

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.

The CP/TK-76, a Cinema Products modification of RCA Corp.'s lightweight TK-76 color video camera which incorporates the radically new and revolutionary Brown Stabilizer, has been announced by Ed DiGiulio, President of Cinema Products Corp., 2037 Granville Ave., Los Angeles, CA 90025. In handheld operation the CP/TK-76 stabilized video camera system provides mobility and portability while recording extremely steady images of studio-quality smoothness. Applications include taping sports events, live concerts and special theater productions as well as "on-the-spot" television commercials, documentaries and other special coverage.

The stabilized camera system permits the camera to move freely in all directions — up, down and all around and in any number of angles as if suspended freely in mid-air — yet completely balanced as the operator guides and controls the position of the camera. For example, the system permits a cameraman to run very fast (even up and down staircases) while shooting or to sit in a helicopter or on the back of a flat-bed truck and to shoot in any kind of rough terrain and still deliver jitter-free shots of "dolly/track quality."

The CP/TK-76 is primarily intended for use in its stabilized mode. It is, however, readily convertible to either tripod or "on-the-shoulder" modes of operation.

The complete system consists of a body brace

with a support arm attached to the body brace at one end and (through a free-floating gimbal) to the camera system at the other end. A special 3-in high-intensity monitor is attached to the camera for convenient two-eyed viewing in all ambient light situations. The monitor power supply module and the battery pack powering the camera are located at the bottom of the video camera in a T-bar type of arrangement. The CP/TK-76 battery pack is a 6 Ah nickel cadmium unit rated at 12 V. Two battery packs and one charger are supplied with each system.

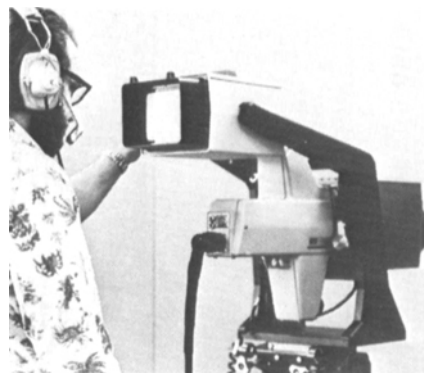
The special 3-in monitor, designed and manufactured exclusively by Cinema Products features a high-intensity kinescope tube with a special filter with multiple layer anti-reflective coatings on its surface permitting the operator to perceive a bright, high-resolution picture even with direct sunlight impinging on the face of the tube. Before filtering, the CP 3-in monitor delivers more than 4000 fL on the screen of the tube.

The video camera and the CP 3-in monitor can be detached from the rest of the system for tripod or "on-the-shoulder" operation. The body brace and support arm weigh about 13½ lb. The CP/TK-76 video camera, including a Canon 10.5-105mm video zoom lens, CP 3-in monitor and power supply, weighs about 30 lb, all comfortably supported at the operator's hips due to the human engineering and special configuration of the body brace and support arm.

The Brown Stabilizer, invented by Garrett Brown, was developed and manufactured by Cinema Products under exclusive world-wide license. Foreign and United States patent rights have been applied for.

The CP/TK-76 stabilized video camera system is available as a complete package exclusively from Cinema Products. The price is ap-

proximately \$45,000. Other video cameras may also be modified for use with the Brown Stabilizer.



A studio version of the IVC-7000P portable-television camera (*Journal*, p. 688, Aug. 1975) has been announced by International Video Corp., 990 Almanor Ave., Sunnyvale, CA 94086. The new version features a special mounting configuration that includes a 7-in viewfinder. The camera head can be easily transformed into a field version. The IVC-7000P weighs 14 lb without the lens. It is priced at \$51,500 plus \$1000 for the studio mounting.



Four new Schneider manual/servo TV zoom lenses have been announced by Tele-Cine Inc., 5434 Merrick Rd., Massapequa, NY 11758. In addition to the earlier 11X the line now includes a 15X, a 20X and two versions of a 30X TV zoom lens. The 15X16, f/2.1 and the 15 X12.5, f/1.7 broadcast zoom lenses have a close working distance of 15.7 in. They are available for most 1-in and 1¼-in color cameras including the Philips CDK-5/25, IVC-7000, Ampex BCC-1, RCA TK-45 and the Fernseh KCK-40. The 15X system is priced at \$16,925.

The 20X17, f/2.0 has continuous zoom, a lockable back-focus flange, fine adjustment of ±0.5 mm to provide quick setting to the picture tube, zoom range expansion by three optional range extenders and a five-position built-in filter wheel. It is priced at \$1500 for 1-in-long back-focus prism color cameras.

The 30X12.5 wide-angle continuous zoom lenses range in price from \$19,925 for the basic manual unit to \$25,666 for the zoom/focus servo unit with Shotbox. The 30X for use outdoors (in stadiums etc.) will have a zoom range of 33 to 100 mm. (The price has not yet been determined.)

All Schneider lenses now manufactured have a "molecular filter" that reduces the risk of internal misting of lens elements in extreme environments; also, a line of standard controls (both manual- and servo-controlled) is available.

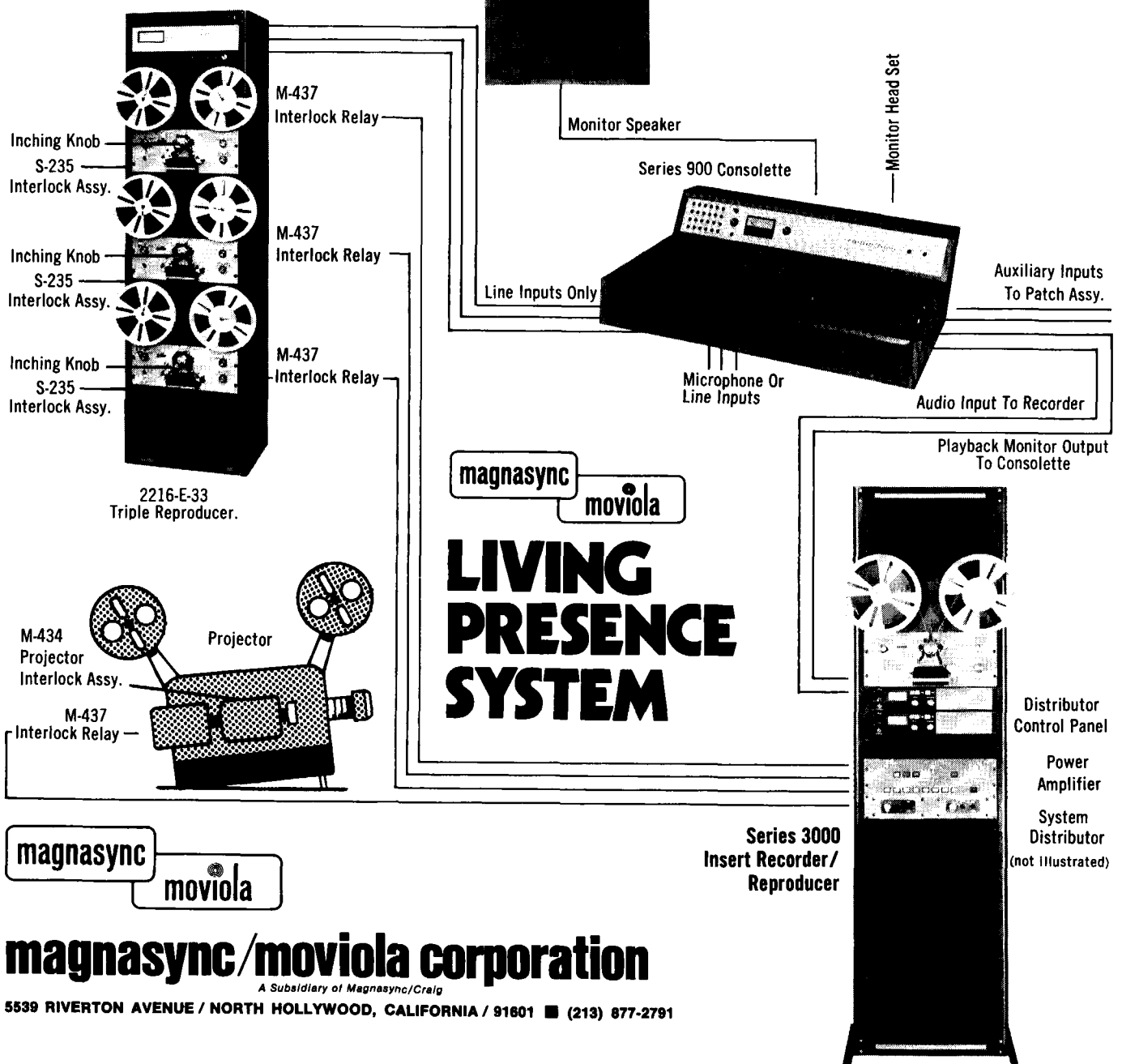
A new shoulder pod, Model MSP-75, for cine and television cameras, developed by Peter Lisand Machine Corp., Edgewater, NJ, has been



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It is now a widely accepted fact in the industry that the Series 3000 Recorder/Reproducer produces the best quality sound of any sprocket-drive equipment on the market today. There is *no* discernible loss between the first dub and the last. To maintain that standard of living presence sound throughout your system, simple logic dictates that every element

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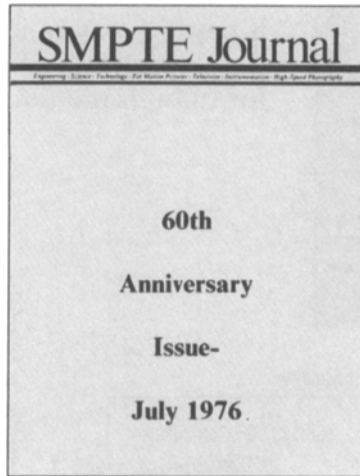
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In July 1916, 60 years ago, the Society of Motion Picture Engineers was created in the Raleigh Hotel in Washington, D.C. The July 1976 *Journal* will commemorate the 60th anniversary of the Society's founding.

Under the auspices of the Archival Papers and Historical Committee, chaired by Dr. Roderick T. Ryan, information for articles to appear in the commemorative issue has been assembled. "The issue, undoubtedly, has the potential of becoming a collector's item," Dr. Ryan said. For that reason, a special hardcover edition is being made available.

Editorially, the issue will contain articles on the history of the motion-picture camera, a history of television, motion-picture sound recording and reproduction, color in motion pictures, and a lot more. The contents of this hardcover edition will be identical to the regular paperbound edition distributed to all members.

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announced by Video Components, Inc., 601 South Main St., Spring Valley, NY 10977. The shoulder pod weighs only 3 lb but can be used to support cameras weighing up to 30 lb. The price is \$180.

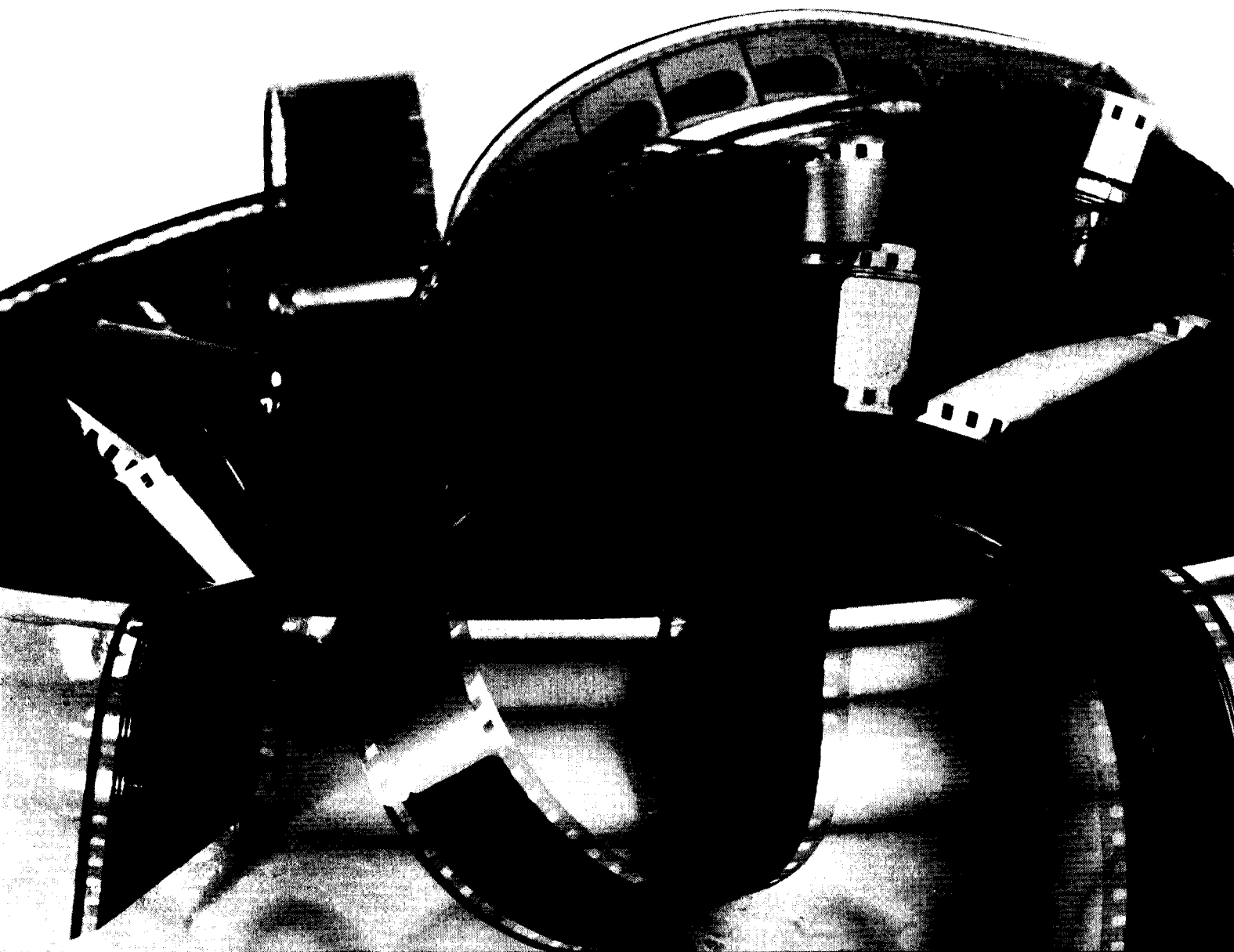


A new zoom lens for 1-in and $\frac{2}{3}$ -in C mount vidicon cameras has been announced by Canon, U.S.A. Inc., 10 Nevada Dr., Lake Success, NY 11040. Designated Model V6X18-f/1.6, applications include ENG and CCTV portable cameras. It has a speed of f/1.6 throughout the entire zoom range. The focal length of 18mm at wide angle and 108mm at telephoto makes it usable for both studio and field. The lens has the proper exit pupil for use with the Sony Trinicon Models DXC-1000, -1200 and -1600. The lens is lightweight, has a fully closing iris and a close focusing distance of 1 m. The manual version is priced at \$775 and the cable drive version is \$1375.



The AVR-3, a dual band VTR compatible with existing broadcast equipment, has been announced by Ampex Corp., 401 Broadway, Redwood City, CA 94063. Described as an "intelligent" videotape recorder, it makes it possible for TV broadcasters to record and play back "live" quality pictures automatically. Features include a new development called Super High Band Pilot (SHBP) enabling the AVR-3 to provide improved picture quality. Equipped with an optional Edit Controller, the AVR-3 can be programmed to handle a wide range of editing functions. The AVR-3 also offers automatic switching between bands and tape speeds. It can be configured with one of several pairs of bands for NTSC, PAL and SECAM: SHBP/High Band; High Band/Low Band color; or Low Band color/Low Band monochrome and for 15 in/s and 7.5 in/s operation. When recording on a band other than SHBP the AVR-3 utilizes conventional signal processing devices such as the optional velocity compensator, color dropout compensator and autochroma. To play back tapes recorded on another band or at another speed, the AVR-3

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senses the correct signal and automatically selects the proper playback mode. The SHBP provides continuous error correction so that velocity and saturation problems are corrected before they can affect the displayed signal, the announcement stated.

With the optional Edit Controller, which operates on time code or tape timer data, edit points can be entered "on the fly" from tape or from a simple keyboard. The keyboard system allows the editor to trim the edit points as required, with the sequence instantly updated and ready for preview. Both video and audio entrance and exit points can be entered and executed separately. Because of its own built-in "intelligence" the AVR-3 can interface directly with the EDM-1 computer-controlled editing system designed for teleproduction applications. Prices for the AVR-3 range from \$105,000 to \$137,000. Standard on the AVR-3 are a digital time base corrector, editor, a new digital auto-tracking system, fully servoed reels, constant-tension tape servo, video head optimizer and vacuum capstan.



The VPR-1, a helical videotape recorder with an exclusive automatic-scan tracking system (AST), designed to produce broadcast quality slow motion and still-frame playback, has been announced by Ampex Corp., 401 Broadway, Redwood City, CA 94063. Designed for professional broadcasting CCTV and post-production, the VPT-1 with the AST is said to eliminate the problem of tracking and interchange. To achieve accurate video tracking, the AST system employs a special video head assembly that can move in two planes allowing the head to be electronically deflected over the actual video path during playback to automatically follow any deviation from the "ideal" path. The AST system can adjust instantly to a tracking error or interchange problem during playback without causing any picture disturbance and the "noise bar" associated with off-speed tracking operations has been eliminated. The VPR-1 is reported to be capable of actually jumping video tracks while maintaining a perfect picture even during slow speed and still framing. With the AST, the VPR-1 can play back tapes that may

have been improperly recorded and which would be otherwise unrecoverable because of severe tracking errors. The system also provides full quality video verification, allowing the user to see a simultaneous reproduction of a recording as it is being made. Features include broadcast-quality audio and video performance, 90-min play time, electronic tape-tension control and high-speed shuttle. Versions of the VPR-1 are available for NTSC, PAL and SECAM. Prices for the VPR-1 begin at under \$20,000.



A new slow-motion color videodisc recorder for use exclusively by professional broadcasters and teleproduction companies in creating special effects for television has been announced by Ampex Corp., 401 Broadway, Redwood City, CA 94063. Designated the HS-100C, the machine can record up to 30 s of video information on highly polished metal discs. A separate control panel which includes a time indicator clock calibrated from 0 to 30 s, a cue pointer and speed control level permits the operator to stop the action, back it up, move it ahead at normal speed or as slow as one frame at a time. The recorder incorporates a built-in digital time base corrector, an integral clean air system and automatic quality control circuitry. The table-top control unit described as the "nerve center" of the replay device provides three slow-motion modes including a variable speed control which allows the operator to vary the speed from normal to freeze or stop action. Maintenance of the HS-100C is simplified by an improved circuit design. End stop adjustments can be performed by one person and the disc drive motor is field-replaceable. To prevent damage to the disc or magnetic heads, automatic head lifters on the HS-100C lift the heads free of the disc until rotation approaches operating speed or has completely stopped. An added safety control guards against disc damage during freeze frame operations. A flashing light alerts the operator when it is time for the heads to be moved to the next location on the disc. Prices for the HS-100C begin at \$95,540.

Hunt Cine Processing

BREAKTHROUGH

The image features two large film reels, one in front of the other, with a strip of film extending from the front reel. The reels are dark with several large, light-colored sprocket holes. The word 'BREAKTHROUGH' is superimposed in large, white, bold, serif capital letters across the center of the reels.

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The IVC-9000-4, a new slow-speed model of the IVC-9000 Broadcast Videotape Recorder providing more than four hours recording time on a single reel of 2-in videotape, has been announced by International Video Corp., 990 Almanor Ave., Sunnyvale, CA 94086. Applications include archival recording and network delay. The new recorder, operating at 4 in/s and the IVC-9000 operating at 8 in/s can be combined in the same VTR. The 4 in/s feature requires a 15-min modification to the IVC-9000 each time the user changes recording modes, which also involves the replacement of 11 circuit boards and the recording head drum. The IVC-9000-4 delivers an SNR of up to 47 dB. The standard IVC-9000 is priced at about \$95,000.

A new Bias Generator for high-speed tape duplicators has been announced by Electro Sound, Inc., 160 San Gabriel Dr., Sunnyvale, CA 94086. Improvements incorporated in the new design include more output power, simpler construction, higher electrical efficiency and easier maintenance. Included with the new Bias Generator, is Biastune, an adjunct circuit designed to allow the user to match the generator to the load and also to allow quick adjustment of the output to changing conditions of the load. If the bias system is not matched two small knobs can be used to tune the bias bus to the new load condition. Biastune also introduces one more tuned circuit into the bias line to further improve the Bias wave shape and thus improve the SNR. Price of the new Bias Generator including the Biastune is \$2950. The Biastune is also available as a separate accessory for use with other duplicator systems using 1 MHz or 2 MHz Bias frequencies, at a price of \$350.

The Ampex 195 Series 2-in video mastering tape, an all-purpose magnetic production tape, designed to be compatible with all quad video record/playback systems in operation today, has been introduced by Ampex Corp., 401 Broadway, Redwood City, CA 94063. A "premium grade" videotape, each reel of the 195 is completely end-to-end tested on broadcast video equipment to assure its ability to stand up to the most critical day-to-day usage, the announcement stated. Improved processing techniques and oxide formulation during manufacture make the tape durable enough for dubbing

purposes and a tough back coating permits a smoother tape pack at play/record or high shuttle speeds. The 195 Series is reported to surpass the most stringent industry specifications for chrominance dropout, chroma noise, high-frequency dropouts, signal-to-noise, audio and picture performance. The 195 Series is reported to have the low headwear characteristics of the standard 175 Series videotape in a wide range of temperature and humidity conditions at both 7.5 and 15 in/s recording speeds. Prices for the 195 Series premium videotape are 7% above the prices for the 175 series.



The Eiki/Elf Digital Interlock System, designed to permit sound on conventional tape cassettes or reel-to-reel tape recorders to be synchronized with 16mm projectors, has been announced by Eiki International, Inc., 27882 Camino Capistrano, Laguna Niguel, CA 92677. Applications include editing and preparation of television news programs. The system can also be used with sprocketed sound tapes, using two standard film projectors, one for sound and the other for film projection. The interlock system is reported to be accurate enough to maintain lip synchronization even if the tape recorder changes speed.

The system uses a step drive motor driven from a power unit within an electronic control console to generate pulses or signals. The motor is fitted within the Eiki projector to drive the mechanism. The projector operates then only from a synchronization signal and any number of projectors can be operated in exact synchronization; also, motion-picture projectors can be programmed with slide projectors for multimedia presentations.

The synchronization accuracy of the tape recorder and projector is reported at better than 0.01%. Projection speeds are infinitely variable up to frames/s in forward or reverse by altering the frequency of the control signal at the control console; the system can also take its speed control directly from a 117-V ac line, 60 Hz line and operate at 24 or 25 frames/s. The price of the Digital Interlock adds \$2344 to the price of the projector. Prices of Eiki projectors range from \$807 for a manual threading projector with optical sound to \$1409 for a self-threading projector with magnetic record and playback.

A new digital signal processor said to be capable of producing broadcast-quality signals from all color videotape recorders has been announced by International Video Corp. (IVC), 990 Almanor Ave., Sunnyvale, CA 94086. Designated

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New JVC CR-4400U Color Portable Recorder, shown with new CR-8300U Full-Editing Cassette Recorder, GC-4800U Color Camera, CC-4800U Camera Control Unit and Dual-Machine Remote Controller.



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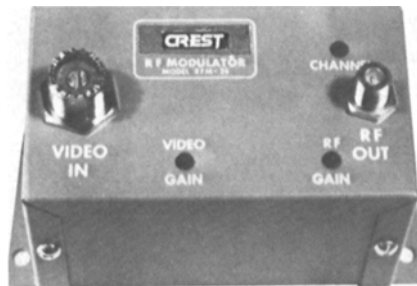
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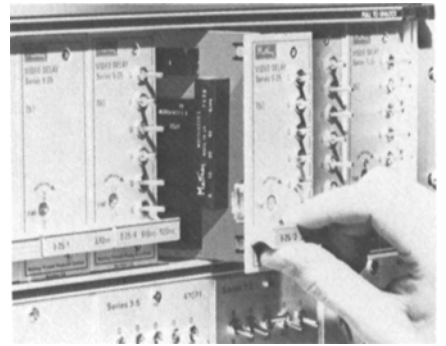
the TBC-2200, the machine has a 3¼ line-correction window and a five-line store to permit correction of difficult-to-handle color signals. It uses 8-bit digital correction techniques currently utilized in most broadcast applications. A "look-ahead" velocity compensator measures errors line-by-line and corrects on that basis. A specially designed dropout compensator reinserts correctly timed luminance and chrominance of the proper hue and saturation as long as the dropout lasts. When used in conjunction with an ENG system, the TBC-2200 accepts nonstandard synchronization, sometimes inherent in handheld cameras, to produce a standard output. Produced in England by Quantel, Ltd., for IVC, the TBC-2200 is compact, rack-mountable and 7 in high. The price is \$18,000.

The Model 361 Basic Four Switcher for monochrome studios has been announced by Shintron, 144 Rogers St., Cambridge, MA 02142. The device is a 4-input, black-and-white effects switcher with an A/B-C bus structure and a built-in RS-330 Genlock Sync Generator in one rack-mount package. Possible effects include 4-corner wipes; horizontal and vertical wipes; and fade and dissolve to effects. The effects bus is controlled by vertical interval momentary-contact lighted pushbutton switches and gear reduction levers. The four inputs are equipped with interface for Sony, Panasonic and BNC connectors. There are two program outputs and one preview output. The Sync Generator genlocks to any of the four inputs or generates RS-330 sync from its internal crystal oscillator. The genlock meter on the front panel indicates the sync source—genlock or internal. Model 361 automatically switches to internal sync if the genlock source fails. The price is \$1320.

The new Model AM-17 17-in color monitor, a single-gun solid state unit tailored for broadcast, cable and sophisticated closed-circuit systems, has been announced by Amtron, Aptos, CA 95003. It includes the features of the firm's 12-in monitor—switchable underscan, internal/external sync and independent RGB gun switches for easy set-up; optional features are a pulse-cross display and dual A-B video inputs and pull-out monitoring slides. Enclosed within aluminum castings, the AM-17 is rugged enough for mobile use while it occupies 15¼ in of 19-in rack space. Price of the AM-17 is \$1195. The AM12 is priced at \$975.



The Model RFM-26 RF Modulator, announced by Crest Electronics, Inc., 2634 La Cienega Avenue, Los Angeles, CA 90034, is designed to adapt video equipment output to RF systems. Video signal sources including cameras, VTRs etc. can be transformed into an RF signal tunable over television channels 2 through 6. There is an RF gain control to match specific RF level requirements and a video gain control to establish the best video modulation setting for specific equipment. The price is \$129.95.



A new series of video delay units, **Series 5.25**, designed specifically for use in color TV stations, has been designed by Matthey Printed Products Ltd. in England and announced in the United States by Television Equipment Associates, Box 1391, Bayville, NY 11709. Each type in the series consists of a base time delay and a number of switchable binary delays to allow the selection of accurate delay times over a specified range. Features include a continuously variable fine trim. A new feature of the series is that the base time delay can be changed by the user by the addition or subtraction of delay line modules (up to 2 µs) on the printed circuit board (instructions are provided). Equalized delay lines are used to enable the units to be plugged directly into the video path (via BNC connectors) with minimal distortion of color TV signals. Up to eight units can be inserted into a card frame, supplied by Matthey, which fits a 19-in rack system. The frame occupies three units of height (5.25 in — 133 mm). Price of the 5.25 Series rack frame is \$108, the blank panel is priced at \$13 and a single card enclosure at \$42.

Two new microwave transmitters for television broadcast, the all-solid-state **TEM-7 and TEM-13**, have been announced by Tepco Corp., P.O. Box 680, Rapid City, SD 57701. Both transmitters have digital frequency control, continuous variable frequency adjustment and micrometer frequency dials. Companion receivers have automatic frequency control. Applications include STL, inter-city relay for fixed installations, portable for electronic newsgathering and remote pickup for temporary installations. The price of each transmitter is \$5295.

An ultra-stable (±200 Hz) 4.5 MHz aural carrier package has been announced by Farinon Electronics, 1691 Bayport Ave., San Carlos, CA 94070, as a new option available with its FV41 FM Transmission Channel System. The new equipment was developed primarily for United States earth-station rear-haul applications to combine video and program audio signals and transmit them from the earth-station receiver over multihop microwave paths to the cable head end. A phase and amplitude-equalized diplexer unit includes low-pass filtering to remove noise above 4.2 MHz. The 4.5 MHz transmitter is reported to meet FCC requirements for deviation, emphasis, distortion and SNR. The diplexer and transmitter units plug into two spaces in the FV41 equipment which occupies one vertical rack-mounting space and operates from 115/230 V ac or —24/48 V dc. The price is \$1050 for the basic one-way equipment. The shelf, the aural transmitter and diplexer, alarms and other accessories are not included in the price. The price of more complex arrangements depends upon the specific equipment configurations.

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A new videotape editing system called the **EDM-1** which has a computer-controlled switcher with special effects and a floppy disc memory capable of storing as many as 3200 edited scenes has been announced by Ampex Corp., 401 Broadway, Redwood City, CA 94063. In contrast to computer editing systems that store and recall scenes by digital time code address, the EDM-1 has an exclusive filing system that permits individual scenes to be identified by both time code and real language. With the optional file management system, the EDM-1 can save time by reducing the amount of tape shuttling required whenever scenes are recorded in random order on master tapes. It remembers where each scene is recorded on the master tape and calculates the most efficient way to assemble them with the least amount of shuttling. Each scene is then transferred to the location required for sequential assembly.

The basic system consists of an operations control unit with audio and video monitoring, an advanced switcher with special effects, video display monitor, a four-function calculator, a typewriter-style keyboard, special job-oriented selector keys and a computer processing unit. All edit information is displayed on the monitor screen and the computer permits machine and file editing simultaneously. Edited scenes can be manipulated so that if the change in one scene affects the timing of other parts of the sequence, the EDM-1 automatically calculates the change and "ripples" (modifies) them accordingly. Once an editing job has been completed the edited data is stored on floppy disc for future use or reference. If the decision making is done off-line on helical recorders, for instance, a floppy disc or punched paper tape of the edited program is provided for "conforming" on a quad VTR for broadcast. Prices begin at \$95,000.



The **C-16 6-plate console** (16-mm film editor has been added to the SERA line of editing equipment, it was announced by SERA Atrium Unit 22, 11250 Roger Bacon Dr., Reston, VA 22090. The basic C-16 features a seven-motor drive system, 12-sided prism, rear screen projection, interlock switching and rugged all-metal construction. The console can accept an add-on picture module and MT-3 Mix Transfer module. Super-8 and split-16 modules are available for a quick change from gage to gage. Price of the basic C-16 is \$3995.



The **Estec console** designed to combine the facilities of a sound laboratory and film editing for super-8 film has been announced by Optasound Corp., 25 E. 26 St., New York, NY 10010. The machine, measuring 35 x 20 x 12½ in, can enable the super-8 film producer to resolve, synchronize and edit sound and picture and to dub and transfer to and from super-8 magnetic stripe. The controls are on three separate panels. The left and right panels contain electronic controls and the mechanical controls are located on the center panel. For resolving original tracks, the Estec emits a digital 1 pulse/frame signal at both 24 and 18 frames/s. The pulse serves as a sync registration signal to a digital self-resolving recorder.

The Estec is also available with a 60-Hz ac line control. The unit emits a digital 60-Hz pulse and locks for resolve/transfer functions with pilotone-type original sync recordings. The machine has two fullcoat movements and one film movement operating synchronously or independently. Speeds are 18 or 24 frames/s or variable from 0 to 65 frames/s in both forward and reverse. The machine has both internal and external sync sound transfer capability.

Sound can be edited electronically, automatically and without splicing. A pushbutton cue mark can be placed at the beginning and end frames of a sound section and the bracketed section can then be automatically transferred to a master track. Cues can be erased and replaced at will for any number of variations of a single cut.

The viewer section of the Estec has a 3 x 4½-in screen, a four-sided prism shutter, focus and framing controls, on/off switch and easy access to the 28-W lamp. The film can be viewed in sync with the soundtrack, or at 18 or 24

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*U.S. Patent Number 3,115,207. Trade mark registered.

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frames/s, or at variable speeds. Run by itself, film can move as fast as 150 frames/s in either forward or reverse. The super-8 model Estec is priced at \$4850.

A **Digital Framestore Synchronizer DFS-3000** has been announced by MCI (Micro Consultants, Inc.), P.O. Box 10057, Palo Alto, CA 94303, national distributor of the product. Manufactured by Quantel Ltd., of Caterham, England, the DFS-3000 is capable of storing two complete fields of video and synchronizing any video source, including VTR inputs. The source may be local or remote, fed by line or satellite. Options that increase the capability include Infinite-Window time-base corrector that provides correction for helical scan or quad VTRs, processing either direct or heterodyne color; a video compressor that reduces the picture to one-fourth standard size and positions it in any of the screen's four quadrants; a joystick control that moves the compressed image; and a remote control panel. The complete system, occupies 8.75-in rack space, weighs about 60 lb and dissipates 250 VA. Prices range from \$50 to \$80, depending on the configuration of the unit.

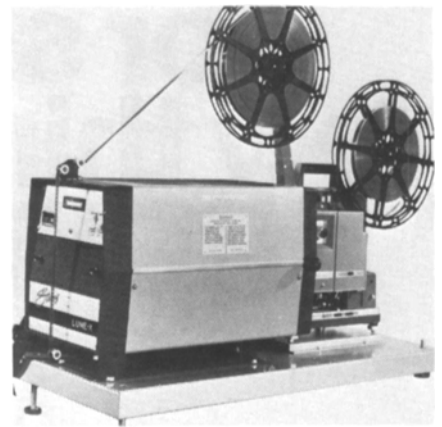
The **VIX-300 xenon illuminator**, a concentrated light source, has been introduced by Varian Eimac Division, 301 Industrial Way, San Carlos, CA 94070. It is a compact (2 1/4-in³) miniature arc lamp producing more than 500,000 peak beam candle power while consuming only 300 W. It offers a very small source of high-intensity, broadband illumination covering the UV, visible and IR regions. It has been operated safely in tests for more than 2000 h at a maximum oper-

ating temperature of 150°C that is maintained by forced air cooling.

Offered with or without a power supply and lamp housing, two configurations of compatible power supplies are available — laboratory instrument type and workhorse type, both obtained as bench-type or rack-mounted versions. The lamp housing, with heat sink and air blower, and the power supply, is available for use in larger systems. The firm can also build complete high-intensity illumination systems to customer specifications.

Applications of the VIX-300 integral-reflector light source may include medical equipment (special surgical illuminators); film and slide photographic projection equipment; military optical systems; surveillance systems; aircraft landing lights; and microscopes. It may also find use in duplicating the effects of sunlight on materials and surfaces under study. The VIX-300 xenon illuminator produces a brilliant white light that can make readable a sign more than a mile away.

The lamps integrated construction, the body, electrodes, reflector and window being formed into a single unit, provides mechanical stability and ruggedness. Optical alignment is fixed during manufacture and requires no subsequent adjustment. With tungsten electrodes, a parabolic reflector cast into the ceramic body and single-crystal sapphire output window, the unit produces 2 W of UV (200–400 nm), 4000 lm or 16 W of visible radiation (6000 K) and more than 30-W IR (800–2100 nm) illumination. The price is \$250 for the silver-coated and \$225 for the aluminum-coated parabolic reflector, with lower unit price adjustment for quantities of ten and up.

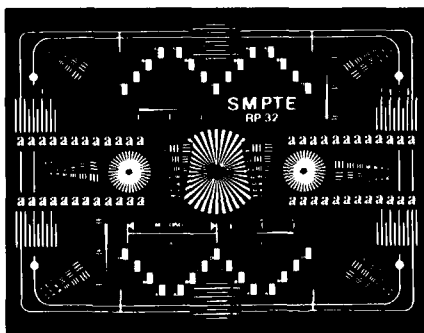


The **Lume-X 16mm** projection system has been announced by Strong Electric Corp., 539 City Park Ave., Toledo, OH 43697. The Lume-X xenon lamphouse, equipped with a dichroic coated "cold" reflector and heat filter for maximum protection against film damage is incorporated in the system. The lamphouse is designed for use with 700-, 1000- and 1600-W horizontally mounted xenon bulbs for maximum collection of light and transmission to the film aperture with a minimum of heat. The Lume-X 700- and 1000-W systems are completed with Bell & Howell or Kodak Pageant projectors with take-up arm extension to accommodate 2000-ft reels; solid-state power supply operating from a 115-V ac outlet; and a solid mounting platform, optically precise for lamphouse and projector.

The 1000-W bulb emits up to 7000 screen lumens and the 700-W bulb up to 4200. For more light, the 1600-W Lume-X lamphouse

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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.



Frame from SMPTE Super 8mm Registration 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.

SMPTE Test Films provide simple equipment performance checks without the use of expensive, complicated test equipment. The films can be used when adjusting the equipment to determine

when the equipment is again within specifications, and with the sound films, you can tell when the projector and sound system are operating properly.

For further information, please mail the coupon immediately.

Important News! Now SMPTE Super 8 Test Films are available in both 24 frames/sec. and 18 frames/sec.

SMPTE Test Films

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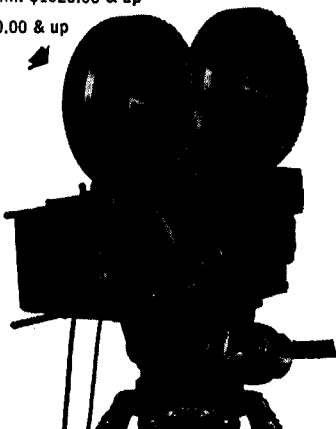


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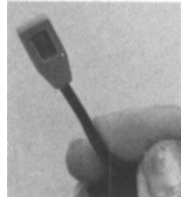
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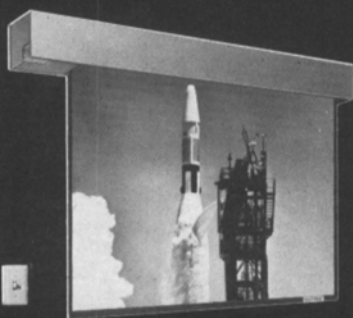
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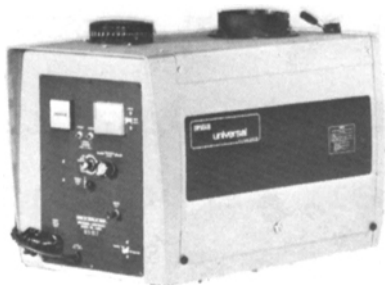


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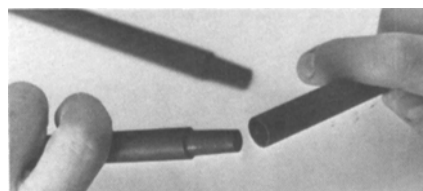
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systems are adaptable to most professional type 16mm projectors equipped with additional heat filtering devices to accommodate the increased amount of light. Price range of the Lume-X systems is from \$2840 to \$3625, all without bulb.

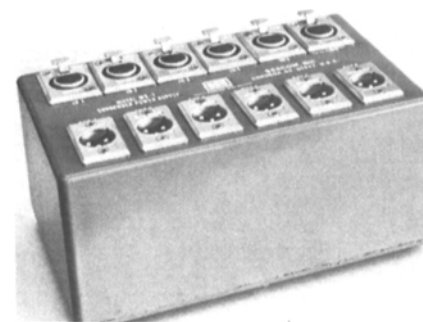


The Universal Xenon Lamphouse System, designed to light any size screen, indoors or out, has been announced by Eprad Inc., Box 4712, Toledo, OH 43620. The lamphouse has been designed to operate with any size or make of bulb from 900 to 4200 W with the appropriate Eprad power supply. A large cavity-cooling chamber is incorporated to provide optimum bulb cooling and thus prolong bulb life. An unusual feature is a mirror adjustment that allows changing the shape of the projected light beam so as to direct more of the available light to the "right place" i.e. to the rectangular aperture in the projector. Rather than throwing circular light beams, the Eprad unit can be "tuned" to provide an elliptical beam conforming more closely with the theater's most commonly used aspect ratio. The same tuning adjustment provides for control over the degree of light spread across the screen. The adjustment can provide any ratio of center-to-sides intensity across the horizontal centerline, variable from 60% to 100% "flat" illumination. Two thumbscrews adjust the mirror shape to match the aperture ratio.

The new 4400 Reverbration System announced by Tapco, 405 Howell Way, Edmonds, WA 98020, is designed to recreate the natural ambience of a live performance. Two independent channels each have a four-band graphic equalizer that allows tailoring of sound to simulate the qualities of any room, from concert halls to home living rooms. The system is reported to have eliminated the problems associated with spring reverb, the "ping-pong" effect of which (caused by sharp, high-energy signal pulses that overdrive the reverb tank) is obviated by built-in signal processors that smooth out transient peaks, without disturbing the dynamics of normal signals. Dual differential constant-drive amplifiers produce a clean natural ambience without the usual "spring slap" effect. Control functions of the unit include an input level to each channel set by Autopad volume control circuitry and constantly monitored by VU meters; a four-band graphic analyzer for each channel; reverb-percentage mix controls to govern the amount of reverb in the output signal; output-level controls; and an exclusive input mute switch to momentarily quiet the input signal so the reverb sound can be evaluated by itself while the equalization is adjusted to create the ambience. (The equalized sound from the delay lines is fed to a calibrated mix control that governs the ratio of unaltered sound to delay sound, at the output.) The gain-controlled stage is capable of +17 dBm into 600 Ω. Designed to be compatible with all professional and semi-professional audio gear, the system is priced at \$389.



A new joinable projector carbon, designated the Ucar 13.6 mm, designed to make the high-intensity carbon arc a more efficient source of motion-picture screen light, has been announced by the Carbon Products Div. of Union Carbide Corp., 270 Park Ave., New York, NY 10017. The carbon is 12.5 in long and has at its rear end an undercut, press-fit tapered joint which will fit into a "socket" at the front end of the next carbon. It is intended to replace the 18-, 20- and 22-in long 13.6 mm diameter carbons. The new carbon can be fully used as there are no longer any stubs to discard. The Ucar 13.6 mm operates at a maximum current of 160 A. A total of 250 of the new carbons is priced at \$250.10.



A condenser power supply designed to support up to six condenser microphones simultaneously has been announced by Sescum, Inc., P.O. Box 590, Gardena, CA 90247. Designated Model MS 7, the unit is intended to provide microphone users with an economical alternative to frequent battery changes. Features include six bifilar wound input transformers to provide a "perfect" center tape (true balance) for optimum performance. The power supply is electronically regulated to provide a constant voltage under changing load conditions and has a 48 V dc and 16 mA output capacity. It may be used with domestic (110-220 V ac) or international (50-60 Hz) power sources. Model MS 7 is priced at \$198.

A new POM Crystal Speed Meter manufactured by Communication Arts, Inc. for motion-picture cameras and sync sound recorders and designed for use in comparing the Pilotone frequency of a tape recorder with a crystal-controlled camera without opening the camera, has been announced by HafleXX Corp., Box 156, Bernardsville, NJ 07924. The new POM can also be used for checking camera synchronization with HMI (metal halide) lighting. In operation the cable (supplied with the POM) is plugged into the crystal output of the recorder (such as Nagra and Stellavox) and the operator looks at the meter through the reflex finder of the camera. A circle of bright red dots (if motionless) shows that the two crystals are at the same frequency and sync accuracy is assured. If either the camera or the recorder crystal are off frequency the rotation of the red dots in the meter will indicate the direction and amount of error. The self-contained meter is so bright that it can be read across a sound stage, the announcement stated. Price of the new POM is \$385.



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Sherwin Greenberg is a veteran TV commercial cinematographer and documentary filmmaker. He is also president of Greenberg-May Studios (Buffalo, NY) — and a shrewd businessman to boot. His two CP-16R reflex cameras are equipped with CINEVID-16 video-assist systems. They are both kept constantly busy. And earning rave notices from ad agency clients along the way.

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N. T. Smith, VP & Creative Director (Lloyd Mansfield Co. Inc.)

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The CINEVID-16 video-assist camera is extremely compact and lightweight. Quick and easy to attach to or disconnect from the CP-16R camera. It picks up the image directly from the CP-16R fiber optics viewing screen and transmits it to any number of remote monitors and/or video tape recorders (for "instant dailies"). With virtually no loss of visible light in the CP-16R reflex viewing system. Optional CINEVID-16 system accessories include a video control console (with three monitors, plus dissolve and wipe controls), a crystal controlled sync generator, etc.

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SESSION 1—STATE OF THE ART

Paper No.	
101	Official opening B. Pivoda, Czechoslovak Film, Prague.
102	Dr. G. Marpicati, Technicolor SpA Rome.
103	K. Gopal, Processlabs Pvt. Ltd., Bombay.
105	L. Swanberg, Swedish Film Institute, Stockholm.

SESSION 2—SOUND RECORDING AND REPRODUCTION

201	Maglink Machine Control and Synchronising System. T. Bermingham, 3M UK.
202	Reverberation Problems in Film Sound Production. Mrs. A. Pudelewicz (Film Research Centre), J. Szmanda (Academy of Music, Warsaw).
203	A Multi-Channel Hue-Modulated Photographic Sound Track. P. Viahos (Motion Picture and TV Research Centre, Hollywood).
204	A compatible Stereo Variable Area Optical Soundtrack System. A.W. Lumkin (EMI Elstree)
205	A New Optical Sound Test Film. N. Leever (Leever Labs).

SESSION 3—PRODUCTION TECHNIQUES—TELEVISION

301	New Techniques in Lighting Control. (Dynamic Technology Ltd).
302	Halogen—HMI Lamps. Dr. Kugler (Osram, Munich).
303	The Picture and Perception. B. Allander (Sveriges Radio, Stockholm).
304	Use of Hand-held Video Cameras in Television Broadcasting. L. Roworth (London Weekend TV).
305	Economics of Effective Film or Tape Programme Production. J.S. Sansom (Thames TV).
306	Film IS Different. J. Lant (Canadian Broadcasting Corp.)

SESSION 4—FILM PRODUCTION TECHNOLOGY

401	Use of Film and Video-Tape in Commercials. K. Ewart (Ewart Studios).
405	Use of Spot Photometers and their influence on Colour Reproduction. Dr. K. Staes (Agfa Gevaert, Belgium).
406	Single System in the Aaton 7, 16mm camera. J.P. Beauviala (Aaton S.A. Grenoble, France).
407	New Compact Arriflex 16 S.R. Noiseless Motion Picture Camera. H. Bergmann (Arnold & Richter, Munich).

Paper No.

408	New Concept in Stabilising Hand-held cameras. E. DiGuilio (Cinema Products Corp. USA).
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SESSION 5—VIDEO TAPE IN BROADCAST TELEVISION

501	Current Trends in Video Tape Recording. C.D. Constantine and D.M. Bowd (Studio Capital Projects, BBC).
502	Consolidation of Tape Technologies Towards the '80s. M. Salter (Ampex GB).
503	Advances in Video Recording Technique P. Dare (RCA).
504	Investigation into Digital Television Recording. A.H. Jones (BBC Research).
505	Review of Electronic Editing Systems. L.H. Griffiths and D. Kershaw (BBC Recordings).
506	Digital Time Base Correction of Helical Video Tape Recorders for Broadcast Use. A.D. Stalley and J.A. Coffey (Quantel Ltd).
507	An All Electronic News Gathering Station. T.M. Battista (KMOX-TV St. Louis) and J. Flaherty (CBS TV Network).
508	Use of Video Cartridge Recorders in the Production of Television Programmes. S. Turner (Take One Productions).

SESSION 6—ELECTRONIC REPRODUCTION OF FILM

601	Colour Telecine for Training Purposes. W.R. Godden (Kodak Ltd).
602	Practical Attempt to Obtain Satisfactory Results using 16mm Colour Film in Television. T. Jacobsen and K. Kolstad (Norwegian Broadcasting).
603	A Pre-Programmed A/B Roll Telecine. B. Modin (Sveriges Radio, Stockholm).
604	A Dual Gauge Multi-Standard Telecine. J.D. Millward (Rank Cintel).
605	Concept of a Reference Telecine. D.M. Zwick and R.J. Zavanda (Eastman Kodak).
606	EBU concept of a Standard Telecine C.B.B. Wood (BBC).

SESSION 7—LABORATORY TECHNIQUES

701	Scheme for the Automatic Grading of Colour Rush Prints. N.S. Varian (Engineering System Developments).
702	A Colour Image Analysis System. A. Arbeeny (Hazeltime Corp. USA).
703	Flash Techniques for Making quality Duplicates from Standard Release Prints. Dr. F.P. Gloyns (Rank Film Labs).

Paper No.

- 704 Small Scale Colour Processing Installation for Regional Television Stations. M. Thomsett (Studio Capital Projects, BBC).
- 705 Automatic Control System Model for film Printing and Processing. L. Artjushin (NIKFI, Moscow).
- 706 Computerised Process and Printer Control. F. Scobey (De Luxe General Film Labs, USA).
- 707 Automatic Assessment of Release Prints. L.B.K. Happe (Consultant) and L. Atkin (Electronic Film Techniques).
- 708 New BKSTS Test Film As A Standard Method for Assessing Camera Exposure. A. Branson (BBC Film Dept).

SESSION 8—AUDIO VISUAL COMMUNICATION BY DISC AND TAPE

- 801 Survey of Cassette and Reel to Reel Video-tape Recorders. Dr. P. Whitaker (Birmingham University).
- 802 Present Position of the Pressure Replay Video Disc System. F.A. Griffiths (Decca Video Disc Labs).

Paper No.

- 803 Future Development of the Video Disc. R. Livingstone (Philips Electrical).
- 804 Video Disc for Recording, Editing and Distribution. H.A.E. Zwaneveld (Brigham Young Univ, USA).

SESSION 9—AUDIO VISUAL PRESENTATION

- 901 Audio Visual Presentation in Conference Halls and Lecture Theatres. W.S. Stephenson (EMI Sound & Vision).
- 902 Audio Visual Presentation in the Cinema. E. Chilton (Rank Leisure).
- 903 Audio Visual Presentation in Corporate Buildings, Advertising Agencies and Training Centres. H. Wilke (H. Wilke, Inc, New York).
- 904 Creating Multivision Presentations. M. Lewis (Media).
- 905 Audio Visual Facilities at Scanticon. P. Mogensen (Scanticon Conference Centre, Denmark).
- 905 Questions only.

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NEW BKSTS COLOUR TEST FILM (NEGATIVE)

Negative:

16mm (40 frames per strip).

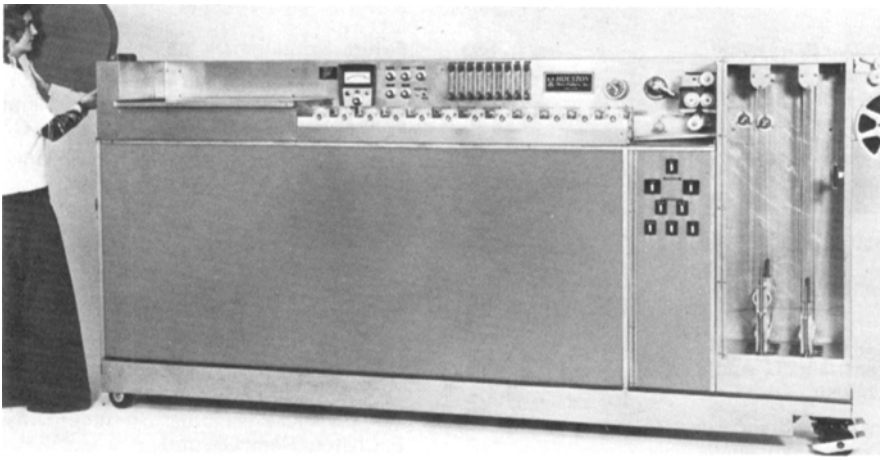
35mm (16 frames per strip).

Set of ten 12" (30.5cms) strips interleaved—£6.48 (including VAT) each

An announcement about the availability of the BKSTS Colour Test Film (Positive) will be made shortly.

Orders or enquiries to:

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Two small compact processing machines for the ME-4 process and the new VNF-1 (Video News Film) process have been announced by Houston Photo Products, Inc., 655 E. 20 St., Yuma, AZ 85364. Designated Model 617 for the ME-4/VNF process (shown above) and Model 617

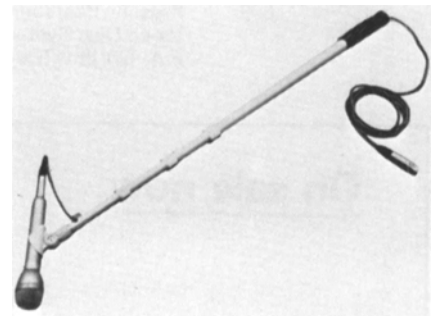
VNF for the VNF process only, each machine requires less than 20 ft² (1.9 m²) of floor space and each is 55 in (1.2 m) high. Speed of the machines is 17 ft (5.2. m)/min. The film is completely processed from dry to dry in minutes. The processors are priced in the \$12,000 range.

The Optasound 116R cassette audio recorder designed for double system motion-picture sync sound shooting was developed to provide flexibility for super-8 and 16mm filmmakers in the field, on the set and in the editing room. Weighing 3.5 lb (without batteries) and using standard cassette tapes, it measures 5½ × 9¾ × 2½ in. The recorder runs on either alkaline C-cells or ac. It can work without modification with any super-8 motion-picture camera equipped with a PC outlet for flash sync. The flash sync

setup in the camera provides the necessary pulse. Cameras without the PC output can be modified. The one-pulse-per-frame sync pulse is recorded on a track parallel to the audiotrack of the recorder. Frequency response of the 116R is 80 to 10,000 Hz ± 3 dB. A single cable connects the camera and recorder. In addition to sync registration, the cord permits remote recorder operation. When the camera shutter release is pressed the recorder automatically goes into operation. There is a choice of manually con-

trolled or automatic level setting during operation. In playback the 116R locks into sync with any unit that supplies it with a pulse identical to the one recorded during filming. Accessories and options make it possible to use the 116R with Pilotone for 16mm filming and some super-8 cameras and crystal control lip sync recording systems. The basic 116R is priced at \$425.

Also announced was a new crystal sync generator designed to permit sound recording with the Optasound 116R and any crystal controlled motion-picture camera. Called the XTAL 60, the instrument plugs into the Optasound 116R cassette sound machine to record a 60 Hz signal on the recorder sync track. Two 116Rs may be operated simultaneously or in sequence off the same XTAL 60, enabling the filmmaker to make identical tracks or to alternate the recorders to cover extended shooting sessions. The recorder and the signal generator can be purchased as a unit, or owners of 116Rs can purchase the XTAL as an accessory. Power for the generator is supplied by a single 9-V transistor battery. Dimensions of the XTAL are 4¾ × 2¾ × 1½ in. It weighs 8 oz. The price of the 116R recorder with the XTAL is \$650. The XTAL alone is priced at \$135.



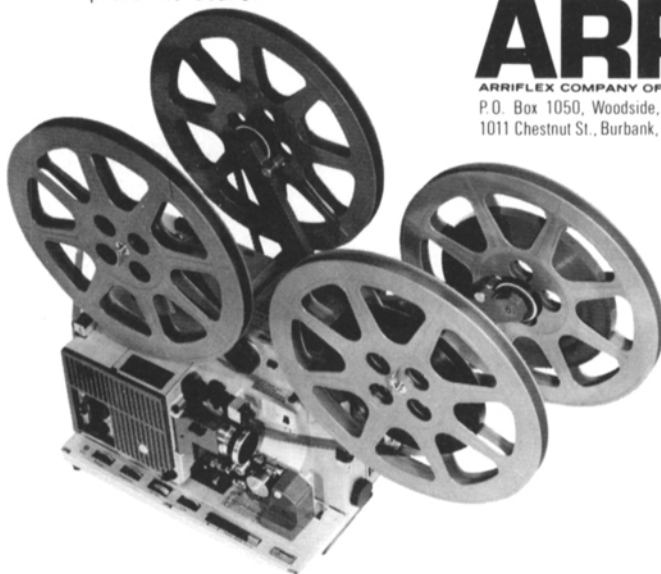
The CP Microphone Boom (fishpole type) has been announced by Cinema Products Corp., 2037 Granville Ave., Los Angeles, CA 90025. Designed mainly for location sound filming applications, the compact and lightweight boom extends from 2 ft to 6 ft 8 in. It is supplied with microphone stud and internal 10-ft length of wire with two 3-pin female terminations. The CP Microphone Boom is priced at \$79.50.

A kit for converting any 30-V battery belt or pack to the improved quick-connecting Lemo electrical connector has been announced by Image Devices Inc., 1825 NE 149 St., Miami, FL 33181. The device has been designed so that no circuits can be accidentally grounded by misorientation. The plug can be correctly inserted with one hand in the dark because it is simply rotated until it drops into the correct position. Automatic latching is accomplished by simple push-pull action. The cable assembly is simple and a collet type strain relief arrangement is used to protect the cable against damage. The kit, containing everything needed for conversion, is priced at \$29.95.

The Digaphot, Model 3300, a lightweight (9 oz) portable photometer developed for OSHA and regulatory light measurements, has been announced by United Detector Technology, Inc., 2644 30th St., Santa Monica, CA 90405. The instrument provides light measurement from 0 to 999 fc with 0.5 fc resolution. Features include a solid-state silicon photodetector and a 3½-digit readout packaged in a single rugged case. A color corrected (CIE) filter and cosine response diffuser are included. Prices begin at \$195.

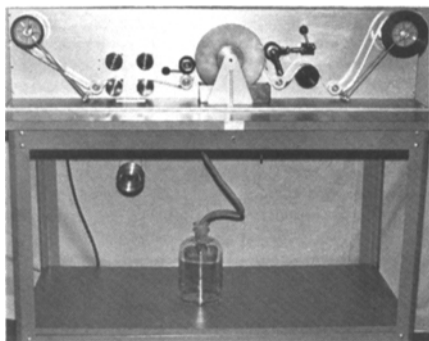
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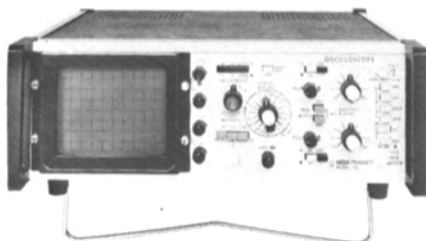


A film base polishing machine designated the CE-BP-35/16 has been announced by Carter Equipment Co., 1050 West Florence Ave., Inglewood, CA 90301. The machine is reported to regenerate scratched acetate-based film at a speed of 2000 ft/h. It can be supplied for 35mm, 16mm or interchangeable operation. Special models for other film widths, such as 8mm, 32mm, 65mm or 70mm are also available. The scratch removal is accomplished by the application of controlled amounts of solvent to the film base and the reforming of the base on a frosted glass wheel. Removal (by filling in) of the scratches takes place when the film is then rerun over a highly polished glass wheel. The machine is covered with a dust-protecting cover when in operation. Various voltages and frequencies of operation can be provided for. Prior to solvent application particulate matter is continuously removed from the film base by a "sticky surface" roller. The price for a single format machine is \$3150.

A two-input, universally-switchable preamplifier which can be plugged into the existing internal connection of any Nagra IV or 4.2 magnetic sound recorder, automatically setting the power, equalization and gain for any combination of microphones, has been announced by Audio Services Co., 565 Fifth Ave., New York, NY 10017. The new preamplifier is intended to eliminate the requirement for separate preamplifiers which must be changed when switching from dynamic microphones to Sennheiser, Neumann, Schoeps or AKG condenser microphones. Price of the universally-switchable preamplifier is \$295.



The Dynatrac® Narrowband Voltmeter, designed as a convenient new approach to the measurement of weak signals in engineering and quality control applications, has been announced by Ithaco Inc., 735 W. Clinton St., Ithaca, NY 14850. The instrument automatically phase locks its center frequency to an external reference signal from 10 Hz to 10 kHz. Fullscale sensitivity can be set to 100 μ V and the bandwidth from 0.03 to 300 Hz. Applications include the measurement of common mode rejection, power supply hum and ripple, crosstalk in stereo equipment, filter outband rejection, notch filter depth, and other signals that may be obscured by noise or electrical interference. The differential input makes the instrument useful as a bridge balance null detector or precision amplitude/phase comparator in quality control applications. It can also be used as a lock-in amplifier in the detection of low level optical, physical and chemical phenomena. The price is \$1695.



The Model 207 oscilloscope, an all-solid-state instrument with 11 plug-in printed circuit boards carrying typical circuits normally found in oscilloscopes, has been announced by NIDA Corp., 360 Fairfield Ave., Stamford, CT 06902. Designed for use in schools, the oscilloscope can also serve as a laboratory instrument, according to the announcement. The printed circuit boards are available as replacement for routine maintenance and also in pre-faulted versions to teach trouble-shooting procedures. Mechanically, the unit is so designed that components and boards are sufficiently separated to permit easy, safe use of test probes and tools without danger of short-circuiting. Internally-generated vertical and horizontal signals are provided for calibration. A built-in circuit-tester function displays, on the CRT, the condition of components in or out of circuit. These facilities plus the availability of spare-parts kits and replacement circuit boards permit quick and easy maintenance and repair. Model 207 is a dual-trace instrument, response from dc to 10 MHz, with a flat-faced 5½-in (10 × 8 cm) CRT with an edge-lighted internal graticule. It is available for 115- or 230-V ac, 50 or 60 HZ operation. It is 15 in wide, 15½ in deep, 5¼ in high and weighs 25 lb. The price is \$1085.

The Beseler 35, a new 35mm sound filmstrip viewer, has been announced by Charles Beseler Co., 8 Fernwood Rd., Florham Park, NJ 07932. The viewer, reported to provide a bright, uniformly sharp image, uses a tungsten halogen 300-h-life lamp. It also has an audio system with front-mounted speaker for maximum sound clarity. The viewer is available in three models, two of them having pause capability. Proceed is accomplished by operating a front panel button, or an accessory foot switch, or a student responder unit. The film transport system provides a quiet picture change. The filmstrip is threaded into a wide slot and the positive advance mechanism does not tear the film if it should be accidentally pulled out after loading. Model 3551, which plays programs with 50-Hz cue signals, is priced at \$199.95. Model 3552 which responds to 50-Hz cue signals and has pause capability, is priced at \$219.95. Model 3554 which reacts to 50- and 1000-Hz cue signals and also has pause capability, is priced at \$249.95.

Airshield, a lens pouch designed to combine the protective features of a hard case with the flexibility of a soft pouch, has been announced by Sima Products Corp., 7380 Lincoln Ave., Lincolnwood, IL 60646. The protective walls of the pouch can be inflated instantly and the case resembles a miniature air mattress which provides an air cushion buffer for the lenses. It is available in three sizes, small, medium and large to accommodate a range of lenses from wide angle to zoom. The Airshield is priced at \$4.95 for the small and medium sizes and at \$5.95 for the large size.

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