

New Products & Developments

Further information about these items can be obtained directly 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 Mark IX color television camera system, available in two models — studio and portable — has been announced by Marconi Electronics Inc., 100 Stonchurst Court, Northvale, NJ 07647. The system was designed to meet a number of operational requirements. Main considerations were minimum power con-

sumption (350 W for the studio camera and 250 W for the portable), minimum size and weight, full facilities, automatic or manual operation and convenient cabling for remote working.

The cameras work from a small control unit contained in one 19-in rack-mounting unit 8.75 in high. This unit is of modular construction which includes video processing modules, aperture corrector and color coder. The power supply is also contained in this unit. A switched mode power supply reduced the size of the CCU and also contributed to the low power consumption. In the switched mode supply, mains input is rectified directly and the resulting dc is switched across the primary of the transformer at about 20 kHz.

In the studio camera head, the optical assembly introduced in the Mark VIII has been retained. A new electronic package including head amplifiers, talkback circuits and power supply module have been incorporated. The studio camera is fitted with two filter wheels, the first containing three neutral density filters and the second containing two color correction filters. A third position on the second wheel is available for effects filters. The second filter wheel is under the control of the cameraman.

The portable camera (without lens) is 17 in

long, 4.73 in wide and 14.5 in high. It weighs 14 lb.

Both the studio and portable versions are designed to work from standard multicore or from triaxial cables. With the multicore the maximum distance from the control unit to camera is 3000 ft. With the triax the distance increases to 5000 ft. A small optional remote control unit working at up to 500 ft from the CCU is also available.

There are a number of options offered, including a system of automatic registration using a diascope, and also automatic centering. Automatic black balancing, automatic white balancing, and automatic iris have been included as additional options. A new feature is the dynamic gain control circuit provided in the coder, enabling the picture content to be improved when detail would be lost in the near black or white regions.

Price range of the Mark IX studio camera is \$70,000 to \$87,500. Prices for the Mark IX portable camera range from \$55,000 to \$70,000.



The TK-47, an automatic color television studio and field camera featuring simplicity of operation and microprocessor-controlled functions, has been announced by RCA Broadcast Systems, Camden, NJ 08102. Four separate components make up the TK-47 camera system. Normal operation of the TK-47 system requires the camera head, the camera processing unit (CPU), and a remote control unit (RCU). For setting up operations the setup control unit (SCU) (shown above) is added but is disconnected from the system once the required adjustments are made. The camera head accepts directly the largest lenses of the highest optical quality through the use of a simple quick-change mount. The head is rugged, weatherized and includes a stable shock-mount optical system. A large tiltable viewfinder aids the picture composition.

The CPU incorporates circuitry for video signal processing and encoding, including contour enhancement and aperture correction. In function, the camera processing unit is like the camera control unit of conventional cameras, but the controls have been removed so that it becomes a "black box" interface for the camera chain.

The RCU provides full operational control for the camera. It is a digital device which is connected to the camera processing unit by a simple cable with only two twisted pairs.

The SCU is a digital device which serves as the technical control center of the camera sys-

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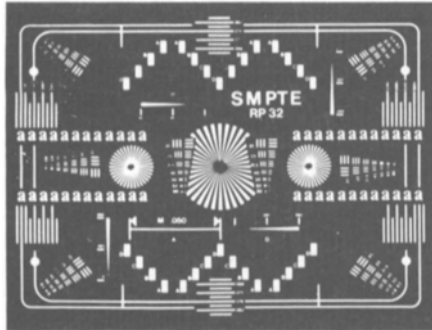
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Does Your Super 8 Equipment Run Properly? Find Out With An SMPTE Test Film.

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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.

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RCA's all-new PM-85SL Dual Sprocketed Reproducer: quality and economy are only the beginning.

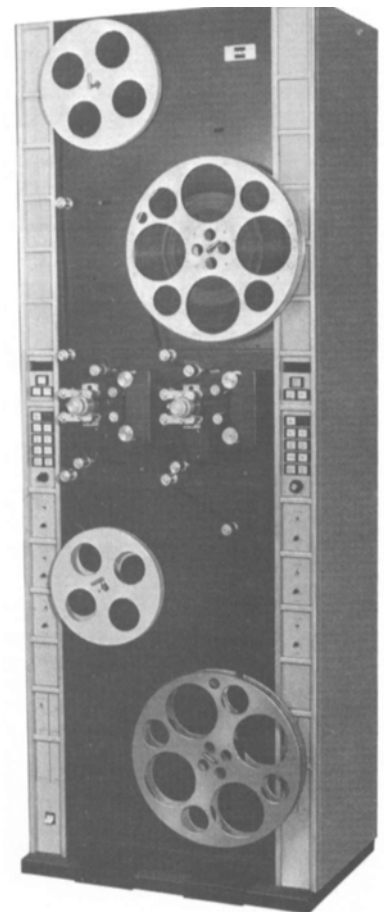
Say goodbye to time-worn conventional dual dubbbers that have grown older but not much better.

Say hello to the all-new PM-85SL Series Dual Magnetic Reproducer—a fresh approach to function, design and packaging. The result: quality, economy, versatility and performance that make the servo-controlled PM-85SL an outstanding value for film and tape post-production sound processing. Consider these advantages:

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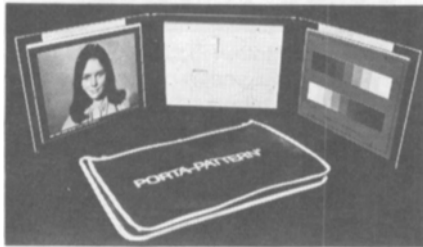
The PM-85SL is the newest from RCA Photophone Systems, the people with the broadest line of sound-on-film and sound-for-tape systems. For information, write RCA, 2700 W. Olive Avenue, Burbank, CA. 91505, U.S.A.

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Systems



tem. It is connected to the camera processing unit by a cable with only three twisted pairs and is disconnected from the camera system after setup is completed.

A microprocessor-programmed setup sequence guides the operator through a logical step-by-step camera setup procedure. Alpha-numeric displays indicate the function to be controlled for each step. Switching of camera functions, test signals and monitor modes is accomplished automatically. Full control remains with the operator, however, with random access to any control function at the touch of a button. An "automatics" option for the TK-47 camera automatically adjusts more than 80 control functions, cycling through the complete camera setup sequence without operator involvement. The TK-47 is priced at \$90,000.



A compact, self-standing, self-protective chart carrier that can be ordered with any three Porta-Pattern™ 9- X 12-in television camera test charts has been announced by Telecommunications Industries Ltd., 6335 Homewood Ave., Suite 204, Los Angeles, CA 90028. Designed for use in the field with ENG and EFP cameras, the carrier opens into a triptych which can stand

alone on any reasonably flat surface. When not in use, it is held closed, and the charts protected, by mating Velcro strips affixed to three hinged, high-impact acrylic plastic frames holding the charts. There are over 150 combinations of Porta-Pattern charts which can be specified by the customer when ordering the new three-chart system. Prices, including a carrying case, start at \$185 for any three black-and-white geometric test patterns. The \$205 system includes a 9-step log chip chart and two black-and-white geometric patterns of the buyer's choice. For a price of \$235 the system is equipped with one color chart — color bars, BBC 61P flesh-tone reference or pulse bar — plus the 9-step log chip chart and any geometric test pattern.



An aluminum and steel tripod spreader that folds up inside the tripod to allow easy transport as a unit has been introduced by Miller Professional

Equipment, 6500 Santa Monica Blvd., Los Angeles, CA 90038. Specifications of the tripod spreader are: weight, 3 lb; length folded, 16½ in; maximum diameter folded, 3½ in; and arm extension from 16½ in to 25 in. The unit, priced at \$69.50, uses extra strong shock cords to hold the tripod feet to the spreader.



A compact, lightweight pedestal designed to support studio and ENG-type video cameras weighing up to 90 lb has been announced by Innovative Television Equipment, P.O. Box 681, Woodland Hills, CA 91364. Designated the ITE-P6, the pedestal utilizes constant torque spring assemblies to provide counter-balance for lightweight cameras. Features include crab steering and column elevation, both controlled by the steering wheel. Dual, 6-in ball bearing wheels have polyurethane tires equipped with adjustable cable guards and are gimbal-mounted for smooth movement on floor surfaces. The pedestal can elevate from 33 in to 52 in and has a doorway width of 28 in. It weighs 150 lb. The price is \$2250.



A 1-in type C helical-scan videotape recorder designated the TH-100 has been introduced by RCA Broadcast Systems, Camden, NJ 08101. A studio model machine, it is a compact high-performance helical-scan videotape recorder

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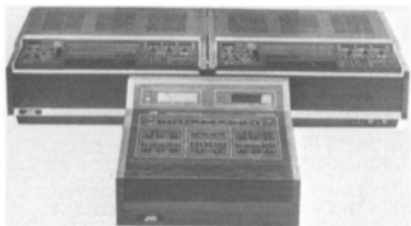
using the NTSC high-band direct FM recording system. It consists of five modular subsystems — tape transport, electronics package, operating control, meter panel and power supply. The five sections can be separated for mounting in any desired desktop, console or rack-mount configuration, in the studio or in an outside broadcast vehicle. The TH-100 recorder has a new tape-handling system which provides motion-picture style videotape editing capabilities for flexibility in post-production editing. A single control dial provides bidirectional search capability in two different search modes. In the normal shuttle mode, the control dial permits smooth variation of the tape shuttle speed in both forward and reverse. Tape speeds increase from still, step, 1/4-speed, normal, and up to 60 times the normal rate. The TH-100 is priced at \$37,000.

Color lock is maintained up to seven times normal speed when the companion TBC-100 digital time-base corrector is used. A recognizable picture for editing purposes is retained at even more than 30 times normal speed. The TBC-100 is priced at \$16,000.

Also announced was the TH-50, a small, lightweight, battery-operated videotape recorder specifically designed for electronic field production and newsgathering operations requiring portability. The price is \$35,000.

The MRX-716 1-in videotape specially designed for 1-in segmented and non-segmented helical scan recorders has been announced by Memorex Corp., San Tomas at Central Expwy., Santa Clara, CA 95052. Designed to meet professional recording requirements including slow motion, still framing, manual jogging and editing, the tape is said to provide signal stability when subjected to temperature extremes such as can be encountered during location recording. Features include a new binder system, a stabilized oxide formulation that provides signal and coercivity stability, an extremely smooth tape surface and permanent lubricants which offer a reduced coefficient of friction for maximum head life.

MRX-716 videotape is available in 34-, 64- and 96-min lengths at prices of \$47.20, \$71.05, and \$108.30.



A 3/4-in fully electronic video editing recorder, featuring high-speed search and automatic search in both forward and reverse has been announced by JVC Industries, Inc., 58-75 Queens Midtown Expwy., Maspeth, NY 11378. Designated the CR-8500LU, it can operate at approximately 10 times normal speed in both fast forward and rewind. In forward and reverse modes, the search control, in addition to normal speed (real time), can be set at two times, one-fifth and one-twentieth normal speed as well as still-frame. The unit performs both assemble and insert editing and offers automatic pre-roll editing. When set, this function automatically pre-rolls the tape after completion of one edit to prepare instantly for the next.

Also announced was the RM85U automatic

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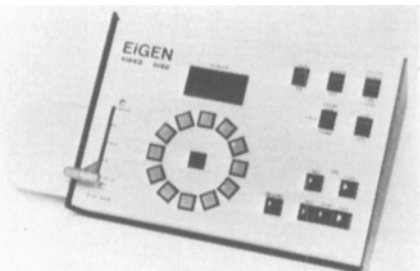
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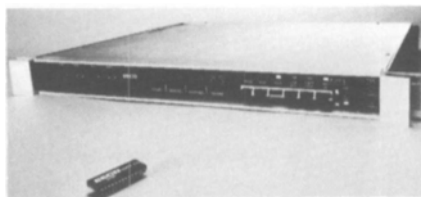
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editing control unit. The entire teleproduction system includes two CR-8500U editing decks and the editing control unit. Each of the two CR-8500LU units is priced at \$6425 and the RM85U control unit is priced at \$3650, bringing the price of the complete system to \$16,500.



Chroma III, a component color signal system for Eigen Video slow-motion disc recorders, has been announced by Eigen, P.O. Box 1027, Grass Valley, CA 95945. The system has an SNR of 46 dB in the luminance channel; 43 dB in chroma; and differential phase and gain of 3°. The 20-s NTSC slow-motion model with "J" control is priced at \$35,000. The 10-s version is \$25,000. All models have Chroma III signal systems as well as digital time-base correction. Earlier models of Eigen recorders can be updated to the Chroma III system.

The MTG 550 series Master Time Code Generators, generating SMPTE/EBU formats for electronic indexing of video and audio tapes, has been announced by EECO, 1441 East Chestnut Ave., Santa Ana, CA 92701. Contributing to its small size (1 3/4-in high with 19-in Retma Mounting) and low power requirements is the use of CMOS/LS TTL logic and the incorporation of EECO's LSI Time Code Generator



Clip (5200). The clip contains the basic logic necessary for pre-setting and display time, inserting user bit, locking to video or other reference sources, external selection of 25 or 30 frames/s frame rates, and selection of drop or non-drop frame code. Features include the ability to slave the generator to an external source of serial time code for add-on recording, encoding the auxiliary binary word from four different sources, allowing the user to insert 32 bits of information into the serial Edit Code output for additional scene identification, and special status/alarm signals to alert the user of loss of time code, loss of video/sync as a reference, loss of phase lock, and of momentary power loss. The instrument has the ability to derive proper reference sync from NTSC, PAL and SECAM video standards with an option to generate 24-frame code for the film industry. A hexadecimal display is employed to allow selection of either Binary Word or Edit Code for display. The MTG 550 is priced at \$2850 for NTSC and at \$2990 each for PAL and SECAM units.

The CL-100 Cut/Lap™ Transition Programmer offered as an optional accessory to all Convergence ECS-100 Superstick Series Editing Systems has been announced by Convergence Corp., 17935 Sky Park Circle, Irvine, CA 92714. The Cut/Lap enables the operator to create fades to black and simulated lap dissolves at the edit points and permits video only or video-audio edits to be made. Slow laps, 2/3 s each side of the

edit point, and fast laps, 1/3 s each side of the edit point, are selectable. The fade function provides a 1-s fade-up at the in-edit point or fade down at the out-edit point. Lap or fade may be selected for the in-edit, the out-edit or for both edit points in an edit sequence. Price of the Cut/Lap Transitional Programmer is \$2000.

The Video Expander, Model 275, a solid-state video memory capable of storing one frame of video information, has been announced by Colorado Video, Inc., Box 928, Boulder, CO 80306. Data may be fed into the Model 275 at a slow rate and used to build up a continuously refreshed image on a standard television monitor screen. The image buildup process may be continuously observed and it is reported that there is no fadeout or image degradation with time in the resulting display. Model 275 can be used as a computer output display device or as a slow scan video communications receiver. The input data can come from three different sources: (1) FM carrier from the CVI Model 260B Video Compressor over standard telephone lines (-1 Models). This signal can also be recorded on a conventional audiotape recorder for subsequent playback to Model 275; (2) baseband slow-scan video from the CVI Model 201A Video Compressor over an 8 kHz communications channel (-8 Models); and (3) parallel digital data from a computer or other source of digitized pictorial information (-C Models or in conjunction with either of the above inputs).

The video output signal can be displayed on a television monitor or it can be used with other standard television equipment such as videotape recorders. The output capability of units with the Computer I/O option provides easy interfacing with TTL level minicomputers or other digital processing devices.

Base price for the 275 with 256 × 512 × 8 bit memory is \$10,000, with 6-bit memory the price is \$9000, and with 256 × 256 × 6 bit memory



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WHEN:

NOVEMBER 29-DECEMBER 2, 1978

WHERE:

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WHAT:

The top professional forum for members of the entertainment lighting industry will be held this year with the country setting of Opryland and its fabulous production facilities providing an excellent background for the exchange of technical information and demonstrations of the very latest in lighting techniques and design. The program will represent a good mix, with presentations planned describing the latest in lighting in many areas, including television, theatre, film, disco, architecture and rock and roll. Because of the superb television facility available, a heavy emphasis on television lighting is anticipated.

WHO CAN ATTEND?

The symposium is open to both IES members and non-members.

HOW DO I REGISTER?

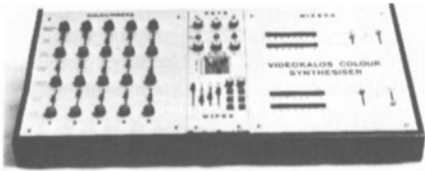
Send your name, company affiliation, address and phone number along with a check for \$90.00 (made payable to the TTF L Committee of the IES) to: Mr. Bud Wilkins, Symposium Chairman, Opryland Productions, P.O. Box 2138, Nashville, TN. 37214. Students may attend the sessions at a charge of \$10.00/day. The student fee does not include meals, banquet and other entertainment scheduled for full registrants. Registration prices at the time of the symposium will be higher, so advance registration is encouraged.

WHERE DO I STAY?

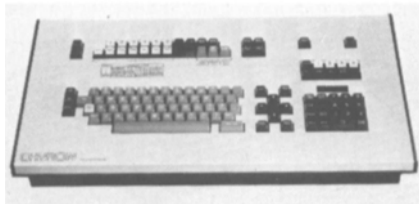
Symposium participants will stay at the Opryland hotel, known worldwide for that good 'ole "down-home" country hospitality. Special convention rates are \$30.00 for a single and \$35.00 for a double. To make your reservations call the hotel at (615) 889-1000.

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the price is \$7000. These prices include either the computer I/O board option or slow scan television input circuits. If both options are required, \$1000 is added to the base price. A real-time field or frame-grab option is available for \$2000. With this option a conventional CCTV signal may be connected to the frame-grab input, a single image frozen in the digital memory, the resulting picture viewed on a standard television monitor, and the full contents of the digital memory made available at the I/O port.



The Videokalos Colour Synthesiser, an image processing device compatible with all television standards, has been announced by Videokalos Studios, 251 Brixton Rd., London SW9 6LJ, England. The unit may be used as the main mixer in a small studio, or as a post-production mixer during editing stages, or as a special effects unit for broadcast studios. There are five synchronous monochrome or RGB inputs with VTR replay input. The monochrome may each be independently colorized and color inputs may all be corrected for RGB black level and gain. Three independent luminance keys are all convertible to chroma-key and selection via a 22 X 22 patchboard. A wipe generator offers all standard plus variable shaped wipes. Other features include an 8-channel ABCD vertical interval switcher with LED indication. A genlock color sync pulse generator is switchable between PAL and NTSC giving standard sync outputs for driving a monochrome or color studio. Three RGB outputs and two encoded outputs are switchable PAL/NTSC. Features also include a color bar generator and RGB waveform monitor display outputs. The unit measures 40 X 22 X 6 in and weighs 22 kg. The price is £8500.



The Chyron IV, a graphics and titling system for television production, including instant italics, 64-color palette and action graphics, has been announced by Chyron Telesystems Division of Chyron Corp., 223 Newtown Rd., Plainview, NY 11803. A full-function second channel is optional. The Chyron IV, like Chyron II, its predecessor, is designed with 27 ns resolution to produce characters and graphics with sharp edges, smooth curves and refinement of detail comparable to live camera video. The font library offers a choice of 25 fonts in 14 different type faces. The instant italics feature automatically converts any standard font in the font library into italicized characters having a 14° slant or a 28° slant. Italics can be intermixed with a standard font on a word basis.

An important feature is the 64-color palette for characters and backgrounds. A keystroke produces a color matrix of all available colors on the edit monitor. Seven colors can then be selected for simultaneous storage in memory.

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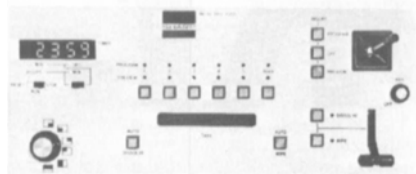
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Background color can range from full screen size to as small as four TV scan lines. Background color is independent of character height so that characters are displayable against multi-color backgrounds. Backgrounds can also be created using all 64 colors in one display.

The graphics animation capability of the Chyron IV is provided by the Program Sequence Controller which establishes the appearance, sequence and dwell time of the pre-recorded text and graphics. Subsequent high-speed playback produces action graphics with smooth image movement.

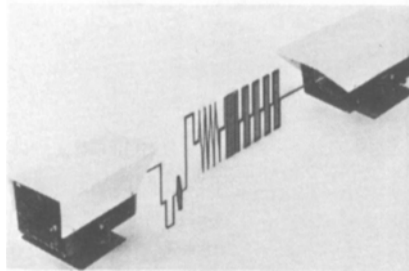
The Program Sequence Controller also facilitates the automatic interchange of fonts, automated keyboard operations for keystrokes, recall sequences, and easy programming of repetitive operations. Other features include all-black and see-through characters, choice of character edging, character overlap to within 224 ns of the leading edge of the previous character, adjustable inter-word and inter-row spacing, automatic centering, flash, multiple roll and crawl speeds, adjustable video window during roll, insert and delete controls, slow reveal of characters, 32K font memory, six font loading positions, and disc duplication. Price of the Chyron IV basic system is \$39,500. Numerous options are available.



A new special effects generator, the XEG-3000, has been announced by Sharp Electronics Corporation, 10 Keystone Place, Paramus, N.J. 07652. The unit, which has been designed to work as a total system package, features a built-in color sync generator, and a phase shifter that adjusts phase without the use of auxiliary electronic scopes. The special effects section has five video camera inputs, five monitor outputs, and two program and two preview outputs, with a variety of effects available. The price is about \$2900.



A new compact 14-in color monitor in the CTVM2 series has been announced by Barco Electronic, Noordiaan 5, Industriezone, B-8720 Kurne, Belgium. It is distributed in the United States by Rohde & Schwarz Sales Co., 14 Gloria Lane, Fairfield, NJ 07006. The new monitor is six units in height and fits in a 19-in rack making it suitable for use in OB vans. It has ultra-high optical resolution making possible technical control of wideband RGB feeds and enables easy observation of composite signals by minimizing moiré patterns. Second-order controls are easily accessible in a front drawer. Easy access to the horizontal and vertical plug-in time bases is also possible. Except for the power supply plug-in cards, the new monitor offers complete interchangeability of PC-boards with the 15-, 20-, and 26-in Barco monitors. Prices for the new monitor are \$4600 for RGB; \$5000, RGB/NTSC; \$5300, RGB/PAL; and \$5400, RGB/SECAM.



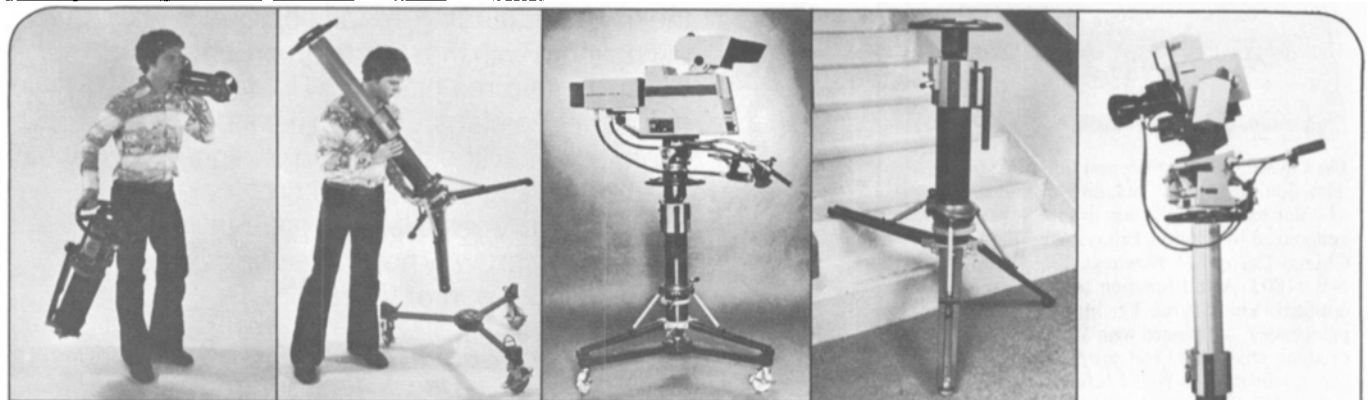
A television transmission set for transmitting color television signals up to 2000 ft or more in all weather conditions (except extreme fog) without cables has been announced by American

Laser Systems, Inc., 106 James Fowler Rd., Santa Barbara Airport, Goleta, CA 93017. An infrared optical carrier is used instead of an RF carrier. Because the infrared beam is not subject to FCC regulations, any signal bandwidth can be impressed on the carrier. For this reason the system is flat beyond 10 MHz. The video signal amplitude modulates the beam, and one or two 15-kHz audio channels FM modulate 10-MHz subcarriers which also ride the beam. The modulated light from the infrared emitter is captured by the transmitter lens (an optical antenna) and formed into a narrow beam which spreads to about 10 ft in diameter at 2000 ft.

At the receiving end, a portion of the beam's energy is captured by the receiving antenna and brought to a focus on a silicon avalanche photodetector after passing through an optical bandpass filter. The filter is a tuned optical resonator (tuned front end) which passes only the frequency of the infrared transmitter eliminating the effects of other light sources such as the sun, headlights, etc. Applications include quick temporary installation for special events, sports coverage and situations where cables cannot be installed. Model 761 Video Transmission System is priced at \$6160. An optional audio channel is available at a price of \$660. Battery packs for the transmitter and receiver are available at prices of \$576 each.



A new AM/FM signal source, Model 6158, covering the frequency band from 8 to 12.4 GHz, has been announced by Marconi Instruments, 100 Stonehurst Court, Northvale, NJ 07647. The unit is the first in the Marconi Instruments 6150 series to use YIG (yttrium iron garnet) Gunn oscillators as the active RF elements. The YIG Gunn oscillator is said to provide excellent linearity of the relationship be-



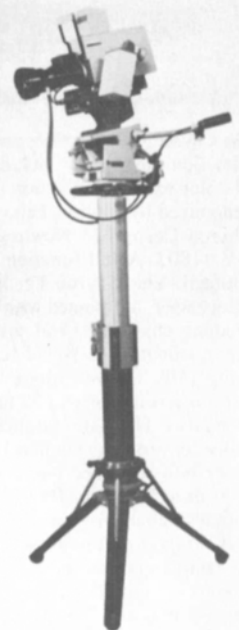
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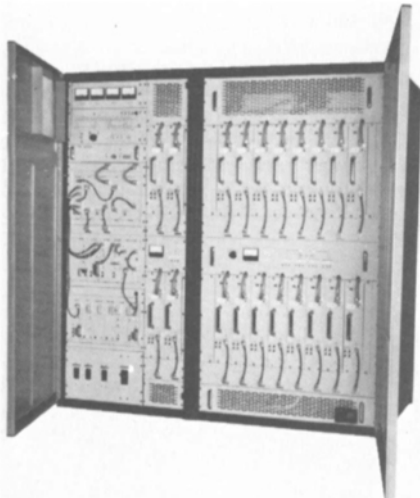


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tween input current and output frequency, allowing the frequency to be set electrically using a front-panel control and readout on a 4-digit LED display. Among other applications Model 6158 can be used as a test source in microwave communications areas. The price is \$3600.

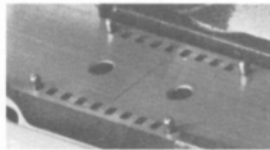


An all-solid-state 3-kW television transmitter (shown above) has been developed by NEC (Nippon Electric Co., Ltd.), of Tokyo. The announcement was made by Nippon P. R. Counsellors, Inc., Yosino Bldg., No. 13.5, Nishi-Shinashi, 2 Chome, Minato-Ku, Tokyo, Japan. The NEC line of all-solid-state transmitters ranges in output from 1 kW to 3 kW for VHF Band III (170 MHz to 230 MHz). Because no high-tension voltage supplies are required, the transmitters provide safe maintenance and operation. Provided with a broadband impedance matching system for every amplification stage, the transmitters can cover the entire Band III without any tuning adjustment. The transmitters are said to require no preheating to reach full output power operation, while power consumption is significantly reduced. Prices for the transmitters range from approximately \$77,600 for the 1-kW transmitter to approximately \$129,600 for the 3-kW transmitter.



A stand-alone NTSC studio vectorscope, Model VS310, has been announced by Ultra Audio Pixtec, Box 921, Beverly Hills, CA 90213. The unit requires no external decoding, presenting the standard vector display of full-field or NTSC

New CIRO 8PERF splicer:

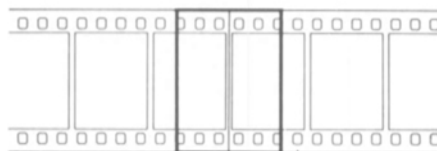


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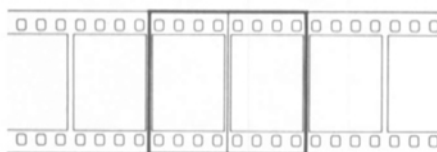


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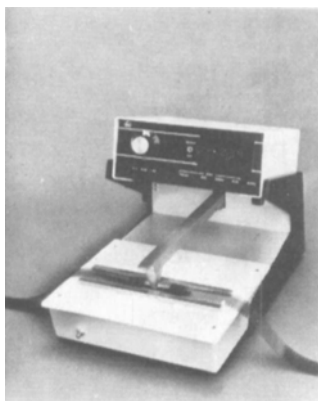
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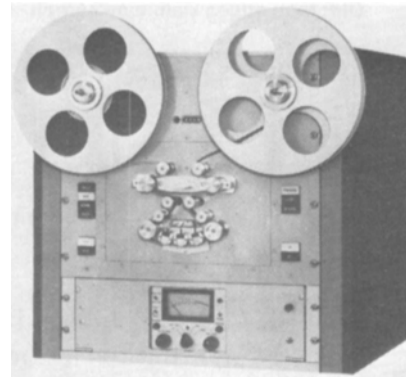
* Slightly higher outside U.S.A.

color bars. It accepts external 3.58 for camera-encoder matching and offers a test-circle display for calibration. There is also a waveform display of full bandwidth and chroma-only exhibition as well as servicing test-scope capability. The VS310 is portable and can be rack-mounted with one or two other UAP vectorscopes or companion waveform monitors in five rack units height. The price is \$995.

Option H10 for the Model 5342A Microwave Frequency Counter has been announced by Hewlett-Packard, 1501 Page Mill Rd., Palo Alto, CA 94304. It is said to provide a -15 dBm sensitivity. Model 5342A (introduced in 1977) offers simple keyboard control and versatility. It measures frequency from 10 Hz to 18 GHz with a resolution of 1 HZ on an 11-digit LED display. It is priced at \$4500. Option H10 to extend the frequency range to 24 GHz is priced at \$350.



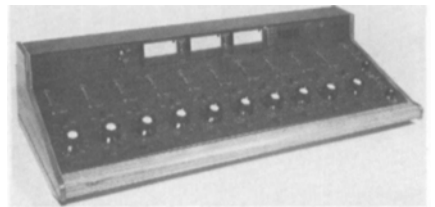
A new **9800 Series Video Cable Equalizer** with extended variable response has been announced by Cohu, Inc., Electronics Div., Box 623, San Diego, CA 98112. Performance characteristics include equalization up to 30 dB at 10 MHz on lengths up to 6000 ft of RG-11/U cable with hum and noise level 50 dB rms below 0.7 V PP. Longer distances can be equalized using poly-foam dielectric cables. Differential input provides rejection of hum caused by ground loops. Results are said to be equally good for both monochrome and color video signals. Inputs which can be either 75 Ω unbalanced or 124 Ω balanced produce an equalized 75 Ω unbalanced output. The equalizer can also be used at the transmitting end. The unit has an operating temperature of -20 to +60 C (-4 to +140 F) and can perform in 90% humidity. Each equalizer module is self-contained with an integral regulated power supply and is available in either a vertical or horizontal configuration for mounting in a vertical or horizontal position. The vertical model is priced at \$285 and the horizontal model at \$335.



A new series of magnetic film sound recorders and reproducers has been announced by Wide Range Electronics Corp., 2119 Shuetz Rd., St. Louis, MO 63141. Designated the 3600 series,

the units are available in the 16mm and 35mm film formats as single- and multi-track units; they include recorders, pickup recorders and dubbers. A number of options are available including 3000-ft film capacity, 19-in cabinets and various motor drive systems. Prices start at \$2465.

A **50-500 MHz counter** designed for communications applications has been announced by Continental Specialties Corp., 70 Fulton Terrace, New Haven, CT 06509. Features include a 6-digit display with 1-KHz resolution, a BNC 50 Ω -input sensitive down into the mW range, and a coaxial power connector for any of several 7-12 V dc sources. A number of optional accessories are available. The price is under \$150.



The **Constellation Series Audio Console**, announced by CCA Electronics Corp., Broadcast Plaza, Box 5500, Cherry Hill, NJ 08034, has been designed for operational ease. It is available with 6, 8, or 10 channels. Each of the identical channel modules has four inputs which may be microphone level, line or bridging as programmed by plug-in programming modules. The module selects the stereo output to either the program or audition bus by a heavy-duty telephone lever switch. The outputs of the program or audition amplifiers are selected and summed to feed a monophonic program amplifier for an independent mixdown channel. 25-W-per-channel stereo monitor and 10-W-per-channel headphone amplifiers are independently selectable from any of the program lines plus a variety of additional sources. The price range for the Constellation Console is \$7000 to \$7500.



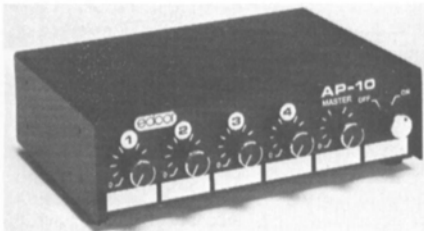
A **production audio mixer** designed specifically for professional use, Model S6/2, has been announced by VIF International, P.O. Box 1555, Mountain View, CA 94042. It is manufactured in England by Allen and Heath Ltd. Features include auto-start and auto-fade capabilities plus linear faders throughout. The unit has four stereo input channels (two phono and two line), two mono microphone channels, stereo main out, stereo head-phone monitors, and remote switches for complete control over auxiliary equipment. Other features include pan pot located on the microphone channels, trim pot on all inputs, mode switch on the tape channels,

LED run indicators, mute and "on-air" indicator on microphone channel 1, and peak reading meters with their own driver amplifier. The price is \$1295.

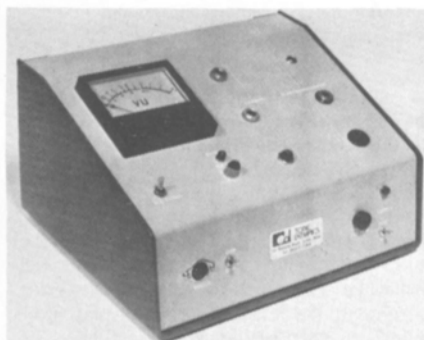
The MSP-100 audio processor for AM, FM, and television has been announced by Harris Corp. Broadcast Products Div., P.O. Box 290, Quincy, IL 62301. A flexible audio control package, the MSP-100 incorporates a tri-band AGC and broadband peak limiter with pre-emphasis compensation to permit "tailoring" of sound to station format. The unit can be expanded to stereo by adding plug-in modules. Audio circuitry employs linear integrated circuit amplifiers with no discrete transistors. An active instrumentation-type input circuit permits balanced or unbalanced input without modification. Prices begin at \$5500.



The Eddor ST-3B wireless microphone receiver featuring a signal-energized electronic switch (SEES) has been announced by Eddor, 3030 Red Hill, Costa Mesa, CA 92626. The switch can be used to control electronically other units such as tape recorders, amplifiers and A-V controls. The ST-3B receiver is designed for use with any Eddor wireless microphone operating in the 30-50 MHz range. It can be used with 110-V ac power or 12-V dc power. The price is \$299.



An amplifier for driving headphones, the Eddor AP-10, has been announced by Eddor, 3030 Red Hill Ave., Costa Mesa, CA 92626. It offers 4 W rms on each side of four stereo channels into 4 Ω. A rear-mounted toggle switch selects mono or stereo outputs. Flat frequency response is from 20 to 20,000 Hz. The price is \$149.50.



A new headset tester manufactured by Tone Dynamics has been announced by Television Equipment Associates, Box 260, South Salem,

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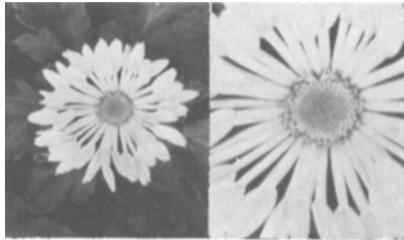
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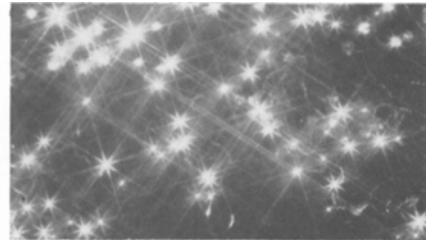
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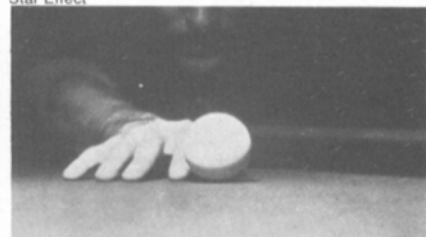


Star Effect

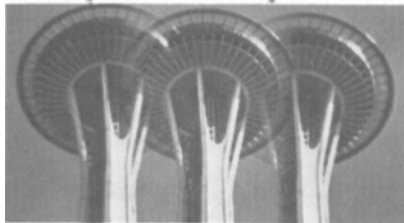


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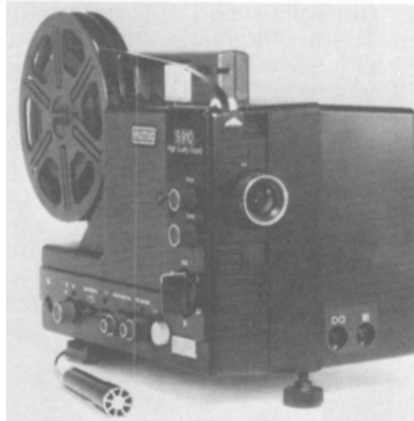
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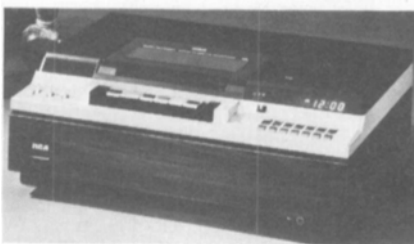
NY 10590. A general purpose unit, it facilitates subjective testing using voice or internal oscillator. A visual indicator of output level is provided by a meter on the instrument. Six combinations of carbon or electromagnetic microphones can be tested on one unit, and sockets to accommodate headset plugs can be specified by the user. An optional artificial voice is available for checking microphone sensitivity or setting up amplified electromagnetic microphone systems. The tester is capable of testing electromagnetic and dynamic microphones with outputs of approximately 1 to 5 mV and carbon or simulated systems with a 50- to 300-mV output. Carbon microphones are operated at a nominal current of 24 mA for a microphone resistance of 100 Ω . It is priced at \$995.



Three new super-8 sound projectors have been announced by Eumig (U.S.A.) Inc., Lake Success Business Park, 225 Community Drive, Great Neck, NY 11020. Features of the Sound 905, priced at \$325, include a multi-coated Vario-Eupronet $f/1.6$, 17-30 mm zoom lens designed to transmit images without curvature or light fall-off at screen edges, a coaxial reel system, a spring-loaded loop restorer lever to maintain continuous audiovisual synchronization, and fully automatic threading.

In addition to many of the above features, the Sound 910 (shown above), priced at \$425, offers an integrated-circuit record/playback amplifier with 10-W RMS output and 15-W music power, a choice of automatic or manual recording level control with professional-type VU meter and recording and mixing indicator lights, and double-track recording capability.

The RS3000 projector, priced at \$499, is a follow-up to the silent R2000 model. It features the additional option of viewing film on the built-in screen or projected onto a wall screen.



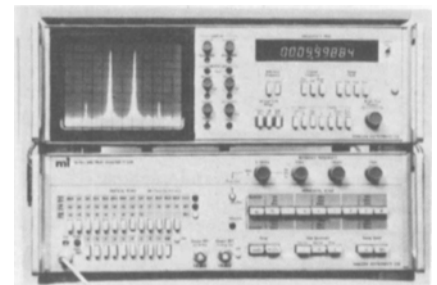
The SelectaVision, a home videocassette recorder that can be pre-programmed to record up to four television programs on different channels during a seven-day period has been announced by RCA Corp., 30 Rockefeller Plaza, New York, NY 10020. The new videocassette recorder is part of an expanded line of RCA videocassette recorders and cameras. Included in

the new line are RCA's first color television cameras, designed for home use with the videocassette recorder. The SelectaVision products include three videocassette player/recorders, two black-and-white cameras, and two color cameras. The videocassette recorders range in price from about \$1000 to about \$1200.

The new programmable model, the VCT400 (shown above), has timer controls that allow up to four recordings at different times on different channels and on different days of the week. It can be preset up to seven days in advance. It is priced at about \$1200.

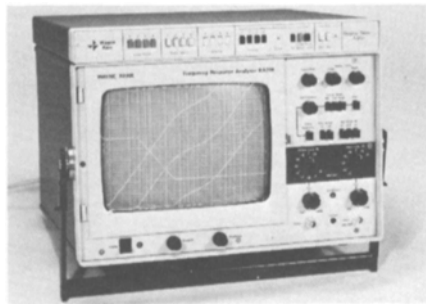
Model VCT201 has an electronic timer that permits the user to preset not only the time and channel for the start of unattended recording but also the time at which the recording should end. It is priced at about \$1075.

The home color cameras are Models CC001 and CC002. The latter model features a Canon-brand professional grade-6 power zoom lens and electronic viewfinder.



A spectrum analyzer developed to provide wave form analysis in the 30 Hz to 110 Hz frequency range has been announced by Marconi Instruments Ltd., Longacres, St. Albans, Herts, England. (The United States representative is Marconi Instruments, 100 Stonehurst Court, Northvale, NJ 07647.) Designated the TF 2370, the spectrum analyzer is designed to serve as a general purpose instrument for a number of applications including testing by production personnel. Features include a digital storage and display system which permits the use of a high-brightness television camera-monitor tube onto which the display is formed as a brightness-modulated vertically-scanned raster. The instrument provides a 130 X 100 mm picture with brightness and persistence independent of sweep speed. Brightness and contrast can be altered after the sweep has been stored. The trace is retained until renewed by a new sweep. The store can be split with two images simultaneously displayed. One trace can be retained as a reference while the other is refreshed. Separate brightness controls provide easy identification of traces. Other features include a 100 dB displayed range, 0.1 dB and 5 Hz resolution, an integral 9-digit frequency counter, and a built-in sweep generator. The price is \$14,900.

The Audio Frequency Response Analyser RA200&ADS1 for automatic curve display, storage, and analysis is manufactured in England by Wayne Kerr, a member of the Wilmot Breeden group of companies, 442 Bath Rd., Slough, Berks, England. It is distributed in the United States by Hammond Industries Inc., 155 Michael Dr., Syosset, NY 11791. It is a two-part instrument, the ADS1 being a display store having two electrically separate sections — an audio-frequency sweep oscillator and a detector system with frequency-measuring circuits and a calibrated display.



The oscillator provides a low-distortion sinusoidal output adjustable from 80 mV to 12 V which can be swept through any desired band of frequencies between 20 Hz and 30 kHz or between 200 Hz and 200 kHz. The sweep is exponential at a rate which can be varied continuously over a wide range and can be initiated by a pushbutton or remotely.

The detector has a maximum sensitivity of -80 dB (relative to 775 mV) and a calibrated input attenuator. It measures the audio signal from the item under test and produces a direct-reading plot of amplitude against frequency. No sync signals are needed because the horizontal position of the spot at all times is determined only by the frequency of the incoming signal.

This unit is powered by the RA200 and incorporates rechargeable batteries which automatically maintain supplies to the four stores, giving hold-up of data even when the RA 200 is unused for several days. The ADS1 records and reproduces complete traces by storing corresponding X and Y values for all parts of the display. These figures are monitored every 40 μ s giving a continuous curve including all fine detail. Readout from the stores is at 100 scans/s, with the original, absolute level and frequency preserved. The RA200 is priced at \$7858 and the ADS1 is priced at \$3985 — a total of \$11,843 for the combined unit.

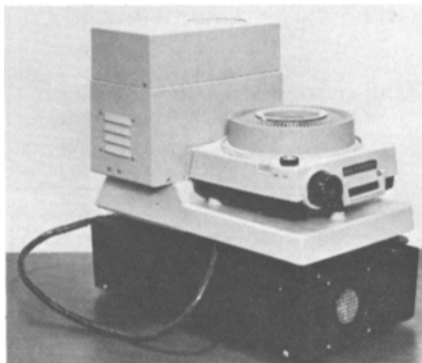


The Director 24, a microprocessor-based audio-visual multi-image memory programming system which eliminates recording digital data onto audio tape in real time, has been announced by Spindler & Sauppe, Inc., 13034 Saticoy St., North Hollywood, CA 91605. The system controls A/V presentations directly from cues stored in its electronic memory. Simple 1000-Hz synchronization pulses, recorded onto a separate track of the soundtrack tape, are used to call cues from memory in prerecorded presentations; a dual-button remote control is used in live presentations. Cues can be played back from memory as fast as 64 cues/s. In addition to the digital certified cassette, the Director 24 also features the ability to automate up to 6 three-projector or four-projector dissolves or up to 12 two-projector dissolves, plus as many as 24 auxiliary devices.

The system is designed to be a modular, one-step-at-a-time building block system which can be very simple to begin with; then module by

module, it can be added to as required. Prices for complete systems range from \$7000 to \$12,300.

The AnimeX[®] Anamorphic S 8/2X projection lens designed for the Cineavision[®] System has been developed by Optische Werke Isco of Göttingen, Germany, a subsidiary of Jos. Schneider & Co. The announcement was made by Schneider Corp. of America, 185 Willis Ave., Mineola, NY 11501. The Cineavision System makes possible the projection of a wide-screen or CinemaScope image from a compressed film picture in the super-8 or 16mm format. The effect is achieved by the use of cylinder lenses which are effective in only one direction. The height of the image remains unchanged while the width is doubled. The lenses can be used on all commercially available super-8 projectors. The new Isco lenses are said to sharpen significantly the image projected on the screen, to maintain focus without readjustment, and to add substantially to light-transmission efficiency.



The Xenographic 500FM System comprising the Xenographic 500 high-intensity xenon slide projection system with the FM module mounted on it (as shown above), has been announced by Optical Radiation Corp., 6532 North Irwindale Ave., Azusa, CA 91702. The system is designed to convert the slide projector into a fade/dissolve system. Capable of fast cuts, variable dissolve rates, flashes, superimpositions and animation, it is designed to interface with any standard programmer with no modification, using Kodak Ektagraphic connectors. Applications include special effects multi-image shows, fade/dissolve slide shows and other programs which use 2 X 2 in slides. The price is \$1295.

The Entre 7600A Dissolve Unit, a device for producing special effects for slide shows, has been announced by Simon & Associates, 1019 Trillium Lane, Mill Valley, CA 94941. Designed specifically for use with Kodak projectors, the unit uses only its dissolve control knob to produce effects such as cuts, dissolves, fades, flashes, tilting, and animation. The device is supplied with two projector cords to be plugged into the back of the Kodak slide projector. The knob requires only a turn to the left or right to regulate the corresponding projector. The dissolve time is determined by the speed at which the dissolve control knob is turned. Fades can be programmed by dissolving an image from one of the projectors into a black slide. Flashes can be produced by turning the knob from one extreme to the center and back again. Tilting is accomplished in the same manner as a flash but at a slower rate. Animation can be produced by



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turning the control knob rapidly to either extreme. Price of the Entre 7600A is \$295.

The firm also announced the Port-A-Screen, a lightweight, easily handled screen available in three sizes — 40 × 40 in, priced at \$49.95; 50 × 50, priced at \$69.95; and 60 × 60, priced at \$89.95.



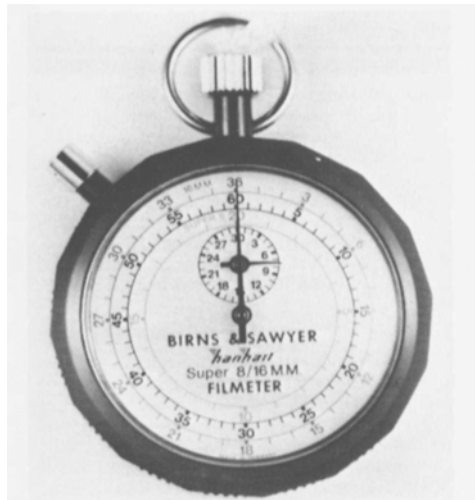
A series of handheld calculators (Series E) has been announced by Hewlett-Packard, 1501 Page Mill Rd., Palo Alto, CA 94304. The series includes three scientific models, the 31E, 32E and 33E. The 31E (shown above) has, in addition to the standard arithmetic, logarithmic and trigonometric functions, fixed, and scientific display modes; and rectangular/polar, degree/radian, inch/millimeter, Fahrenheit/Centigrade, and pound-mass/kilogram conversion keys. It is priced at \$60. The 32E has all the features and functions of the 31E together with an engineering display mode. It has also a gallons/liters key, a decimal degree, and hours/minutes, seconds key and a collection of statistical functions. It is priced at \$80. The 33E has all of the features of the 32E except hyperbolics, metrics and certain statistical functions and offers 49 lines of fully merged keystroke memory. It is priced at \$100.



Two new multimeters have been announced by Eico Electronic Instrument Co., 108 New South Rd., Hicksville, NY 11801. Model 272 (shown above) is a digital multimeter said to have an accuracy of 0.5% on dc volts and 1.0% on all other functions. The instrument reads out up to 1000 V dc, up to 600 V ac, up to 1000 mA dc and ac and up to 1 MΩ on three 0.3-in LED digits. It is fully protected against overload and uses the industry-standard 10-MΩ input impedance. The price is \$69.95.

Model 4A4 multimeter has been added to the

firm's Truvohm line. It is a 4000 Ω/V general-purpose instrument with 17 ranges. The meter measures up to 1000 V dc and ac, up to 250 mA dc and up to 2 M resistance. The movement is diode-protected. The price is \$17.95.



A super-8/16mm stopwatch has been announced by Birns & Sawyer, Inc., 1026 N. Highland Ave., Los Angeles, CA 90038. In addition to the super-8/16mm footage dial, the watch also records elapsed and accumulated time. The watch is large and easy to read. It is resistant to dust and water, shockproof, and antimagnetic. The price is \$52.50.



A new Multi-Mirror™ 50-h EJL projector lamp (shown above) has been announced by General Electric, Nela Park, Cleveland, OH 44112. Designed for screen uniformity and lamp-to-

lamp consistency for 16mm projectors by Kodak, Singer, Viewlex and Kalart Victor, the 200-W, 24-V EJL lamp features a new variation of General Electric's exclusive faceted reflector design. In the new lamp the reflecting surface is made up of long, slim reflecting strips rather than tiny rectangular shapes as in earlier GE Multi-Mirror lamps. Also announced was an improved 250-W, 24-V ELC lamp designed for Bosch Bauer, EIKI, and Elmo 16mm projectors. The lamp is of the new Multi-Mirror design and has a 50-h life rating. Both lamps have 2-in diameter reflectors and incorporate a tiny Quartzline® filament tube as the light source. The EJL lamp is priced at about \$14.70 and the ELC is priced at \$15.45.



A 16-channel clip-on Logic Monitor, Model LM-1, for testing a digital dual in-line plug (DIP) has been announced by Continental Specialties Corp., 44 Kendall St., P.O. Box 1942, New Haven, CT 06509. An LED at each pin indicates the state of that pin by lighting or remaining dark. By monitoring an entire 14- or 16-pin DIP at once, the logic monitor reveals the action of the package as a whole. Model LM-1 tests DTL, TTL, HTL and CMOS logic families. It automatically seeks out the highest positive and lowest negative voltage levels and draws its power from the IC under test. Individual comparators at each pin (100,000 Ω input impedance) drive individually-labeled LEDs "on" for a high and "off" for a low logic level. The price is about \$74.95.

The LM-2 (shown above) includes a fully isolated line-operated power supply to eliminate test circuit loading. Clip leads ride the supply rails to derive the proper comparator levels. A switch selects RTL, DTL, TTL, HTL or CMOS family operation. The price is about \$129.95.

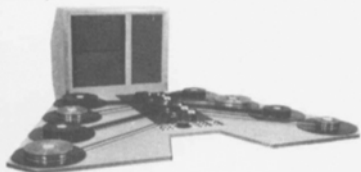
A super-8 1200-ft Plio-Magic® plastic reel has been announced by PRC of America, 640 South Commercial Ave., Carlstadt, NJ 07072. Up to 80 min of super-8 film can be shown without interruption through the use of the new reel. Although primarily for home use, the reel can be used for commercial and industrial purposes. The life span of the new reel is said to be longer than comparable metal reels because the plastic is corrosion-resistant and does not crimp, rust, or dent. The price of the super-8 1200-ft reel is about \$5.

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