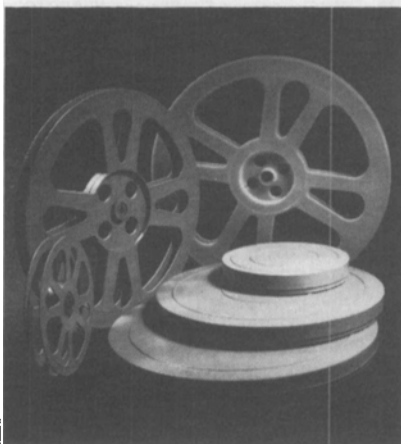
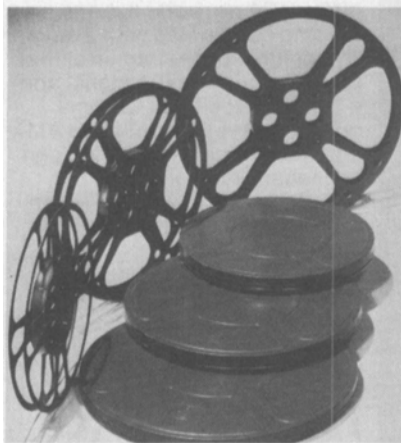


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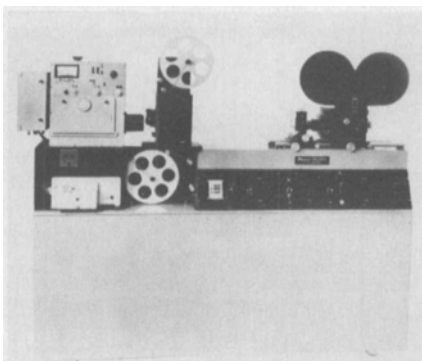


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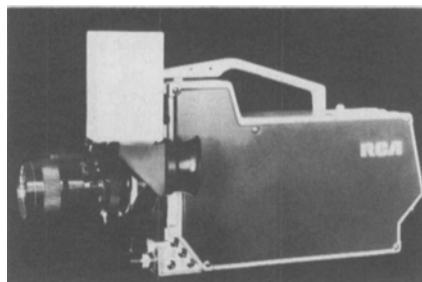
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# New Products & Developments

*Further information about these items can be obtained 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.*

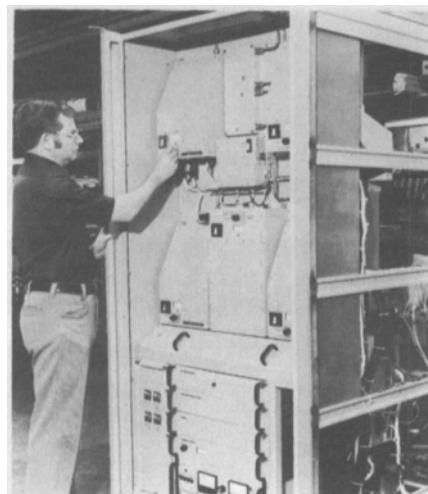


A new line of optical printers called the Pioneer-Trebes line has been announced by Pioneer Marketing Corp., 1021 N. Lake St., Burbank, CA 91502. There are three models, currently available, all featuring the proprietary Microtron electronic drive system. Model 7650 is a single projector printer capable of performing all the basic printing functions required by the optical house or the motion-picture laboratory. It is priced at \$65,500. Model 7650C (shown above) is similar to the Model 7650 with the addition of the Bell & Howell Automatic Color Lamphouse. It can accept Bell & Howell punched paper tape for frame count cueing as well as film with RF tabs or notches for automatic scene-to-scene color corrections. It is priced at \$85,500. The Model 7600 Aerial Image Printer incorporates some innovative features. It is priced at \$89,500. All the printers feature the Acme camera, pin-registered film movements, Nikkor lenses, and a choice of components including super 8, 16mm, 35mm, Vistavision, and 70mm. Several options are available.



A lightweight ENG camera, Model TK-76C, and a retrofit kit to convert existing models to the lightweight version, were announced by RCA Broadcast Systems, Camden, NJ 08102. Enhancements to the TK-76B ENG/EFP camera and to the TK-760 studio/field production camera include a system for comet tail suppression, expanded remote control capabilities, and reduced-width blanking.

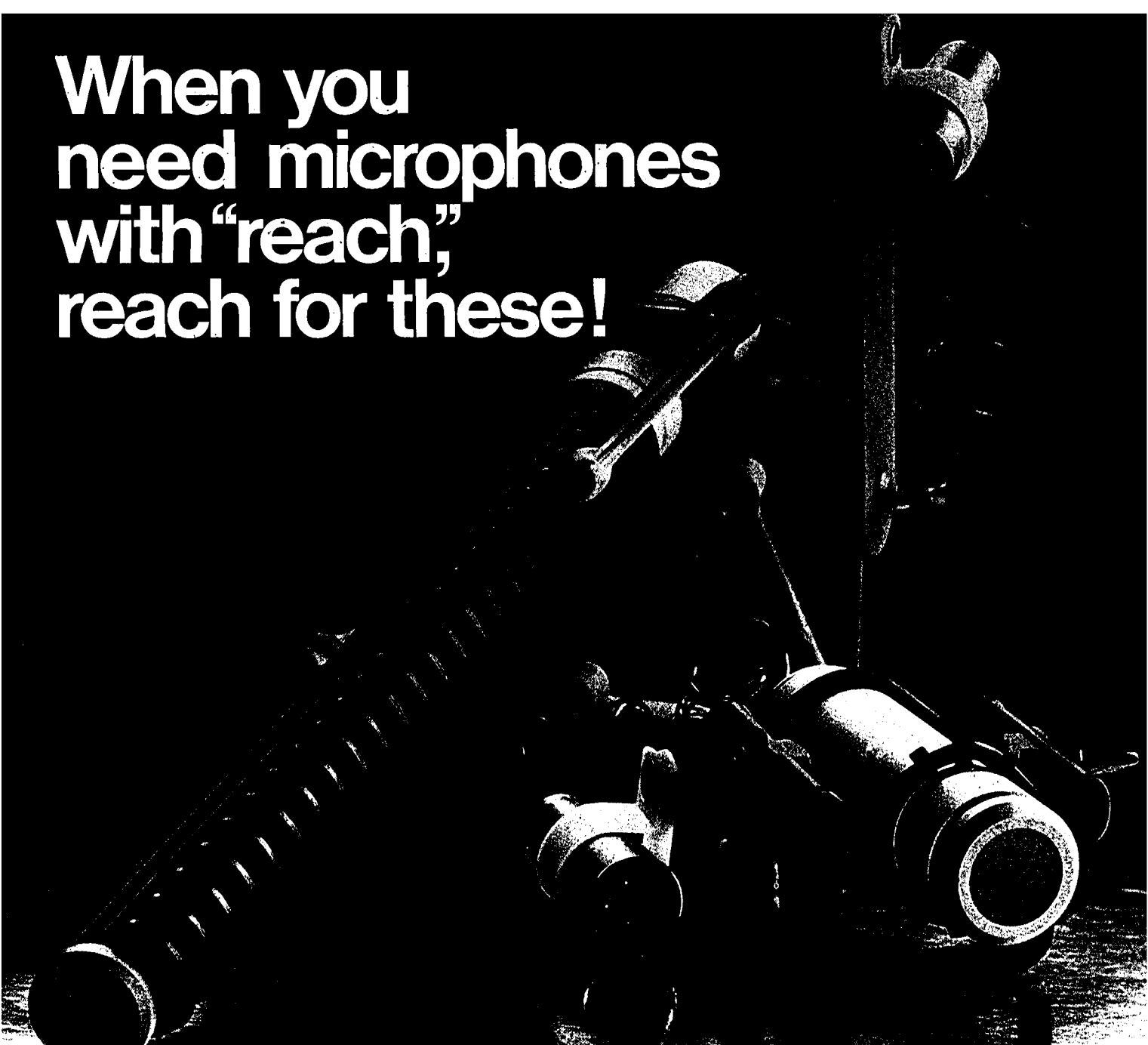
The new system suppresses comet tail without requiring a special tube or degrading tube life. Capability of the multicore cable remote control system for the two cameras has been expanded to permit operation with cable lengths up to 3000 ft. and with automatic timing and equalization. In addition, a Triax method of remote control allows the TK-76B and TK-760 cameras to operate over any standard Triax cable at lengths up to 5000 ft. The new system is adaptable to a wireless configuration, with a portable microwave unit replacing the cable. Both cameras feature narrow, adjustable blanking; these reduced-width horizontal and vertical blanking capabilities are compatible with the industry's tightest specifications. The price of the TK-76C is \$39,550.



A line of 20 lowband and highband television transmitter models, for NTSC, SECAM, PAL-B, and PAL-M applications, was announced by RCA Broadcast Systems, Camden, NJ 08102. Designated the TTG series, they require the use of only two tubes in the entire transmitter design: one visual and one aural, all other circuitry being solid state. A universal crystal oscillator, combined with a frequency synthesizer circuit, accommodates any channel or frequency offset, with both aural and visual frequency controlled by the same crystal.

A single lowband or highband transmitter is rated up to 30-kW of visual power and 6.6-kW aural power output; for a dual transmitter, with two units in parallel, power outputs are 60-kW visual and 13-kW aural. Features include broadband microstrip circuitry for precise control of the signal path; a solid state power controller provides fast, controlled application of plate voltage to the power amplifier tubes and increased overload protection owing to a faster tripoff, eliminating high voltage stress on tubes and other components; and a heat pipe cooling system transfers heat from the power amplifier transistors to a heat sink. The prices of the TTG transmitters vary from \$227,000 to \$265,000 depending on power level and band.

# When you need microphones with "reach," reach for these!



The CL42S is a true cardioid system microphone. It's actually more directional than a mini shotgun mike — the package that's only 4 inches long that weighs less than 6 oz. Specially designed for boom and fishpole use in TV and motion picture studios, but equally at home wherever working space is small and you have need for a compact, highly directional microphone.

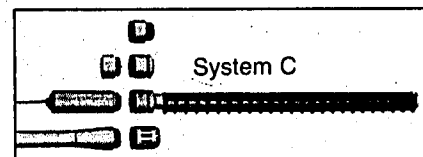
Compatible with phantom or AB power, the CH15S comes complete with windscreen, shock mount and carrying case. And, this microphone is rugged.

The Electro-Voice Warranty  
Electro-Voice backs up these two microphones with the only unconditional warranty in the business: for two years we will replace or repair your CL42S or CH15S microphone, when returned to Electro-Voice for service,

and if you're a professional, buying a professional quality microphone, you shouldn't either.

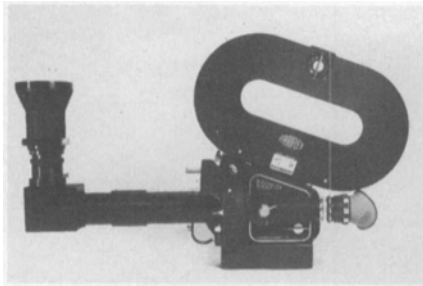
We can do this because we build these microphones to meet our standards for performance, ruggedness and durability. We accept nothing less, and if you're a professional, buying a professional quality microphone, you shouldn't either.

System C



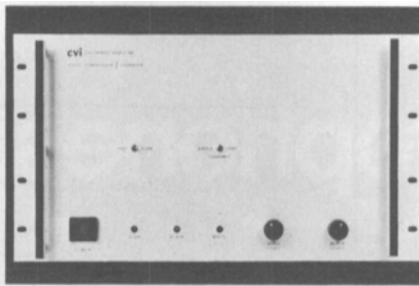
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A small lightweight snorkel lens, designed for handheld universal camera usage, was announced by F & B/Ceco of California, Inc., 7051 Santa Monica Blvd., Hollywood, CA 90038. The Hajnal Snorkel is 12 in long and weighs 40 oz. It can be mounted on any motion-picture camera (35mm, 16mm, and super 8, including Mitchell, Arriflex, Panavision, and Eclair), television cameras (both studio and portable), as well as 35mm still cameras. Mounts and adaptors are available for all these. The snorkel lens accepts any prime lens in Arriflex mount from a focal length of 5.7 mm and up, including all zoom lenses. The price of the Hajnal Snorkel is \$3495.

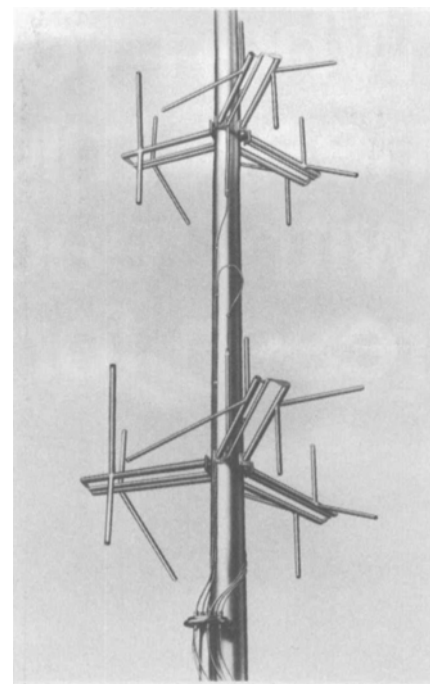
The Video Transceiver, Model 280, designed to provide narrow band video communications over standard voice grade telephone circuits, has been announced by Colorado Video, Inc., Box 928, Boulder, CO 80306. Three basic functions are provided: (1) a frame freeze capability that can capture a single image to be assessed for quality before transmission; (2) conversion of the frozen picture to a slow scan television signal suitable for transmission over audio channels; and (3) reception of slow scan television signals



and reconversion to a still image on a normal television monitor.

In the transmission mode the 280 accepts a conventional CCTV input signal that is digitized on command and fed to a solid state digital memory. The output of the memory is then displayed on a television monitor indicating the quality of the image to be transmitted. When a transmit command is given the memory is read out slowly from left to right, with a white cursor on the monitor screen showing the degree of picture completion. Two sending speeds are available — 35 s for a single field picture with  $240 \times 256$  picture elements and 74 s for a full frame picture with  $240 \times 512$  elements, dot interlaced. In the receiving mode the 280 accepts slow scan television input signals and reconstructs a conventional television still picture. The 280 is priced at \$8,000 for the fast transmission mode and \$10,000 for the higher resolution (74 s sending speed) mode.

A circularly polarized television broadcast antenna was announced by RCA Broadcast Systems, Camden, NJ 08102. Model TDM, a dual mode VHF antenna for channels 2 – 6, is designed for tower top mounting and uses a sin-



gle radiator for both horizontal and vertical polarized signals. The antenna's design results in windload characteristics which permit it to replace an existing six-bay horizontally polarized superturnstile antenna. The TDM consists of seven layers, each containing three radiators mounted symmetrically around the pole. The antenna produces a circularly polarized power gain of three in each polarization. The price of the TDM is \$190,000.



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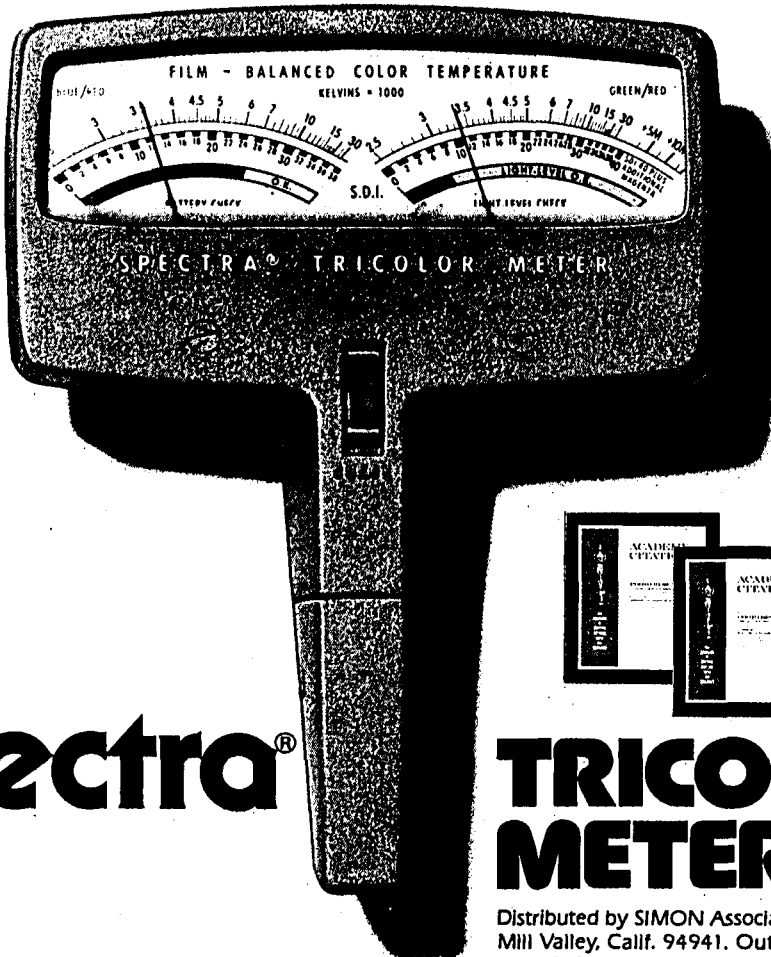
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You're a professional photographer, or an advanced amateur, and you've got a pretty sizeable investment in first class photographic equipment. When you shoot, the results are important. Yet sometimes, in spite of careful metering, your color film comes back from the lab with unacceptable color balance and you've lost irreplaceable pictures. What went wrong?

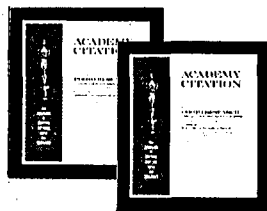
# WHEN YOU SHOOT COLOR A FINE CAMERA IS NOT ENOUGH

The problem is that the color temperature of light varies constantly, while color film is balanced for an ideal light source, either tungsten or "average" daylight. To match color film to actual light conditions you need color filters, and only a color meter can predict the filter required. And, even then, basic color meters only measure Blue/Red variations and cannot predict filter correction for Green/Red variations.

The Spectra® TriColor,™ is a Full Spectrum color meter and measures all three primary colors—blue, red, and green—for still and cine photography. It will accurately analyze the color temperature of any light source—fluorescent, incandescent, arc, mercury vapor, outdoors in shade or at high altitude—or any mix of them. Its readings are quickly converted, with the simple computer card provided, into the appropriate filter pack and exposure compensation data.



Spectra meters are made by Photo Research, the company that won two Academy Awards for the color temperature principles used in the original 3-Color meter and in the improved Tri-Color meter. Their exposure meters are the standard for accuracy in all major movie studios.



# Spectra®

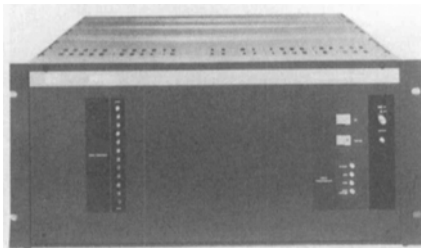
# TRICOLOR™ METER

Distributed by SIMON Associates, 1019 Trillium Lane, Mill Valley, Calif. 94941. Outside Calif. (800) 824-7888, Ext. A179; Inside Calif. (800) 852-7777, Ext. A179. Manufactured by Photo Research Division, Kollmorgen Corp., Burbank, CA



A digital effects system, the Quantel DPE 5000, was announced by Micro Consultants, Inc., P.O. Box 10057, Palo Alto, CA 94303. Features include circuitry to accept any NTSC color television signal together with standard sync inputs, a preprogrammed DEC LSI-11 minicomputer, zoom out to infinite compression, full-frame and compressed-image variable picture positioning, and freeze frame. The DPE 5000 also features fixed and variable border generator, position and size preselect, transition preselect, horizontal and vertical squeeze, effects and chroma key tracking, and interface to switcher with 50-ft cable. The price of the digital effects system is \$79,500.

A digital noise reducer for television transmission, Model LDM 3001, was announced by Philips Broadcast Equipment Corp., 91 McKee Drive, Mahwah, NJ 07430. The LDM 3001 provides automatic noise reduction by assessing input noise and picture content and movement for each individual portion of the processed picture, element by element; then fully adaptive detection circuits adjust the operating threshold for input noise levels over a wide range. It uses a recursive low pass filter in which the output sig-



nal is recirculated. During movement, an auxiliary side chain detector bypasses this filter to preserve picture detail.

In series with the main store of the noise reducer is a predictor which adjusts the subcarrier phase of the stored signal to make it equal to the incoming subcarrier, precluding wide variations which usually occur in picture to picture differences in areas of high color saturation. Specifications for the noise reducer, in relation to NTSC and PAL systems, include input return loss of 40 dB at 4.43 MHz, two program inputs, output return loss of 40 dB at 4.43 MHz, gain unity, and differential gain 0.5% and differential phase 0.5° (both excluding quantizing errors).

Overall dimensions for the automatic noise reducer are 8¼ in (high) × 19 in (wide) × 24 in (deep). The price of the LDM 3001 is \$38,800.

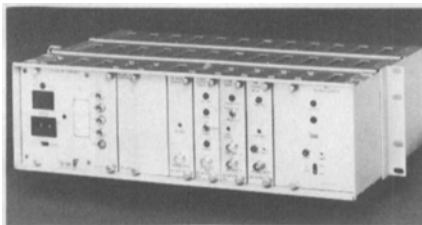
Four accessories to the MCI/Quantel DPE 5000 digital effects system were announced by Micro Consultants, Inc., P.O. Box 10057, Palo Alto, CA 94303. The first, the DPE 5000/Plus, permits digital manipulations to be performed on three, four, or five channels simultaneously. The basic option in the 5000/Plus is

housed in a 48-in-high enclosure and includes two effects units connected to the master DPE 5000. It yields a total of three channels and is priced at \$75,000. Two additional effects units, providing four or five channels, may be added to the 5000/Plus system at any time and are mountable on the same 48-in rack. They are priced at \$25,000 each.

The second, Digiflip, is a picture reversal effect that is used to create spinning and tumbling effects. The price is \$2,000.

The third, Autoflex, includes a special-purpose minicomputer and a small control panel connected to the DPE 5000. Autoflex utilizes two-dimensional picture zoom control. The picture can be stretched horizontally and vertically, and among the effects that can thus be created is a pyramid, whereby pictures or titles appearing from the bottom will apparently disappear into the distance. The small Autoflex control panel includes 16 shape and preselect buttons, an invert switch to reverse the shapes, take function (causing the effect to appear immediately), and ooze function (causing a gradual change from one shape to another according to a preselected rate). The Autoflex is priced at \$38,500.

The fourth, Multilink, is a timesharing option for the DPE 5000. Two versions are available: a routing matrix for single unit DPE 5000 installations with more than one studio or edit bay, and the same system with an additional machine assignment panel for multiple (up to four) unit users. The price of the Multilink is \$5,000, the optional multiple-use panel costs \$1,500.



The FV2CR central receiver, specifically designed to minimize the problems of weak signals and distortion related to ENG transmissions has been announced by Farinon Video, 1680 Bayport Ave., San Carlos, CA 94070. The receiver has a dynamic range of at least 82 dB (-5 dBm to threshold) and compensates automatically for varying signal strengths. It can operate with a minimum system fade margin of 20 dB for transmission distances up to 300 miles. Transmissions originating as close as ¼ of a mile do not overload the front end of the receiver. It operates from 1.99 to 2.11 GHz. Twenty-one synthesized, phase-lock channels are selected remotely or manually. The receiver has a narrow band IF saw filter (standard 10 MHz, optional 15 MHz) to provide maximum adjacent half-channel selectivity of more than -45 dB with minimum transmission degradation. It has an RF noise figure of 3.0 dB. The standard audio subcarrier frequency is 4.83 MHz; optional is 6.2, 6.8, or 7.5 MHz with 15 MHz IF filter. The FV2CR is available in a standard 19-in rack-mount configuration, occupying three rack-mounting spaces. Prices range from \$8,600 to \$10,800 depending on the options ordered.

A series of monochrome television monitors, featuring an automatic luminance level control that maintains a set contrast-level independent of signal strength, was announced by Cohu, Inc., Box 623, San Diego, CA 92112. The DM series is of solid state modular construction with interchangeable quick-disconnect circuit boards. The series includes three picture

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The Model MH-1000 features true human-engineering for maximum operator comfort and efficiency, and complete film protection.

- Utilizes 4-sided prism for minimum flicker.
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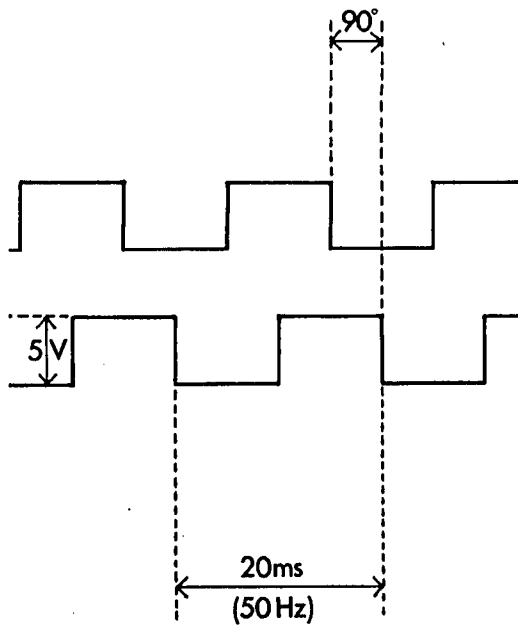
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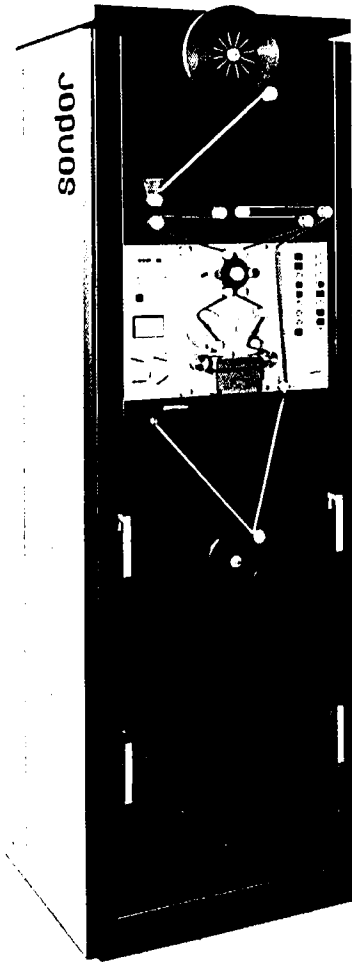
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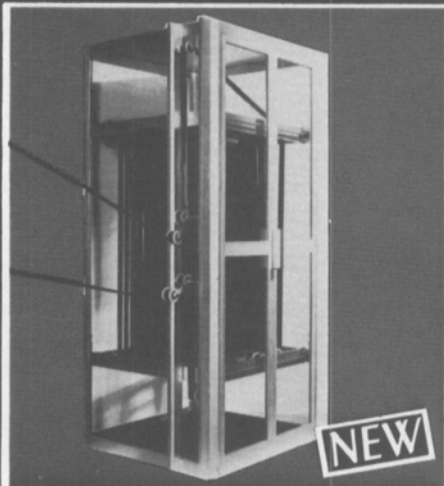
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Three models of LMC's new Film Facit Projector allow you to inspect film on line as it comes off the processor — or off line in either a flat bed (shown) or upright model.

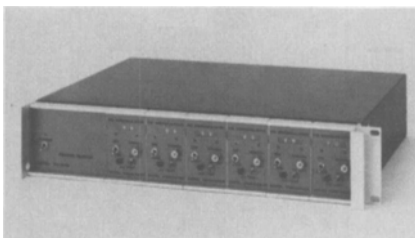
- One projector handles all formats from 8 mm to 35mm.
- Simple one second "threading."
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- Quiet, compact, efficient, economical.

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tube sizes: 9-in, 14-in, and 17-in available in both cabinet and rack-mount models. The 9-in model is also available in a dual rack configuration.

Options include CRT phosphors P31, P39, and P42; remote contrast and brightness control; external drive capability; rack slides for the 17-in model; a tally light for the 14- and 17-in models; a yoke mount for the 17-in model; and an under-scan switch. Prices start at \$745 for the 9-in model.



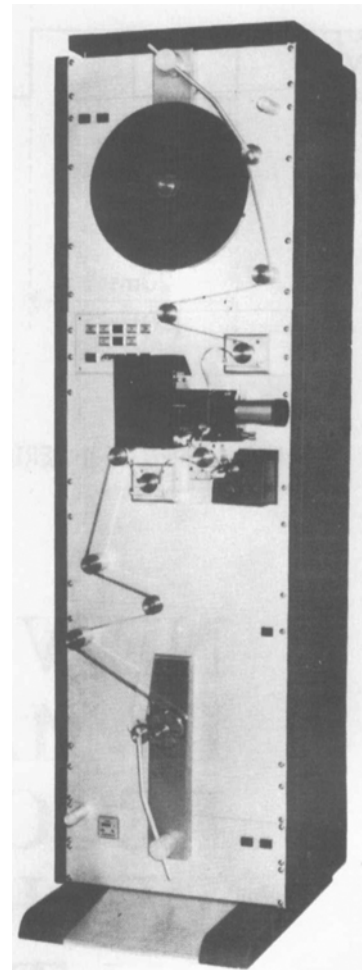
An FM demodulator for satellite, microwave radio, and CATV/CCTV coaxial cable applications has been announced by Catel, 1400-D Stierlin Rd., Mountain View, CA 94043. Designated the FMRX-2400, the crystal controlled unit can demodulate monaural program channels, TTL data, and slow scan television transmissions on any frequency from 4 through 300 MHz. The instrument is of modular construction (2-in wide modules) permitting the installation of up to six demodulators with an associated power supply in a 3½- x 19-in cabinet (relay rack shelf). Power supplies are available for 117- and 220-V ac and 24- and 48-V dc. Audio output is rated at +8 dBm at 100% modulation into balanced 600 with low distortion. Response is flat to 15 kHz. The price is \$375 per channel.



A 1-in helical scan VTR, Model TH-200, was announced by RCA Broadcast Systems, Camden, NJ 08102. The VTR conforms to the SMPTE Type C Format. It includes a built-in capability for both manual and automatic editing. The editing function provides for automatic preview, editing, and review of each edited segment. In preview mode, the automatic editing function prerolls the videotape to the selected editing point, displays the edit on a monitor, and stops the tape at the edit out point. The TH-200 also offers manual editing functions for both assembly and insert editing. A single control dial permits bidirectional search in two different

search modes. The recorder also features simultaneous playback on both video and sync channels to permit monitoring of materials while recording.

An optional dynamic tracking accessory is designed for noise-free playback of video over a wide range of tape speeds from 1/8 speed in reverse to two-times normal speed in forward, including still pictures. With dynamic tracking the stability of the playback video is maintained even during speed changes. The price of the TH-200 is \$45,000 or \$55,000 with dynamic tracking.



A 16mm studio projector, the PRS-16-B, has been announced by ATAC S.A., 37, rue Moulin des Bruyeres 92400, Courbevoie, France. The ATAC professional projectors are based on an original intermittent film advance system using only a stepping motor and a sprocket instead of conventional mechanical assemblies (claw or Geneva cross assembly). Features include possible projection speeds from 0 to 40 frames/s forward and reverse without flicker, and rewind or image search speed at 100 frames/s with faster speeds optionally available. The film path is simple, providing easy threading and trouble-free operation even when projecting film with splices or in poor condition. Film wear and possible damage is minimal due to the low-friction film gate and film tension regulation. The film can be easily loaded on either cores or reels.

The projector, mounted on a standard 19-in rack, can accept all lenses with a mounting diameter of 1.67 in, threaded or not. The lens is secured in its receptacle, and focusing is done by micrometric displacement on ball bearings with optional remote servo control. The minimal

# "We use Tiffen filters exclusively at Opryland Productions. We've tried others, but have always returned to Tiffen."



Truett K. Smith

"Tiffen optical filters have enhanced our television production capabilities considerably, here at Opryland Productions.

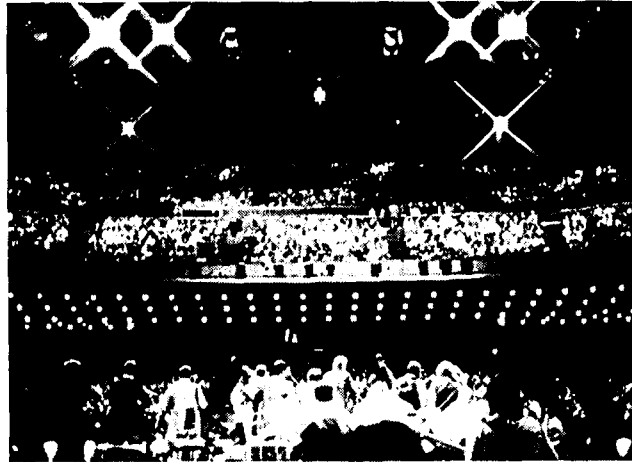
"We are presently using Tiffen filters exclusively in our television cameras. We have tried other types, but have always returned to Tiffen for our needs.

"We have seven RCA TK-45 color cameras, two RCA TKP-45 cameras, and one RCA TK-76 color camera. Each camera presents us with its own unique filter requirements, and Tiffen filters have met each requirement successfully. The TK-45 cameras have an eight position filter wheel. The filters screw into each of the eight positions. Tiffen offers filters *already mounted in the proper threaded mounting ring*. There is no hassle with trying to buy a filter from one company and a mounting ring



from another and *then* hoping the ring will fit the filter. Tiffen supplies the complete package!!

"The same unique situation applies to the TKP-45. It requires an unusual rectangular filter in a custom slide-in mount. Once again, both are available from Tiffen. Since the filter is rectangular and obviously can't be rotated, as the circular ones can, for desired orientation of a four point starburst, Tiffen gives us the option of a 'cross' or an 'X' orientation.



commercial, outdoor commercials around bodies of water where reflections on the surface are a problem, or outdoors where a deeper blue sky is desired. The polarizing filters are also useful for eliminating any undesired reflections and glares which would otherwise distract from the finished product.

"Price is of course always a consideration in choosing any item we purchase, whether it be an optical filter or a complete color camera system. We have learned,

however, that it is very easy to be 'penny wise and pound foolish.' The prices of



optical filters vary greatly from manufacturer to manufacturer. The most expensive we have found, are not necessarily the best. Tiffen's prices are well within reason—they are not the cheapest, but neither do they fall in the most expensive group. Tiffen's lower cost

means that we are able to buy more

Tiffen filters and still remain within our budget.

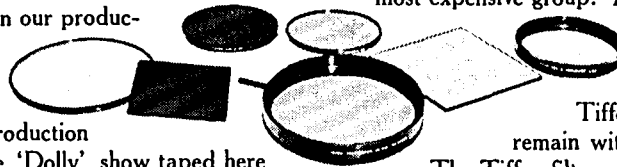
The Tiffen filters we use have been very satisfactory. The availability, delivery, reliability, variety, and prices make Tiffen our first choice at Opryland Productions."

Truett K. Smith  
Senior Video Engineer

"We have a complete assortment of four, six, eight and twelve point star filters to offer our clients. In the early days of the four and eight point starburst filters, we felt that we should offer something different—Tiffen came through with an assortment of six-point star filters for each of our cameras. We also use Tiffen's assortment of low contrast, diffusion, and fog filters. Many a complexion has been softened in a close-up shot by a Tiffen low contrast filter. Tiffen's line of low contrast and diffusion filters offer a range great enough to take care of any situation. The filters are effective and yet subtle enough to give the desired diffusion without giving any indication that the picture is being softened.

We use the Tiffen series of Fog filters when we want to create a "dream" look in our productions. This effect was used several times on the production numbers of the 'Dolly' show taped here at Opryland Productions. The heavier fog filters are especially effective in producing this 'dream' look.

"We also use Tiffen's polarizing filters. These filters are very useful when we are shooting car



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focal length is 1 in; due to the optical characteristics of the light source and associated optics it is not necessary to use a wide open lens — an aperture of  $f/2.8$  is sufficient to get full light on the screen.

The construction resembles that of a videotape recorder with mechanical parts conceived as functional blocks which are preset and attached on vertical panels which also incorporate the various local controls, elapsed time meter, etc.

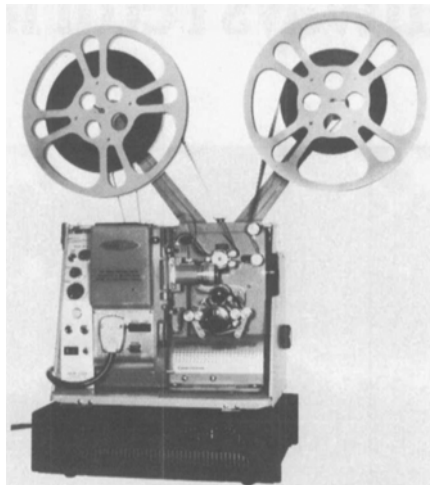
Price of the PRS-16-B (without sound) is about \$16,000. A version with optical and magnetic sound (PRS-16-BS) is priced at about \$19,000.

**A 16mm film projector, Model FR-16, for specialized broadcast and telecine applications, was announced by RCA Broadcast Systems, Camden, NJ 08102. The unit features a 16mm film telecine system with incremental speed settings designed for presenting an illuminated film frame to a telecine camera. A servo-controlled film-drive mechanism functions as a film-drive station using a low inertia dc servo motor with a large diameter sprocket.**

Other features include "instant" start/stop capability. Start, from zero to cine speed (24 or 25 frames/s), occurs in less than five film frames. Stop occurs in less than one film frame. A smooth stop-reverse-start sequence, as a special effect, occurs in less than  $\frac{1}{2}$  s. The speed can be adjusted at an incremental film rate from 0 to 48 frames/s, in either forward or reverse modes, providing a post production tool for special effects, repositioning of program material, and editing. In the freeze frame mode, the application of light remains the same as when the pro-

jector is operating, with no degradation of the picture.

The FR-16 can be locked to an incoming 50 or 60 cycle power line. For telecine operations, the system can be locked or referenced to television vertical sync for improved picture quality. The price of the projector is \$26,500.



Two 16mm sound projectors were announced by Kalart Victor Corp., Plainville, CT 06062. Model 80-25MC35 (shown above) and Model 70-25MC35 can be used with either Marc-300 or Marc-350 GE Quartz lamps in conjunction with a newly developed power supply. Model 80-25MC35 uses a solid state amplifier, Model 70-25MC35 has a tube amplifier.

Both models feature safety trips, for stop-

ping the projector instantly and automatically in a film emergency; color coded threading; forward, reverse, sound speed, and fast rewind controls; and a 12-in separately cased speaker with a 75-ft cord. With an optional built-in 5- x 7-in door mounted speaker, Model 80-25MC35 is priced at \$1970 and Model 70-25MC35, \$1860.

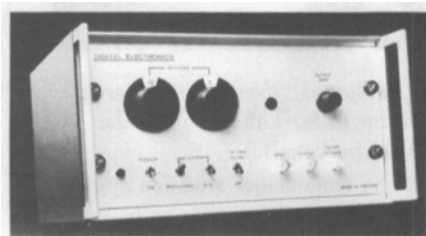
**A modular projector, available in several configurations for on-line and off-line film inspection, has been announced by Lab Methods Corp., 7645 Densmore Ave., Van Nuys, CA 91406. Model Film Facit™ translates continuous motion into intermittent display via a 24-facet polygon, eliminating the shutter, pulldown claw, sprockets, belts, and other complex mechanisms. All widths of film from 8mm to 35mm may be run on the same machine. There is no gate to scratch the film, and full aperture projection permits inspection of soundtrack and perforation areas — if only the picture is to be viewed, unwanted areas can be masked.**

The projector can be run forward, reverse, or stopped frame, with speeds ranging from 0- 20 times sound speed. When used for on-line inspection at the takeup station of a processor, the processor drives the polygon at its own speed, and the film may be stopped for critical analysis. The basic unit price is \$6100, plus options and accessories.

**A high speed Auto-Demand Loop Cabinet, for use in printing multiple copies with a continuous printer, has been announced by Lab Methods Corp., 7645 Densmore Ave., Van Nuys, CA 91406. The system will operate automatically at speeds greater than 1500 ft/min. It is composed of a modular cabinet, housing four banks of rollers mounted on two carriages; electronic controls and power supply; and remote control mounted on the printer. Each top roller shaft is driven by its own motor whose speed is automatically adjusted by a sensor. Low mass polypropylene rollers combined with low inertia PM torque motors immediately respond to printer starts and stops.**

The basic module accommodates up to 500 ft of 16mm or 35mm film. If only 16mm film is used, 16mm rollers can be fitted for a capacity of 1200 ft. When utilizing both 16mm and 35mm shafts, the cabinet can be used to full capacity by a changeover which takes a few minutes.

Access to the interior is from both sides through full length folding doors that occupy one foot of space when open. Right or left hand modules are available. Compatible pairs can be furnished for picture and soundtrack. The Loop Cabinet measures 35 x 33 x 79 in and weighs 275 lb. Power requirements are 115 V, 60 Hz, and 5 A max. The price is \$5995.



**The Digi-Tel D4060 Video Noise Measurement Unit** has been announced by Digi-Tel Electronics, 20 Trenches Rd., Crowborough, Sussex TN6 1ES, England. The unit, when used with a suitable oscilloscope, allows the measurement of video signal-to-noise ratio to be made either in the presence of synchronizing pulses

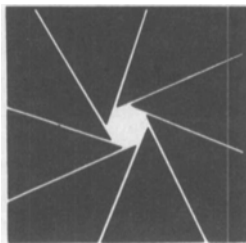
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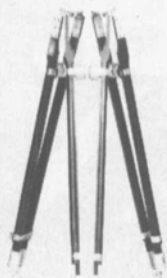
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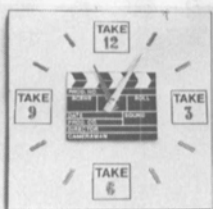
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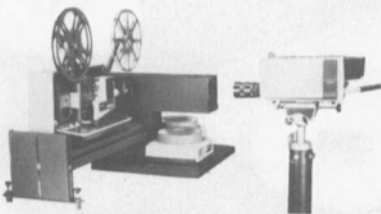


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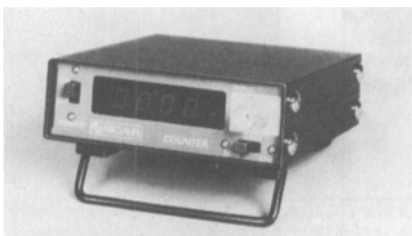
alone or with a simple test signal such as sawtooth. The noise measuring system used by the D4060 is called the Tangential Method and is said to enable an accuracy of up to  $\pm 1.5$  dB to be achieved when measuring white noise.

The D4060 incorporates a CCIR noise weighting filter and a video elimination filter. Both filters may be selected by front panel switches when required. Use of the weighting filter enables noise measurements to be weighted correctly so as to take into account the differing visual effects of noise at different frequencies. When used with an oscilloscope having line strobe capability, the D4060 is said to be capable of measuring noise on a single line of the television picture, e.g., during the frame blanking interval.



A real time audio spectrum analyzer designed to fit inside the Commodore PET computer has been announced by Eventide Clockworks, Inc., 265 W. 54 St., New York, NY 10019. The analyzer divides the audio spectrum from 20 Hz to 20 kHz into 31 third-octave bands and displays the bands with their relative amplitudes on the PET screen. The unit can be used for measuring sound and noise levels, for optimizing the equalization of a hi-fi or public address system, for checking the frequency response of audio components, and for speech and sound pattern recognition.

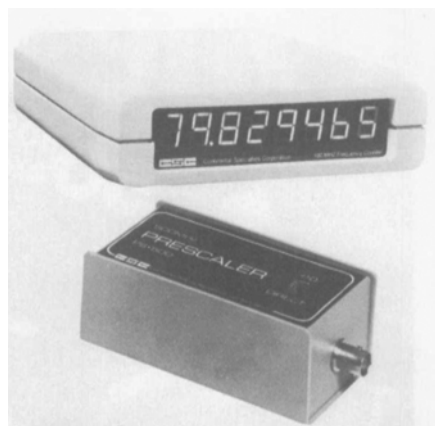
The PET can store and recall spectral data and compare them with past, future, or other channel data. Programs to access the audio analyzer are written in BASIC; three are provided with the unit — Interactive Operation, Self Test, and Minimal Operation. The real time analyzer comprises a single circuit board which can easily be installed inside the PET. It has 31 third-octave filters, detectors, an analog to digital converter, a 1K Read Only Memory that contains machine language routines, and the necessary peripheral circuitry for transferring data into the PET memory. The board draws its power from the PET transformer. The real time analyzer is priced at \$595.



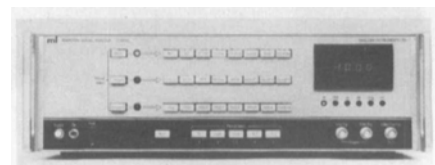
A seven-digit multifunction frequency counter was announced by Soar Corp., 200 13th Ave., Ronkonkoma, NY 11779. Model FC-841 covers the 10-Hz to 50-MHz range. The tilt-view stand, all-steel case, and a 0.3 in high light-emitting-diode readout facilitate trouble-

shooting. Supplied with four AA batteries, the counter can be plugged into an ac outlet or an automobile's cigarette lighter.

The FC-841 has a gate time of 100 ms and a sensitivity of 30-mV rms up to 30 MHz, decreasing to 60-mV rms at 60 MHz. The time base stability of the counter is 3 ppm from 68° – 86°F. The frequency counter also features a switch for selecting the kilohertz or megahertz ranges. The price is \$90.

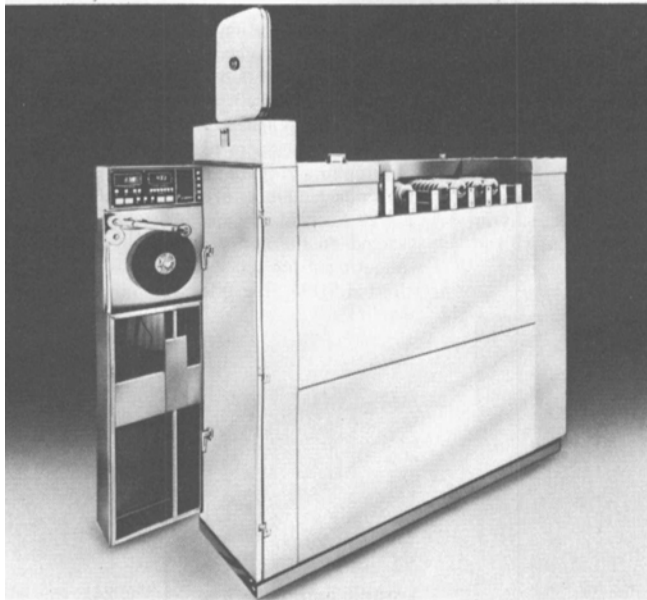


A combination frequency counter and prescaler has been announced by Continental Specialties Corp., 70 Fulton Terrace, New Haven, CT 06509. The MAX-100 frequency counter gives 1-Hz resolution at frequencies below 99.999999 MHz; in combination with the PS-500 prescaler it offers 10-Hz resolution to 500 MHz. Additional accessories are available. The price of the MAX-100 is \$134.95, and \$59.95 for the PS-500.

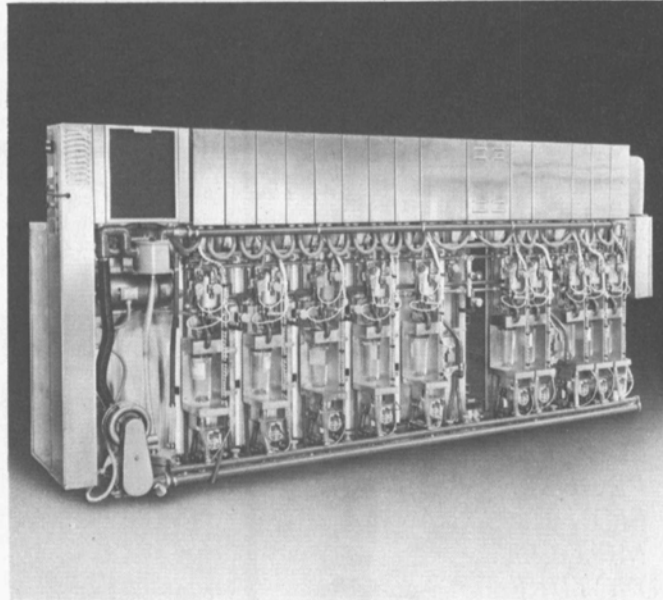


The Insertion Signal Analyzer, Model 2914A, has been introduced by Marconi Instruments Division of Marconi Electronics Inc., 100 Stonehurst Court, Northvale, NJ 07647. The instrument measures a variety of video parameters in the television system using waveforms inserted into the vertical interval of the program signal. Five video inputs are provided, each input being individually selected by front panel pushbutton. The parameter chosen for measurement is also selected by manual pushbuttons specifying the group to which it belongs and the identity of the parameter itself. Measured results are presented on a digital panel meter which provides automatic indication of decimal point and sign, the units being indicated below the meter by an LED. Parameters that can be measured include: luminance bar amplitude, sync amplitude, 2T pulse to bar ratio, chrominance to luminance gain inequality, chrominance to luminance delay, luminance nonlinearity, signal to noise ratio, chrominance to luminance crosstalk, low frequency error, bar tilt, 2T K factor, differential gain, differential phase, multiburst, color reference burst amplitude, flag amplitude, and three auxiliary dc inputs. The base price is \$11,500.

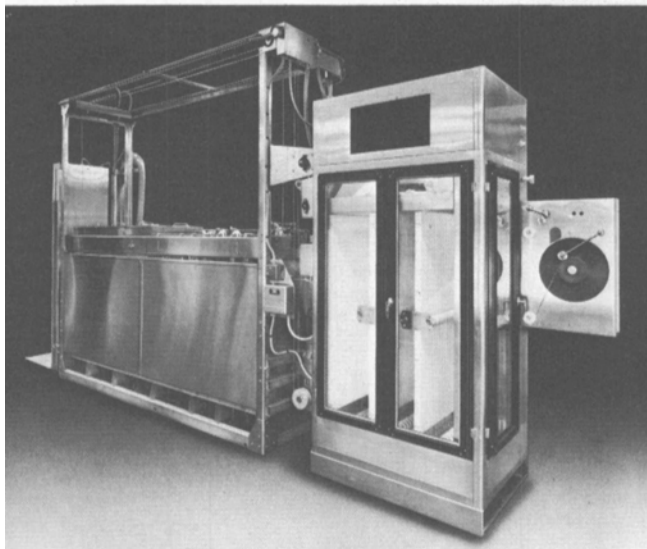
A waveform monitor, Model XWM-2200, a free-standing unit designed for either bench use or dual rack mounting, has been announced by Sharp Electronics Corp., 10 Keystone Pl., Paramus, NJ 07652. The monitor features a digital



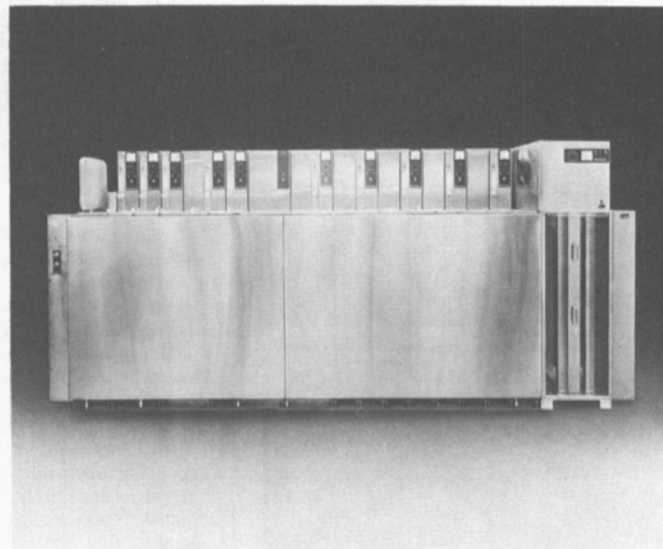
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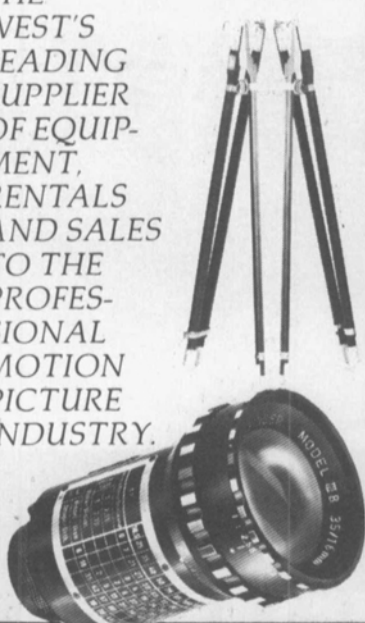
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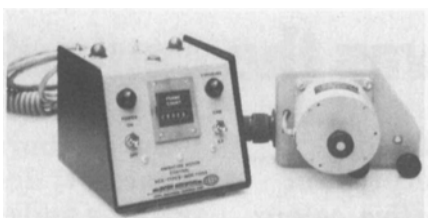
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readout which shows the exact number of the line being displayed on its screen. The high voltage (4 kV) tube is said to produce a bright display consistently. The monitor shows two lines, two fields, vertical blanking, and horizontal blanking. The vertical ranges are 4 V and 1 V with an 2x and 5x magnification for the 1-V scale. Other features include switchable A and B inputs and can be triggered either internally or externally. The display area is 6 x 10 cm with an IEEE graticule. The price is \$1200.



A xenon rectifier was announced by Eprad, Inc., 123 W. Woodruff, Toledo, OH 43620. The rectifier comes in three wattage sizes: 2000 W, 3000 W, and 4000 W. Features include a control knob on the top of the rectifier cabinet providing a continuously variable voltage capability; avalanche diodes to safeguard against the impact of lightning strikes; a General Electric metal oxide varistor to prevent spiking; and temperature detectors in the diode bank to shut the rectifier down should excessive heat accumulate due to failure of the cooling fan. The Eprad rectifier has an efficiency rating of between 88% and 95%, depending upon the operating power desired. The prices are \$2921, \$3346, and \$3642 for the 2000-W, 3000-W, and 4000-W models respectively.

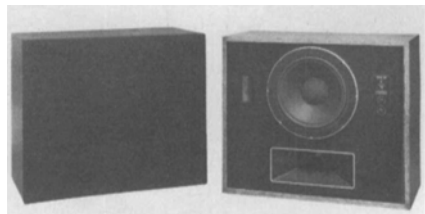


The NCE II animation motor drive system, designed for use with professional 16mm or 35mm cameras for animation or time lapse cinematography, has been announced by Alan Gordon Enterprises Inc., 1430 N. Cahuenga Blvd., Hollywood, CA 90028. The system consists of a motor drive unit, control box, camera adaptor and connecting cables. The motor drive unit is a Slo-Syn synchronous stepping motor. It is a permanent magnet ac motor with rapid starting-stopping and reversing characteristics. It has a shaft speed of 72 r/min synchronous with a line frequency of 60 Hz. The motor is rated for continuous duty and its torque rating is 50 oz-in. The motor rotates only when the continuous or single frame switch is actuated on the control box.

The control box provides remote control and switching functions for the motor drive unit. It is normally supplied with an 8-ft cable to the motor drive unit and an 8-ft ac power cable. All normal

functions for animation and single frame are included. Indicator lights are used to identify specific functions. An outlet is provided for foot or additional remote switch, such as an intervalometer to regulate lights or event action.

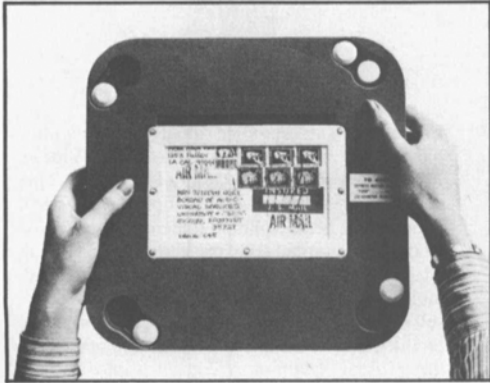
A series of camera adaptors are available for most 16mm and 35mm cameras. An individual adaptor is required for each different make of camera. Each adaptor can be quickly and simply installed on the motor drive unit and camera without need for special tools. The NCE II is priced at \$1195. The price does not include the adaptor.



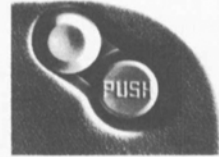
A studio audio monitor, Model 9842, was announced by Altec Corp., 1515 S. Manchester, Anaheim, CA 92803. The audio monitor features a Mantaray horn designed for the elimination of beaming (the narrowing of dispersion at higher frequencies), and a power overload device which monitors the power delivered to the system, automatically correcting any overload while the system continues to operate. Two additional features are the Tangerine radial phase plug and a dual phase equalizer: the Tangerine is designed to eliminate the problem of high frequency loss found in conventional phase plugs; the dual band equalizer allows for separate adjustment of the middle and high frequencies. The price of the 9842 audio monitor is \$570.



The Sportscaster II, a professional boom-mike headset for live sports broadcasting has been announced by Telex, 9600 Aldrich Ave. South, Minneapolis, MN 55420. Model CS-91 features an omnidirectional broadcast quality dynamic microphone which can transmit clearly the announcer's voice over crowd and background noise. An in-line "push-to-cough" switch allows the announcer to mute the microphone if required. Circumaural cushions of the binaural headphone receivers attenuate noise to allow the announcer to monitor the program in one ear while he receives cues in the other. A snap-on foam filled headband cushion provides ventilation during prolonged periods of use. Price of the CS-91 is \$120. Other Sportscaster models are available at prices ranging from \$127.50 to \$140.



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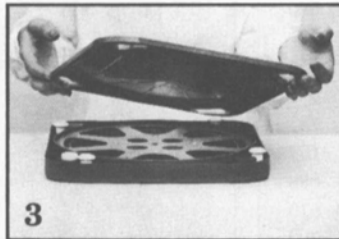
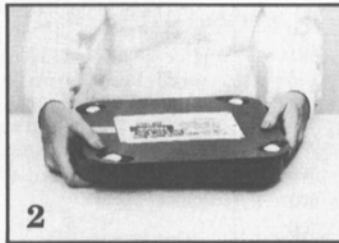
#### Stiff

Even when they *do* lock them — “I dread having to twist all those stiff little plastic locks and then pry off those lids,” says Sandy Morehouse of Motivational Media in Hollywood.



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1. Press down the lock button marked PUSH.
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The case is made of molded polyethylene. Lightweight — and slightly flexible, the better to absorb life's hard knocks. The spring-loaded push-button lock is molded permanently into the case.



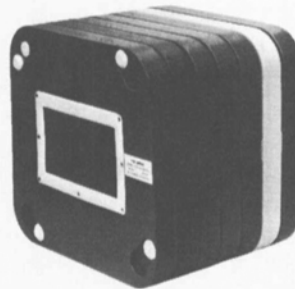
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Cases are square, so you can stack them upright, like books.

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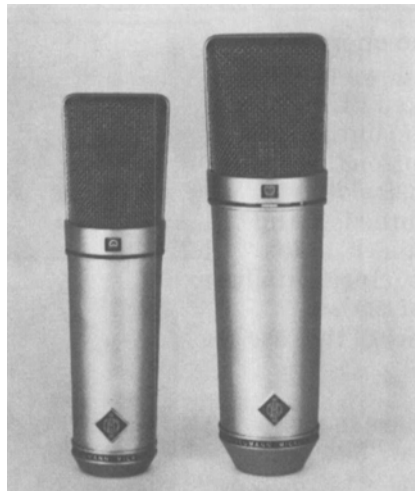
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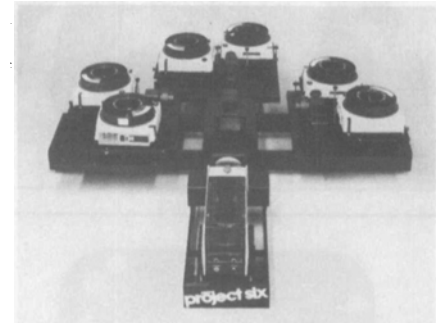
The XSDIV super-8 sound cassette recorder with crystal sync and Dolby sound, said to be suitable for film production in all formats, has been announced by Super8 Sound, Inc., 95 Harvey St., Cambridge, MA 02140. The recorder has been designed to include a built-in 60- or 50-Hz pilotone quartz crystal oscillator. It is capable of recording sound in sync with any super-8, 16mm, or 35mm camera that is crystal controlled or that has a standard pilotone sync output. The XSDIV recorder uses high density chromium dioxide FeCr (Ferrichrome) or standard cassettes. In sync uses it is monophonic with sync on the right channel. It reverts to a stereo cassette recorder in non-sync use. In addition to cableless crystal sync work, the recorder can be cable-connected to pilotone cameras. The 60- or 50-Hz crystal pilotone appears on the right channel (track 2) during crystal operation. A pilotone cable plugged into the right channel overrides the crystal tone with the camera sync tone.

The recorder measures  $9\frac{3}{8} \times 1\frac{7}{8} \times 6\frac{3}{8}$  in. It weighs 3 lb, 12 oz including batteries. The price is \$1495. Available as an option is the Universal Resolver making possible transfers to 16mm and 35mm fullcoat magnetic film, priced at \$300. Transfers to super-8 fullcoat do not require the Resolver because the sound recorder can match its speed to the 60-Hz (50-Hz) pilotone signal.



A condenser microphone, Model U 89, latest of the fet-80 48-V Phantom Powered series, has been announced by Gotham Audio Corp., 741 Washington St., New York, NY 10014. A new condenser capsule provides exposed capsule elements including two gold sputtered polyester membranes all of which are at a 0-V potential thus providing security against capsule failure resulting from humidity, human breath, and accumulating dirt. The U 89 has five directional characteristics — the three basic ones, cardioid, figure 8, and omnidirectional and two additional ones, hyper-cardioid and wide cardioid. The former is an extra narrow pickup angle at the expense of a small black lobe and the latter is a

very wide-angle cardioid described as unidirectional. The U 89 has ten transistors. There are two selectable low frequency roll-off curves — one at 80 Hz and one at 160 Hz turnover frequency plus flat response. Also incorporated is a 6-dB overload protection switch. The price is \$1130.



Project Six, a six-slide input optical multiplexer, has been announced by Buhl Video, 1009 Beech Ave., Pittsburgh, PA 15233. The device is an active image multiplexer designed with optical beam splitters that permit up to six Kodak Ektagraphic slide projectors to operate at once. Used in combination with audiovisual multimedia programming computers and dissolve controls, Project Six offers the ability to produce in the medium of slides and to release in the medium of film or videotape. It may also be used to transfer existing single screen slide programs to video or film. The price is \$5000.



The Scotch Hanger System, designed especially for U-Matic and mini-U-Matic videocassettes to combine security with cassette protection, ease of use, and storage economy, has been announced by the 3M Company, P.O. Box 33600, St. Paul, MN 55133. The system is made up of three elements — a redesigned shipper/storage case, a metal bar that can be cut readily to any desired length and mounted on a studio or storage room wall, and a portable six-pack hanger rack. The case is equipped with a double-action latch that slides closed for storage and snaps securely for shipping. Inside, the case provides a special storage place for the record/lockout button. Stabilizer bars on the bottom encourage vertical storage thus helping to prevent tape-edge damage.

Key to the system is a hanging hook molded into the spine of the shipper/storage making it easy to attach the case to the basic hanger — the metal bar that can be cut to any length and mounted to any vertical surface. A four-wheel mobile cart, which can hold and transport more than 100 boxed or unboxed videocassettes can also be used with the new system. Prices are about \$4.60 per ft section of the hanger bar, available in cartons of 100. A six-pack hanger is \$6.99 and a package of 10 bulk cassette hangers is \$2.29. The mobile cart is priced at \$295.