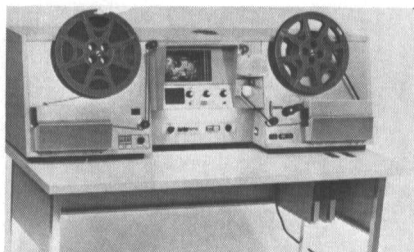
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# BUHL

evaporative drying system is used to obtain a clean and static-free film. The film is also lubricated to decrease the possibility of damage during projection or editing. The CF200 system can be used to clean both 35mm and 16mm film. Price of the new cleaning machine is \$9985.



The Pulsar-IC 16mm automatic film inspection machine with a built-in previewer has been announced by Research Technology Inc., 8260 Elmwood, Skokie, IL 60076. The previewer shows both the image and the sound portions of the film. A 4 x 6-inch speaker allows the user to hear the soundtrack as it is played. The viewing area (screen) measures 8 x 5 in. The previewer can be used to check films for continuity; to verify footage; to quickly study a film for overall content, quality and timing; and to provide a quality check of the film — scratches show up at 400 ft/min. The machine can adjust from 800 to 1600 ft/min. Price of the Pulsar-IC ranges from \$9150 to \$11,500 depending on options.



A semi-automatic ultrasonic film splicer for fusing 16mm polyester-base films has been announced by Metro/Kalvar Inc., 745 Post Rd., Darien, CT 06820. Three models, 2002 for 16mm microfilm, 2216 for 16mm motion-picture film and 2218 for super-8, employ high-frequency sound to weld the film without tape, cement or scraping the emulsion. Splicing time from film insertion to film removal is said to be less than 10 s. Model 2002 is priced at \$1520. Models 2216 and 2218 are each priced at \$1570.

A new xenon slide projector called Quadrapoint has been announced by Bergen Expo Systems Inc., 1088 Main Ave., Clifton, NJ 07011. The slide projector contains a patented reflector grid designed to give even light distribution to all four sides of the screen "squaring off" the circle of light thus reducing corner and side light "drop-off" and light waste. The slide projector weighs 29 lb and can produce over 5000 lm for large screen and difficult lighting situations. The lamp

## How To Make Your Super 8 Equipment Run Properly.

If proper presentation of your Super 8 films is important to you, then your equipment must be in perfect condition. To learn how well your Super 8 system performs, you'll need an SMPTE Test Film.

There are two basic types of test film. The first, for projection performance — picture only, is the **SMPTE 8mm Registration Test Film** (50 or 100 ft). This film has no sound track. Its purpose is to measure and help you adjust the optical and mechanical performance of your projection equipment. The patterns are designed to measure and adjust aperture size and position, jump, weave, travel ghost, lens focus, and film buckling.

The second type is for Super 8 Magnetic Sound. There are four all together, each of which was recorded on full-coat magnetic stock with a Super 8mm .1667-in pitch, and contains a 24-mil record in the edge track position.

The four films now available are:

- 1. Azimuth Alignment Test Film** (50 ft) which is used to align the azimuth position of the recording and reproducing heads on magnetic sound equipment.
- 2. Flutter Test Film** (50 ft) to measure flutter introduced by sound reproducers, contains an original recording with extremely low flutter content.
- 3. Signal Level Test Film** (50 ft) helps measure and balance the power level output from motion picture sound reproducers. The recorded level does not in itself indicate a program level, but provides a reproducible reference from which a recommended program level can be determined.
- 4. Multifrequency Test Film** (100 ft) is used for testing and adjusting motion picture sound reproducers and projectors. It is calibrated, and correction factors are supplied with each film.

For further information, please mail the coupon immediately.

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## Video/Film Camera Stabilizing System (Universal Model)

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Designed to provide total freedom of movement while recording extremely steady and jitter-free handheld moving shots of dolly-quality smoothness, STEADICAM greatly enhances the creative latitude of the director and cameraman while effectively *reducing production costs*.

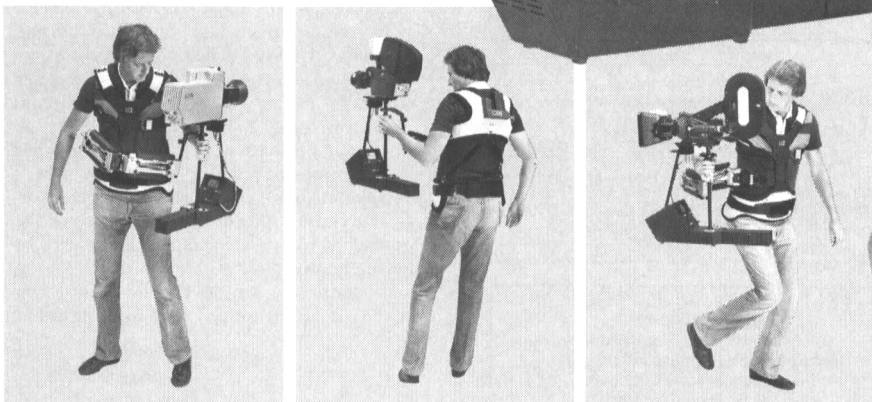
Releasing the camera from the constraints of dollies, tracks, and heavy camera platforms, STEADICAM permits the camera to move with the operator as if it were an extension of his own body and part of his internal "servo-system," constantly adjusting and correcting for body motions, whether walking or running. And STEADICAM turns virtually any vehicle – car, boat or aircraft – into an "instant" camera platform.

Whether on location or on a soundstage, STEADICAM permits the *handheld* camera to capture the scene with a new sense of realism and a steadiness of image never achieved before. It is ideal for use in the videotaping or filming of television specials, documentaries, TV commercials, live theatre productions and concerts, sports, and other special events.

The "Universal Model" STEADICAM allows the camera to be easily removed and used *independently* of the system, on-the-shoulder or on a tripod. It also permits the use of *one* STEADICAM system *interchangeably* with any one of several handheld video, 16mm or 35mm cameras – an important feature for television stations and production houses using *both* video and film cameras.



RCA TK-76 video cameras with STEADICAM systems are available directly from Cinema Products and its authorized dealers. Inquire about special TK-76/STEADICAM package prices.



"Universal Model" STEADICAM shown in use with TK-76 video camera, CP-16R 16mm camera and CP-modified Arri IIC 35mm camera. Other video and film cameras of the same general weight class can also be adapted for use with the STEADICAM system. For further information, please write to:

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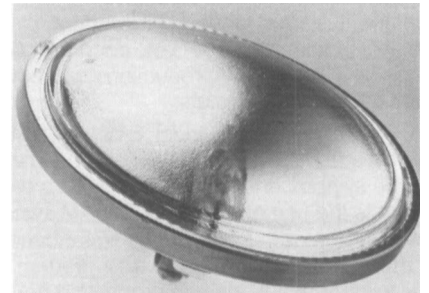
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has a life of 1500 h and is said to be able to last for 4000 h. The Quadrapoint is priced at \$2480.

A set of 552 uniformly spaced color samples designed by the OSA Committee on Uniform Color Scales is available from the Optical Society of America, Suite 620, 2000 L St. N.W., Washington, DC 20036. The colors can be arranged in hundreds of orderly sequences called color scales, most of which have never been seen previously because they cannot be constructed by use of any other set of color cards. Plans for arranging the cards in those scales will be provided. Although scales of constant lightness and constant hue are included most of the scales exhibit variations of both attributes in many different combinations. The OSA color cards are two inches square, coated with durable, glossy automobile-finish paint on heavy white card-stock paper. Price of each set is \$350.



A FAY daylight fill source for motion-picture and TV studio use has been announced by GTE Sylvania Inc., a subsidiary of General Telephone & Electronics Corp., One Stamford Forum, Stamford, CT 06904. The 650-W lamp is in a PAR 36 configuration. It has a 5000 K color temperature rating and provides 35,000 candlepower with a 22 x 30° beam spread. It may be used in multi-lamp or single fixtures and has a 20-h average rated life. The lamp uses a tungsten-halogen capsule in the internal reflectorized bulb with a dichroic hard-coat on the lens interior to prevent coating scratches and color temperature shifts. The coating is said to be temperature resistant to prevent degradation over the life of the lamp. The lamp is priced at \$35.75.

Twenty-two new projection patterns have been announced by The Great American Market, P.O. Box 178, Woodland Hills, CA 91364. The new patterns include such designs as city lights, wild flowers and cloud nine, bringing the photo etched collection to 64. Each pattern is etched into a stainless steel matt measuring 4½ x 4 in. The matts can be fitted into most ellipsoidal spotlights used in theaters and television studios. Each pattern is priced at \$7.50. A brochure showing the collection of 64 designs is available from The Great American Market.