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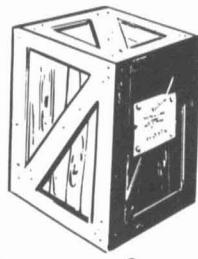
The TK-45A, a new color TV studio camera, has been announced by RCA Broadcast Systems, Front and Cooper Sts., Camden, NJ 08102. The new camera retains the basic three-tube design, the optical system and mechanical arrangement of the TK-44 studio camera series, but advanced components and circuit techniques have made it possible to automate several adjustment procedures that formerly required the camera operator's subjective judgment.

The new camera incorporates a push-button system for maintaining white balance, a camera function which compensates for shifting fleshtones as color temperature changes. Black balance also is achieved automatically. Another built-in control automatically adjusts the lens iris in accordance with the light level reflected from the televised scene. An automatic centering control adjusts picture registration when the cameraman touches a button. As with predecessor models, the TK-45A design incorporates "bias light," a system for minimizing scene lag when the camera is operating under very low light level conditions.

Another innovative improvement, known as scene contrast compression, enables the camera to produce picture detail usually lost in the darker areas of the picture, without affecting picture quality in the highlight areas of the scene. The TK-45A also has the RCA Chromacomp system of color balance which provides for individual control of hue and saturation for each primary color without affecting the gray-scale balance of the picture. The camera is priced at \$62,950. The price does not include pickup tubes, lens or mounting equipment.



A new telecine unit, the B3404, designed primarily for television, has been an-



nounced by Marconi Communication Systems Ltd., Marconi House, Chelmsford, CM1 1PL, Essex, England (U.S. Agent: Marconi Electronics Inc., 500 Executive Blvd., Elmsford, NY 10523). The design is significant in that previous telecines have been derived from cinema projection equipment. The machine is available in any combination of single or dual 16mm or 35mm projectors, dual slide illuminators and with either color or black-and-white cameras. An unusual optical approach permits optional use of a black-and-white camera to provide a preview picture, thus preventing any anxiety concerning the correct film or slide being shown. Both film and slide projectors use a specially designed lamphouse employing a graded neutral density disc light control. The projector lamp is a low-voltage quartz halogen type which provides several times the amount of light required for an average-density film, thus, very dense films can also be shown.

The main frame is constructed from rectangular tubular steel with the optical bed mounted vertically in the frame. It carries all the optical parts for the four projection sources together with the camera head. The optical system allows the four optical images to be brought into alignment on the faceplates of the three lead-oxide tubes via the color splitting block. A simple multiplexer in the light path allows any source to be transmitted and other sources to be previewed. The machine is mounted on rollers and is designed for front access during normal operation.

Heart of the new telecine is a completely new 16mm film projector. It uses a claw mechanism with the advantage of having every significant moving part in precisely the same position each time the film comes to rest.

The B3404 is priced at about \$120,000 without pickup tubes and encoder. Other options include registration facility, black/white facility and color correction facility (all automatic), the preview camera system and a frame counting and memory facility.



The IVC-9000, a broadcast videotape recorder using the helical scan format, de-



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Professional laboratories and TV news departments will probably find that the most satisfying part of the Hunt System is its simplicity. All you need is a collection tank for the bleach overflow, the Hunt Cine Color Bleach Test Kit and Bleach Regeneration Chemistry.

This "uncomplicated," low-cost bleach regeneration system is only one reason why you should join the ranks of professionals using Hunt Cine Color Chemistry for processing Ektachrome films.

If you want to do something about lowering your bleach costs, and saving a piece of the environment, you should call a Hunt branch or sales office.



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veloped jointly by International Video Corp., Rank Precision Industries, London, and Thomson CSF, Paris, has been announced by International Video Corp., 990 Almanor Ave., Sunnyvale, CA 94086. The Rank (PAL) version is called the Rank-9000 and the Thomson (SECAM) version, the TTV-3500. The IVC version will be sold in countries using the NTSC standard.

The three companies engineered the IVC-9000 for the higher color subcarrier frequencies on PAL and SECAM, developing the "super high band" at 9 to 12 MHz. The IVC-9000 uses 2-in videotape. It has two record and playback heads, a writing speed of 1,500 in/s and a tape speed of 8 in/s. Because of the helical scan recording principle, the recorder has a 2-h record and play time on a standard 4,800-ft reel. According to reports, critical measurements of performance, SNR and moiré, show improvement over quadruplex recorders; and specifications, such as differential phase and gain and K factor, equal quad.

The new tape format incorporates two audio program tracks, instead of one, and features improved audio performance as a result of the longitudinal orientation. A cue track is located between the two audio program tracks. Separate control and SMPTE address tracks are also included.

All longitudinal tracks on the IVC-9000 are separately recordable, erasable and can be edited without affecting the video recording track or each other. Hot pressed ferrite heads are used on the machine to permit 1,500-h head life, extended tape life and reduced optimization requirements. Price of the new recorders ranges from \$70,000 to \$90,000.



**An automatic film projector for telecasting** an uninterrupted sequence of commercials, news clips and other short subjects from 16mm film cartridges has been announced by RCA Broadcast Systems, Front and Cooper Sts., Camden, NJ 08102. The new projector, described as a "first," was designed and developed with assistance from Eastman Kodak Co. It can project into a television camera a maximum of 24 cartridges in a continuous sequence. Each cartridge contains up to two minutes of film.

The TCR-100, a videotape cartridge recorder, was introduced by RCA Corp. in 1969 (*Journal*, p. 564, June 1970), the first member of a family of compatible, com-

puter-oriented automatic systems, of which TCP-1624 is the second member.

In operation, the TCP projects film cartridges that have been loaded into a 24-section circular magazine. It contains two film transports — in effect, two individual projectors — so that while one projector is running a film the other is rewinding the previously shown film and cuing up the next one. It reproduces pictures and sound from a single cartridge or it can operate continuously, depending upon the mode of operation desired. Startup is instantaneous with no pre-roll of the film; transitions from one cartridge to another occur in 200 ms. The TCP-1624 was introduced as an engineering model. The production model is expected to be priced at about \$59,500.

**Single-6 and Triple-6 monochrome monitors** have been announced by SC Electronics, Inc., a subsidiary of Audiotronics Corp., 530 Fifth Ave., N.W., St. Paul, MN 55112. The monitors are available with a single 6-in picture tube (Model 6M917) and three-in-a-row, side-by-side picture tubes (Model 6M917T). They have a horizontal resolution of 600 lines. They have all solid-state circuitry. Features include a single module circuit board, a complete one-piece, easily removable chassis to permit rapid, on-the-spot maintenance. Applications include broadcast preview, security/surveillance, educational, industrial and medical monitoring and VTR display. Model 6M917 is priced at \$219; 6M917T is priced at \$575.

**A new Satchell Carlson 12-in monochrome monitor** has been announced by SC Electronics, Inc., subsidiary of Audiotronics Corp., 530 Fifth Ave., N.W., St. Paul, MN 55112. Designated Model 12M918, it is a broadcast quality monitor featuring SC Unit-Ized plug-in circuit modules for rapid, on-the-spot maintenance. Features include all solid-state circuitry, horizontal resolution of 640 lines, and an amplifier bandwidth in excess of 8 MHz. The price is \$229.



**The MagLink synchronizer** designed for synchronizing, position logging, editing and indexing of video and audio magnetic tapes has been announced by Automated Processes, Inc., 80 Marcus Dr., Melville, NY 11746. Through the use of a newly developed time code system, videotape, multitrack audio and magnetic film machines



## CP-16/A (with Crystasound)

### A Cameraman's Kind of Camera

Tired of the daily struggle with backbreaking body braces, unwieldy tripods, and heavy, poorly balanced cameras? Tired of dangling power and sound cables? Encumbered by quickly exhausted battery packs? Frustrated by a noisy camera movement? Annoyed with "tack-on" sound equipment? Feeling crushed under the weight of it all?

We, at Cinema Products, believe that we have designed a unified camera and sound system that will solve all of these problems.

Take backaches, for instance. Backaches may sound funny to some people. To a TV-newsfilm cameraman they're no joke. More and more TV-newsfilm cameramen have been reporting severe and crippling backache conditions as a result of carrying heavy and poorly balanced cameras, mounted on uncomfortable body braces, over many long hours.

The CP-16/A 16mm camera has been de-

signed and specially balanced for convenient on-the-shoulder shooting. It weighs a little less than 17 pounds when fully equipped. And "fully equipped" means fully. With 400-ft. magazine loaded with 400 feet of film. With a 12-120mm Angenieux zoom lens. With a plug-in Nicad battery pack. With a critically accurate crystal-controlled DC servo-motor for single and double system sync sound. Plus the Crystasound recording system with built-in amplifier. That's right. Less than 17 pounds!

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As for noisy camera movement problems, you've got to "not hear" the CP-16/A to believe how quietly it runs. Our sound tests show approximately 31 dB at 3 feet. But the real

sound test is your professional ear, and the actual quality of the sound recording.

Out-of-sync problems? Our CP-16/A is crystal-controlled to the extremely critical tolerances required by cordless double system recording, with a frame rate accuracy of  $\pm 15$  parts per million over a temperature range of 0-140° F. And if something should go wrong, the easily visible out-of-sync warning lamp, located at the front of the camera, will instantly light up.

As for magazine capacity, the CP-16/A accepts standard 400-ft. and 1200-ft. Mitchell-type magazines, and we even designed a special locking stud so that magazines can be easily and instantly snapped on and off the camera.

Then there is the power supply problem. There are no lost shots with our rechargeable plug-in Nicad battery pack. It snaps instantly in and out of the camera body, and drives from 3200 to 4000 feet of film on a single charge. That's a lot of footage from a little battery pack which weighs a mere sixteen ounces. It is so compact—a spare, fully charged battery pack will slip easily into your shirt pocket. And it also powers the CP-16/A sound system.

Lately, more and more TV-newsfilm and documentary cameramen have had to "go it alone," with the responsibility of capturing both picture and sound. Designed and engineered from an overall total systems approach, our CP-16/A with Crystasound makes it seem almost easy.

The Crystasound amplifier is part of the camera, and it is powered from the same battery pack. Switchable, variable compression Automatic Gain Control let's you concentrate on filming the event. The headphone monitoring channel automatically switches from live mike to playback when the camera is turned on. We've even provided a special line feed to a tape recorder for those instances where the cameraman is recording simultaneously for TV and radio. The built-in amplifier has two microphone inputs and one line input,

all with independent volume control. Other features include automatic bias level, with no adjustment required, preview switch, VU meter, and low power consumption.

Our Crystasound recording system features a special record and playback head, encapsulated in the same module to guarantee absolute alignment for its entire life.

Should you need an auxiliary mixer, our Crystasound auxiliary mixer features: four channels of mike input, one channel of

line input, and one condenser mike channel. It also features individual and master volume controls as well as switchable AGC.

For the TV-newsfilm cameraman, the name of the game is lightweight, extremely mobile and reliable equipment, so that he can capture the spontaneous live feel of a news event as it happens. We are confident that the CP-16/A provides just that.

With no backaches.

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may be controlled simultaneously. The machines can be locked in sync, offset in their relative positions, or stopped and started according to a preset program. Through the use of the MagLink synchronizer, the master and slaves can remain synchronized in all operating modes, including rewind and fast forward. The synchronizer has a sync resolution of 1/300 s and a typical search accuracy of 0.2 s at 15 in/s. Features include a selectable conversion display which enables the operator to convert a position code on the tapes to the format (hours, minutes, seconds, frames or feet) selected by the switch. A converter module is available to interface with the SMPTE time code. Price of MagLink is \$12,000 with a capacity for one master and one slave; interface for each additional slave is \$875.

**The Model PVA-901 Fader/Switcher**, first in a new line of video programmers, has been announced by Audiotronics Corp., 7428 Bellaire Ave., North Hollywood, CA 91605. It is a simplified programming control device combining fade and switch capabilities in a single unit. Operating controls consist of a dual slide-action fader, 3-position switcher (A, B input and mix) plus On-Off switch. Internal controls are preset and consist of Pedestal (Sync-Clip) and White Clip. The power supply is automatic and regulated. When composite signal inputs are used, sync is derived from either input automatically and then reshaped and reinserted at the output at the proper standard level. When noncomposite

inputs are used, sync is automatically reinserted at the proper output level. Price of the PVA-901 is \$275.

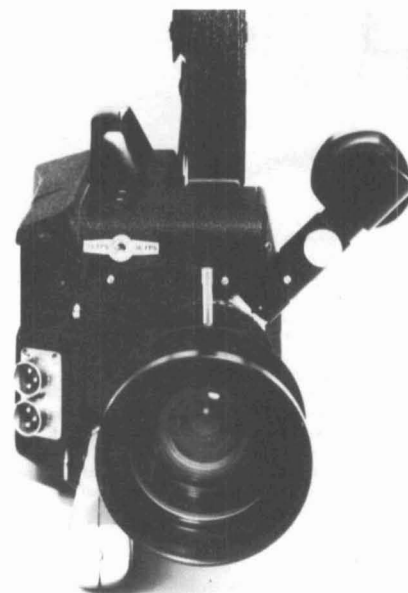


A Frezzi-Cordless dc conversion of the SS-III professional motion-picture camera has been announced by Frezzolini Electronics Inc., 7 Valley St., Hawthorne, NJ 07506. The converted camera weighs 13 lb (5.9 kg). The weight includes an Angenieux 12-120mm f/2.2 zoom lens and viewfinder, a 400-ft Mitchell magnesium magazine and internal 12-V, 0.6 Ah, quick-change battery that runs 2000 ft of film per charge. A separate ac battery eliminator/charger is part of the camera system. It adds the capabilities of re-charging the battery when it is either in or out of the

camera and of powering the camera from 115-V, 50-60 Hz ac lines while simultaneously re-charging the battery. The camera can also be powered from any external 12-V dc source. The dc conversion of the SS-III can be adapted to a number of situations, for example: either regular 16mm or super-16; viewfinder of various kinds and with or without TV reticle; crystal-control sound sync accurate to 10 parts per million, practically "dead sync" for double-system sound operation or with pilotone output; single system magnetic sound with film recording head; 400- or 1200-ft Mitchell magazines; and other options.

The basic conversion of an existing working SS-III camera (the camera supplied by the customer) is priced at \$1,998.

A TV Newsfilm Package containing the camera, 12-120mm f/2.2 Angenieux zoom lens, 400-ft magazine, carrying case, shoulder mount, and other items, is priced at \$8,000.



A 24/36 frames/s selector switch for CP-16 and CP-16/A cameras has been announced by Cinema Products Corp., 2044 Cotner Ave., Los Angeles, CA 90025. The 36-frames/s speed, achieved by simply flipping the selector switch, is used for filming more rapid action events, such as sports. The switch option is priced at \$250.

Also announced was the availability of a super-16 modification for both CP-16 and CP-16/A cameras. The modification is available on new cameras or as a factory modification on earlier cameras at an additional price of \$220.

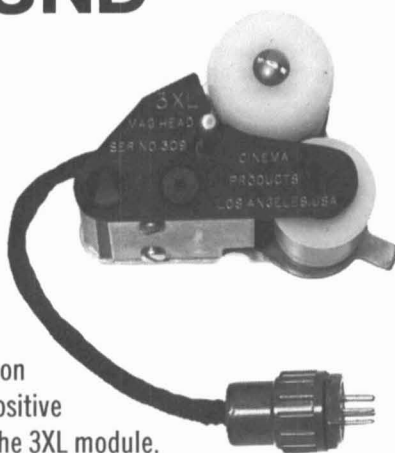
An auxiliary side cover for CP-16 cameras to provide sound recording capability through the use of external Auricon-type amplifiers has been announced by Cinema Products Corp., 2044 Cotner Ave., Los Angeles, CA 90025. The device can be easily mounted to the side of the CP-16 camera body and two plug connections make instant connection to the sound system of the camera. The rear of the side cover retains the 8-pin sound cable connector which is compatible with all Auricon-type amplifiers. The auxiliary side cover can be used instead of Crystasound built-in amplifiers in filming situations where it is inadvisable to use the Crystasound because



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DeLuxe System 7 is the minicomputer system from DeLuxe General that's programmed to keep processing labs from losing their minds—and their profits. Because along with the mistakes it prevents, it frees you from hours of plotting, recording and analyzing data. Plus some other things like helping you maintain printer control and automatically or semiautomatically punching timing tapes.

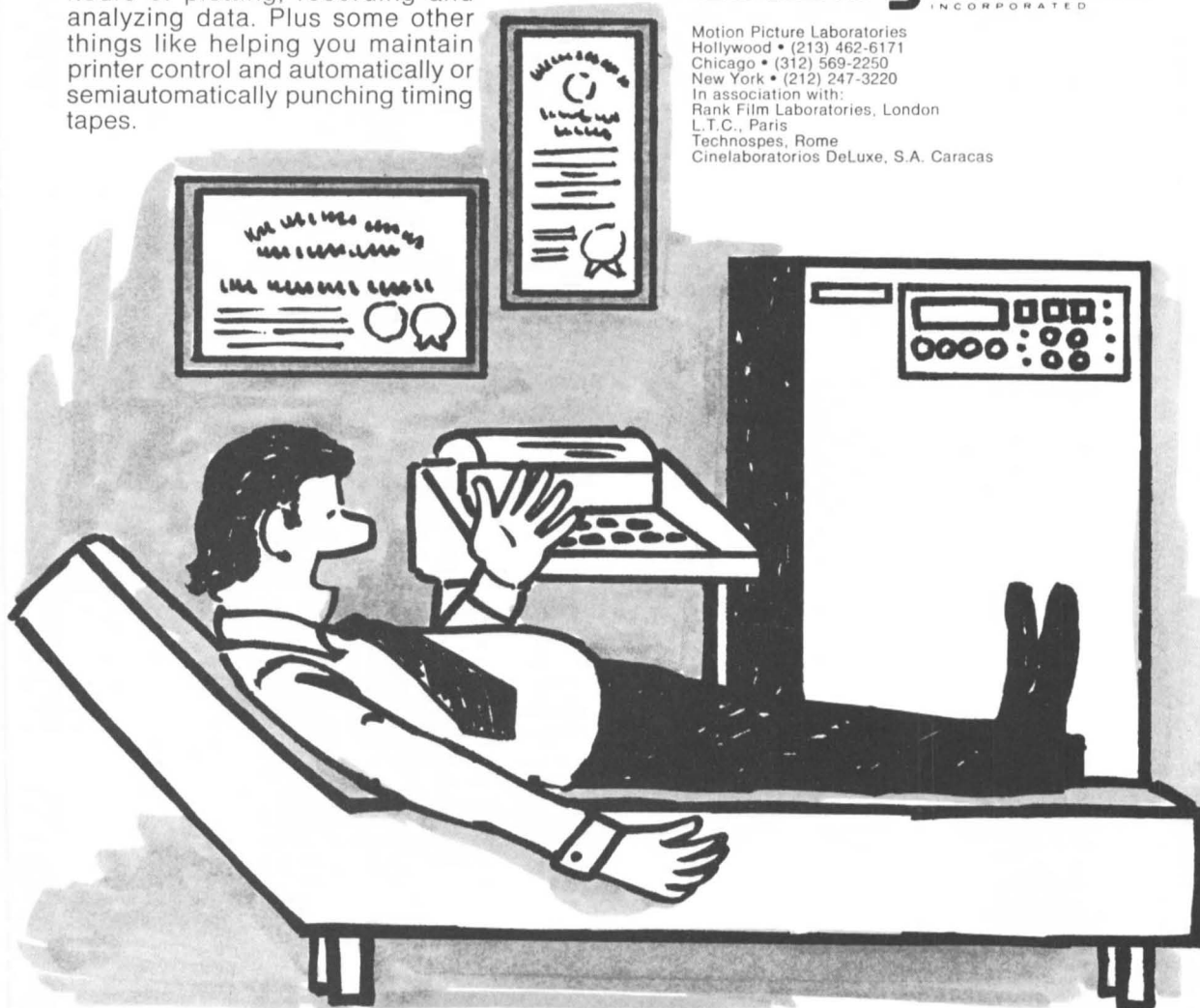
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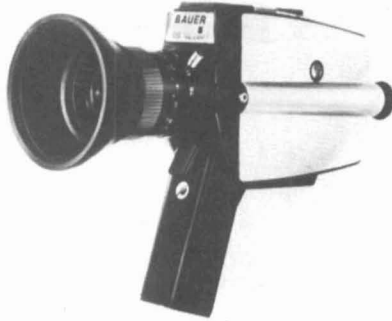


of possible damage. The Crystasound built-in amplifier can be dismantled and replaced with the auxiliary side cover. The side cover is priced at \$250.



**The Eumig Mini 5 Macro Zoom Reflex Camera**, a compact 5:1 super-8 zoom camera, has been announced by Eumig (U.S.A.) Inc., Lake Success Business Park, 225 Community Dr., Great Neck, NY 11020. The camera is equipped with a 13-element  $f/1.9$  8 to 40 mm Macro Viennon lens with a power or manual zoom operation. It also has a macro focusing facility that can image a subject from infinity to the front of the front lens element. The camera is less than  $6\frac{1}{2}$  in long, 2 in wide and  $3\frac{1}{3}$  in high. All electrical functions are performed by two penlight alkaline batteries. Other features include a fully automatic exposure control by means of a CdS cell, with a bridge circuit to cancel the effect of voltage fluctuations, a +1 f-stop manual override of the automatic exposure

system, a lens-aperture lock, a flicker-free reflex viewfinder with indicators for over- and under-exposure, end of film and film-running, a battery test and a lens-aperture override. The Mini 5 is priced at \$259.95.

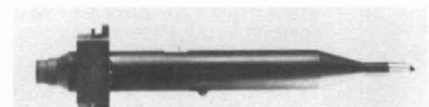


**The Bauer C4, C6 and C8 super-8 cameras** have been announced by AIC Photo, Inc., 168 Glen Cove Rd., Carle Pl., NY 11514. The cameras have fast, color-corrected  $f/1.8$  Neovaron lenses, electronically controlled functions and a centralized switch panel for camera controls. The cameras also have automatic through-the-lens exposure control with a CdS cell. The cameras all have large reflex-viewfinders with cross-hair focusing. The C4 is a 4:1 zoom (9-36mm) lens with running speeds of 18 and 36 frames/s and single frame. It is priced at \$199.95. The C6 is a 6:1 (8-48mm lens) zoom with running speeds of 9, 18 and 36 frames/s and single frame. It is priced at \$299.95. The C8 is an 8:1 zoom (7.5-60mm lens) zoom camera with run-

ning speeds of 9, 18, 24 and 36 frames/s and single frame. Both the C6 and the C8 have the Bauer Double-Vane Exposure Control which allows all light from the subject to reach the film. The C8 is priced at \$369.95.

**Three new super-8 cameras** have been announced by Hanimex (U.S.A.) Inc., 7020 North Lawndale Ave., Chicago, IL 60645, the subsidiary and American sales agency of Hanimex Ltd. of Brookvale, N.S.W., Australia. All the cameras can be used in available light. The MXL 121 has a fixed focus, 13mm  $f/1.1$  lens, a light-weight all-metal body, manual filter control and a fixed pistol grip. The price is \$119.95. The XL camera has a power zoom on a separate motor, a 10.5-30mm  $f/1.1$  zoom lens, running speed of 9 or 18 frames/s or single-frame exposure, backlight control, lock-and-run feature, manual filter control and friction-lock folding grip. The price is \$229.95. The MXL 3:1 available light camera has a 9 to 27mm  $f/1.1$  power zoom lens, runs at 18 frames/s or single-frame, has a backlight control, folding grip with release, battery test and manual filter control. The price is \$229.95.

**The Kinoptik 35mm  $f/1.3$  Apochromat lens** for 16mm cameras has been announced by Karl Heitz, Inc., 979 Third Ave., New York, NY 10022. The lens can focus down to about 1.5 ft. Its smallest lens stop is  $f/16$ . It is priced at \$439 for C-mount or for Arriflex and at \$339 in barrel mount.



**The Laikin Model 16 A**, a device to permit 16mm continuous motion photography in otherwise inaccessible places, has been announced by Laikin Optical Corp., 888 N. Sepulveda Blvd., El Segundo, CA 90245. The instrument is a right-angle viewer, bearing-mounted for continuous rotation. The distance from the viewing axis to the film plane is 25 in;  $f/5.6$  to 92 iris lens control; and focus of  $\frac{1}{2}$  in to infinity. The focal length is 11mm and there is a  $60^\circ$  field of view. Model 16 A, mounted to fit a 16mm Arriflex camera, is priced at \$3000. It can also be adapted to other cameras.

**Eye cushions** which fit over the eyepieces of all 16mm and 35mm Arriflex cameras and all 35mm Mitchells have been announced by Alan Gordon Enterprises Inc., 5362 North Cahuenga Blvd., North Hollywood, CA 91601. The cushions are made of chamois combined with flexible foam rubber. The eye touches the chamois side, providing a soft non-irritating surface. They are priced at \$1.95 each.

**A new audio tape recorder/reproducer**, Model 1001, has been announced by Tape-Athon Corp., 502 S. Iris, Inglewood, CA 90301. The new machine has electronic editing capability which allows the operator to move the tape across the recording heads so precisely that he may actually "split" musical notes and phrases without



**NEW** from **cinema products**



**Crystasound Pre-Amplifier for CP-16/A Cameras**



The Crystasound Pre-Amplifier optional accessory provides the CP-16/A camera system with an **additional** condenser microphone capability — **without** requiring the use of the Crystasound Auxiliary Mixer. When the Model CM-1 Pre-Amplifier unit is plugged in, the CP-16/A Crystasound built-in Amplifier will still accept two low impedance microphones and one line input — as well as one Sennheiser 804/805 — series condenser microphone, with all systems controlling the Crystasound built-in Amplifier remaining fully operational. All required power is supplied by the same NC-4 nicad battery pack powering the entire CP-16/A camera system.



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# The pollution problem. Maybe your engineers deserve a little help.

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Maybe this booklet can help. It lists some of the things all people can do to

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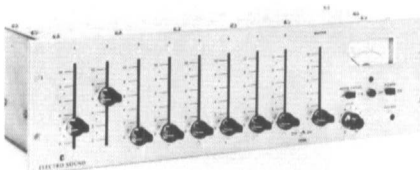
the necessity of physically splicing tape. This is accomplished by putting the recorder in a balanced torque mode which activates the drive motors of both tape reels simultaneously and in opposite directions. In this mode, either reel may be moved manually, in minute increments, without the creeping effect often experienced in conventional machines. Other features include tach-controlled motion sensing which detects motion of the tape when switching from fast speeds to recording or playback to prevent tape stretching, breaking or spillage; closed loop capstan drive, fast tape threading, and a pause control feature to hold the tape movement as long as the PLAY control is depressed. The price is \$1,695.



Two new sound mixing consoles, the PSM 12/2 and the BCM 10/2 have been announced by Rupert Neve Inc., Berkshire Industrial Park, Bethel, CT 06801. The PSM 12/2 is built as a basic 12-channel unit, but it can be supplied fully wired but with fewer channels fitted. Blank panels

can be fitted in place of unused channels. An improved version of the earlier PSM, the overall width of the console has been increased to 26.625 in (676 mm) and the earlier channel amplifier (the D001) has been replaced by the 1D005 which has a single-turn sensitivity switch covering the range of -80 dB to +10 dB in 5-dB steps. The monitor panel has been laid out in a different manner for ease of operation and a Monitor Cut button added. The PSM 12/2 is priced at \$10,650.

The BCM 10/2 is a transportable sound mixing console designed for mono or stereo broadcasting and recording. Ten full mixing input channels with equalization and two principal output groups are provided, each controlled by horizontal faders. Echo, studio foldback and communication, cuing, two-speaker monitoring, equipment control interlock and signaling facilities are included. Modular amplifiers are used throughout. A choice of input amplifiers is available to provide a wide choice of filters and frequency response control. The BCM 10/2 is priced at \$9,950.



A new eight-input audio mixer, designated the Model 900 Mixer/Amplifier, has

been announced by Electro Sound, Inc., 725 Kifer Rd, Sunnyvale, CA 94086. Features include front panel attenuators; an earphone jack and a VU meter for monitoring purposes; a choice of plug-in boards for each input for such applications as microphone, phonograph, balanced line (bridging or matching), or unbalanced line; and a built-in 1000-Hz tone generator for setting up the proper operating level. The frequency response is  $\pm 1$  dB from 20 to 20,000 Hz, noise level is -120 dB. The price range is \$800 to \$1000 depending on choice of input boards.

**System CCX100**, a closed-circuit intercommunication system designed to provide clear headphone intercommunication for sound, lighting and camera crews, has been announced by Clear-Com Div. of Lumiere Productions, Inc., 759 Harrison St., San Francisco, CA 94107. The system consists of two basic units, the Main Station, which houses the power unit, overall system controls and station controls for the Main Station operator, and the Remote Station, which is a lightweight backpack with headphones. Up to 30 Remote Stations can be looped into the system. Shielded two-conductor microphone cables connect stations to the Main Station or to other Remote Stations. The Main Station measures 4 by 5 by 9 in and weighs 6 lb. The Remote Station measures 5 1/4 by 3 3/4 by 1 1/2 in and weighs 17 oz. Both stations have an amplifier frequency response of 200 Hz to 8 kHz. Noise is better than -50 dB relative to the maximum output. The Main Unit is priced at \$275. The Remote Unit is priced at \$99. Other components of the system include Remote/Relay (\$114), Main/Relay (\$290), Headset (\$45) and the Quadropuss, a custom-designed splitter box to branch Remote Stations four ways from other Remote Stations or the Main Station, is priced at \$39.

**PLAMP**, a new high-impedance private-line audio amplifier designed to improve the loudness and clarity of TV-crew and similar large-field intercommunication has been announced by Fairchild Sound Equipment Corp., a subsidiary of Robins Industries Corp., Commack, L.I., NY 11725. The device is mounted on a printed circuit board measuring 1 11/16 by 2 in. It is said to increase terminal impedance by a factor of six. Undistorted output power from the microphone amplifier into a given impedance load is substantially increased and reasonable changes of temperature or operating voltages do not affect stability. The unit has a low-voltage zener diode at the microphone circuit which prevents feedback when the microphone switch is turned off. The PLAMP is priced at \$45 including the connector.

A solid-state line/distribution audio amplifier, Model 109, in the intermediate power range (3 W) for a wide range of applications has been announced by Spectra Sonics, 770 Wall Ave., Ogden, UT 84404. It is contained on a printed circuit card measuring 2 1/2 by 5 by 1 in. It can be used as a distribution amplifier to power numerous outputs, for example, 15 or more with 37-dB to 43-dB gain; high output line or program amplifier for use when unusually high average line levels exist and ad-



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## Front-Mounted VU Meter for CP-16/A Cameras



The new front-mounted auxiliary VU Meter provides the TV-news-film/documentary cameraman (working an assignment on his own) with an important added control. The auxiliary VU Meter is mounted in front of the CP-16/A camera, directly across from the lens eyepiece, permitting the cameraman to make swift periodic checks on the recording level by simply glancing sideways for a split second. The auxiliary front-mounted VU Meter's dial illumination light also serves as a pilot light to indicate that the Crystasound amplifier system is on. The standard VU Meter, located at the rear of the built-in Crystasound amplifier control panel, continues to operate even with the front-mounted auxiliary VU Meter in use. The auxiliary VU Meter is easily mounted and removed from the CP-16/A camera body.



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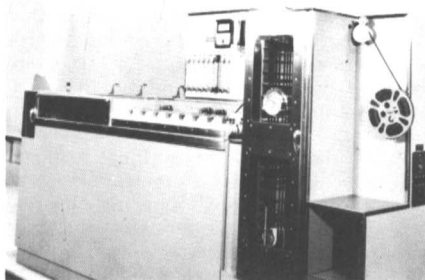
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ditional isolated outputs are needed; or low output power amplifier for use with dynamic program material of a wide range with output resistance from 0 to infinity and power output up to 3 W. The price is \$75.

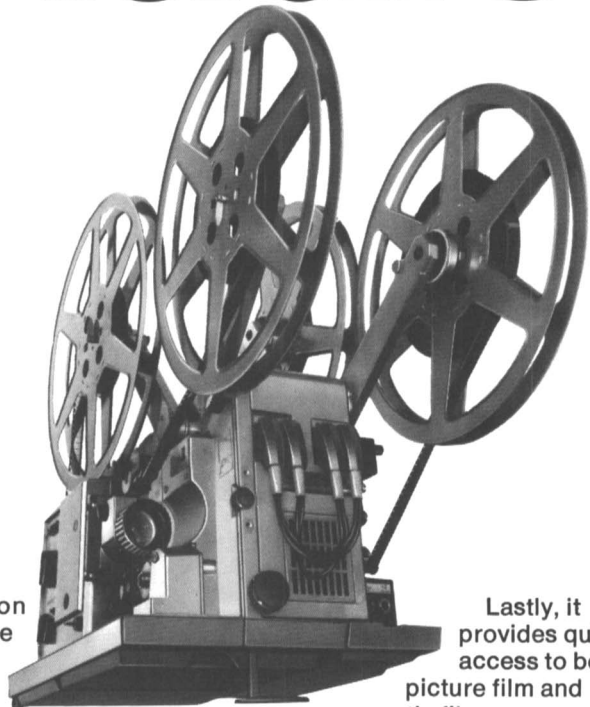


**The Acme Series 100 Liquid Film Gate System** has been announced by the Acme Products Div. of PSC Technology, 1200 Grand Central Ave., Glendale, CA 91201. The film gate support system provides bubble-free filtered and controlled circulation of liquid to the film gate movement. It can be used in conjunction with Acme and Oxberry liquid gate movements. The gate provides a true immersion system and is available in 8mm, super-8, 16/super-16 and 35mm configurations. The film enters and exits the gate dry at speeds up to 600 frames/min. The fixed pin registration system, typical of the Acme movement, is utilized in the liquid gate design. The Acme liquid gates are interchangeable without the use of tools. The film can be moved in either forward or reverse direction and in freeze-frame and skip-frame modes. The gate passes splices easily. A combination of vacuum cleaning action and PSC's proprietary liquid gate fluid called Luxene is used to eliminate scratches and surface debris from the film. The liquid gate support system, Series 100, is priced at \$1,950. Prices of the liquid gates range from \$7,000 for an Acme standard 8mm liquid gate to \$10,750 for an Oxberry standard 35mm liquid gate.



**The Houston Cine Pro**, a new processor for super-8 and 16mm Ektachrome film, has been announced by Houston Photo Products, Inc., Box 5269, Yuma, AZ 85364. The processing speed is 24 ft/min. The machine is fully automatic and is entirely self-contained. It can be operated in a fully lighted room. The processor is 12 ft long and 2 ft wide. The drying cabinet is 6 ft 2 in high and the wet section is 4 ft 6 in high. Processing speeds are timed and solution temperatures maintained according to the filmmaker's specifications. Film transport is by a bottom tendency drive system designed to minimize film tension and eliminate film breakage. The film is dried by impingement of high-velocity filtered warm air. The machine is priced at \$11,825. A 35mm model with a processing speed of 11 ft/min is available at a price of \$11,500.

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**Two new printer probes and adapters** for use with the Arri and Peterson panel printers have been added to the line of color probes used with the Model 900 Spectra Film Gate Photometer, it was announced by PSC Technology's Acme Products Div., 1200 Grand Central Ave., Glendale, CA 91201. Previously, color probes were provided for only Acme, Oxberry and Bell & Howell printers. The new adapters are available to present owners of the Model 900 Spectra Film Gate Photometer whose units are equipped with either an Acme or Bell & Howell probe. Utilization of the new units does not require any modifications either to the printer or the photometer. The probe for the Arri printer is priced at \$685. The adapter plate is priced at \$185. The probe for the Peterson panel printer is priced at \$1,390. The adapter plate is priced at \$415.

**The Fisher Temp Unit**, a continuously operated automatic unit for absolute temperature control of processing solutions, has been announced by Oscar Fisher Co., P.O. Box 2305, Newburgh, NY 12550. It is a self-contained system for maintaining pre-determined temperature constants (to within  $\pm 1/4^\circ\text{F}$ ) in operations where uniformity is essential. The unit consists of a dial thermostat, refrigerator, heater, heat exchanger, a centrifugal pump and the requisite plumbing. The maximum tank capacity is 100 gal. The tempering water is thermostatically heated and/or cooled and recirculated through the heat exchanger in parallel with the working solutions, thus effecting a rigid temperature constant.

The entire system is air-cooled and produced in standard models to the requirements of any particular process where tight control is required. Model B is priced at \$925, and Model C is priced at \$1,100.

**A process for edge-numbering 16mm** color release prints with serial edge numbers has been announced by DeLuxe General Inc., 1546 North Argyle Ave., Hollywood, CA 90028. The edge numbers are identical on all prints made from the same negative, simplifying the ordering of replacement sections to repair prints in the field. DeLuxe will ink edge number the sound printing negative starting with 0000 at printers sync and increasing consecutively at 40-frame intervals throughout the print. Each print from the numbered negatives will then have identical numbering, facilitating the ordering of print repair sections.

**The Kinax Cue-Marker**, described as "a new concept" in the application of cue marks (cue patches) which serve as switching cues in motion-picture printing and TV film projection equipment having RF sensing devices, has been announced by General Enterprises, Inc., 10518 Detrick Ave., Kensington, MD 20795. The device provides foil marks that are laminated to the film. The procedure is automatic, using a heated applicator. The foil is advanced after each application. The die temperature is electronically controlled to assure positive adhesion of the foil marker on all film emulsions regardless of base or emulsion side, but the cue marks

can be easily removed if required. The cue marker applicator is motor-driven to assure even pressure and provide maximum foil utilization. In operation, the frame to be marked is positioned in the center of the slide and the slide is pushed in. When the process is complete, the slide is released and the film can be positioned for the next frame to be marked. A three-digit mechanical counter records the number of markers applied. Price of the Kinax Cue-Marker is \$2,369.



**The Norelco Model 2021 PIP Multi-Media Projector** has been announced by Norelco Training and Education Systems Div., North American Philips Corp., Morristown, NJ 07690. The projector has the capability of stopping its audio-visual presentation at pre-programmed points to permit the viewer to respond to the question or action indicated. An indicator light alerts the viewer to the auto-stop sequence. The projector has a built-in, manual viewer-controlled re-start switch. An optional re-start footswitch device is available. The projector is priced at \$460.

**A new dual-purpose projector** for the Norelco PIP Audio and Visual Cassette System capable of direct projection on a wall or screen, in addition to functioning as a rear-screen projector, has been announced by Norelco Training and Education Systems Div., North American Philips Corp., 35 Abnett Ave., Morristown, NJ 07690. Called the Norelco Model 2030 PIP Projector, it converts from rear-screen to direct projection by flipping up the rear screen of the projector and refocusing from the front. It can project a picture as large as 30 by 40 in. The price is \$430. (The PIP system was described on p. 528 of the June 1971 issue of the *Journal*.)



**The Eumig Mark-S-706 super-8 sound projector** has been announced by Eumig



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## Crystasound Auxiliary Mixer for CP-16/A Cameras



The Crystasound Auxiliary Mixer is an integral part of the total Crystasound Recording System for CP-16/A cameras, the most versatile and efficient recording system for TV-news/documentary 16mm cameras available. The Crystasound Auxiliary Mixer is basically designed for those filming situations where it is not feasible for the cameraman to handle the sound recording process by himself. It is also required in situations where additional microphones are needed beyond those which can be accommodated by the Crystasound built-in Amplifier. The Auxiliary Mixer is an extremely lightweight (3 lbs. 1 oz.) and compact (6 1/2" X 2 1/2" X 6") unit, designed to accommodate four low impedance dynamic microphones, one condenser microphone and one line input, with individual mixing pots and on-off switches for each of the six inputs. The Auxiliary Mixer plugs in directly to the mixer socket on the Crystasound built-in Amplifier and draws all its power from the very same NC-4 nicad battery pack which powers the entire CP-16/A camera system.





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(U.S.A.) Inc., Lake Success Business Park, 225 Community Dr., Great Neck, NY 11020. The illumination system of the new projector utilizes a 12-V, 75-W tungsten halogen lamp with an integral dichroic reflector. A sensitive focusing knob provides control of screen-image sharpness. A single control knob actuates all running functions of the projector including forward and reverse projection, fast rewinding and automatic film threading onto the take-up reel. The reel capacity is 600 ft. The zoom projection lens is a 9-element  $f/1.6$ , 17 to 30mm Vario Eupronet, made by Eumig in Austria. The projector is 12½ in long, 5¾ wide and 8½ in high. It weighs 16 lb. The price is \$329.95.

**The Eumig Mark 502D**, an Austrian-made flexible dual-8 zoom movie projector, has been announced by Eumig (U.S.A.) Inc., Lake Success Business Park, 225 Community Dr., Great Neck, NY 11020. The projector operates at two forward speeds, 9 and 18 frames/s and also in reverse. A single lever adjustment adapts the projector of standard 8mm film screening or the super-8/single-8 format. Another simple adjustment permits the projector to be used with any 50- or 60-Hz alternating current power source ranging from 110 to 240 V. The projector's 9-element  $f/1.6$  Vario Eupronet zoom lens has a range from 17 to 30mm. All operating functions are actuated by a single 7-position rotary control switch. The unit is 10¼ in long, 5½ in wide and 8¾ in high. It weighs 9 lb. The

price is \$129.95. It includes a power cord, a 400-ft take-up reel and an 8-V 50-W lamp.

**The new super-8 rear-screen projectors** have been added to the Seventy Series, it was announced by the Industrial Products Div. of Fairchild Camera and Instrument Corp., 75 Mall Dr., Commack, NY 11725. The new projectors have been designated the Showoff Seventy-37 and the Glamour Theater Seventy-27. The Showoff, intended especially for use in department stores, trade shows or countertop displays, is priced at \$425. A display stand is available optionally. The Glamour Theatre weighs 15¼ lb and has a gold-colored case. Front-screen projection capability is optional. It is priced at \$375. Both projectors use self-rewinding, endless-loop cartridges providing up to 25 min of super-8 sound film.

**The Optical Bench Auditorium Carriage** designed for use with Kodak Ektagraphic Carousel slide projectors, the Buhl 1200-W Hi-Lite and other slide projectors has been announced by Buhl Optical Co., 1009 Beech Ave., Pittsburgh, PA 15233. The carriage is adjustable to permit accurate alignment with the projector optical axis. A special projector mounting permits the projector to be first attached to a simple alignment plate and then locked into place with one thumbscrew to allow easy access to the bottom of the projector for lamp changing. The projection lens rides in a carrier moving on rails with linear bear-

ings to ensure straight-line motion and to virtually eliminate drag on the automatic-remote focus motor. The carriage alone, without the lens, weighs 18 lb. The total weight (carriage, projector, empty slide tray) is 30¼ lb. The carriage is priced at \$58.50. Price range for lenses is from \$109.50 to \$168.

**The Stereo AV Console**, designed for use with ½-in videotapes, cassettes and cartridges, has been announced by Videonics, Inc., 2820 E. Layton Ave., Cudahy, WI 53110. Videotapes that have stereo or mono sound can be played through a powerful (50-W) stereo amplifier, by-passing the TV speaker which is usually smaller and has lower audio output. Any make of video cassette, cartridge, ½-in video recorder and TV monitor up to 21 in can be used in the console. Two 6- by 9-in speakers reproduce the entire sound spectrum. The console is 66 in high, 30 in wide and 24 in deep. It is priced at \$495.

**A new Standard Persistence Display Unit** for use with Systron-Donner spectrum analyzer plug-in modules covering 10 Hz to 40 GHz has been announced by Systron-Donner Corp., Microwaves Div., 14844 Oxnard St., Van Nuys, CA 94109. Designated Model 712, it is a solid-state main frame unit featuring a flat-faced, rectangular cathode-ray tube with electrostatic deflection, allowing the display of spectral distribution of signals over a wide dynamic range and real-time analysis of modulated and pulsed signals. The cathode-ray tube also features variable illumination, 70-dB graticule calibration and linear amplitude calibration for an expanded 40:1 range.

Calibrated sweep times and synchronization are pushbutton selectable. In addition to the usual sweep times required for spectrum analysis, the unit has a fast sweep capability. In this mode, sweep times up to 10  $\mu$ s per division are provided making possible monitoring carrier demodulation and pulse analysis since it produces a frequency-vs-time display instead of the usual frequency-vs-amplitude CRT display. The unit is priced at \$1,750.

**The 2900SR Picowatt Spectroradiometer System** has been announced by Gamma Scientific Inc., 3777 Ruffin Rd., San Diego, CA 92123. The instrument is digital auto-ranging and features dark current suppression. It is a high-sensitivity system for measuring incident power in terms of  $W/cm \times nm$  over a wavelength of 350 to 750 nm. The instrument has a 3½-digit digital display. The system produces an automatic x-y plot of intensity vs wavelength. Ultraviolet, visible and near infrared photomultiplier detectors may be used. Applications include measurement of cathode-ray output including color TV tubes, light-emitting diode analysis, earth resources studies, and others. The system is priced at \$5,610.

**The Tentel Tape Tension Gage** is a hand-held mechanical device designed to measure tension of moving or stationary magnetic tape. It is available in two models to accommodate ½- to 2-in tape widths. It can be used for other applications including measuring the tension of motion-picture film. The ranges presently offered are



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## Auxiliary Side Cover for CP-16/A Cameras





The Auxiliary Side Cover is ideal "insurance" for TV-newsfilm cameramen using CP-16/A cameras with Crystasound built-in Amplifiers. Under difficult news filming conditions where it is possible for the Crystasound Amplifier to be damaged (and where such field damage cannot be repaired at once), having a spare auxiliary side cover available permits the CP-16/A cameraman to instantly dismount the Crystasound built-in Amplifier, replace it with the Auxiliary Side Cover, and continue sound filming using an external Auricon-type amplifier.

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Rear of Auxiliary Side Cover showing the 8-pin sound cable connector, compatible with all Auricon-type amplifiers.

3, 12 and 20 oz (100, 350 and 600 g) full scale configurations. Logarithmic scales provide improved readability for low tensions. A reading of  $\pm 0.05$  oz at 1 oz can be obtained on the 12-oz model. The device is priced at \$198.

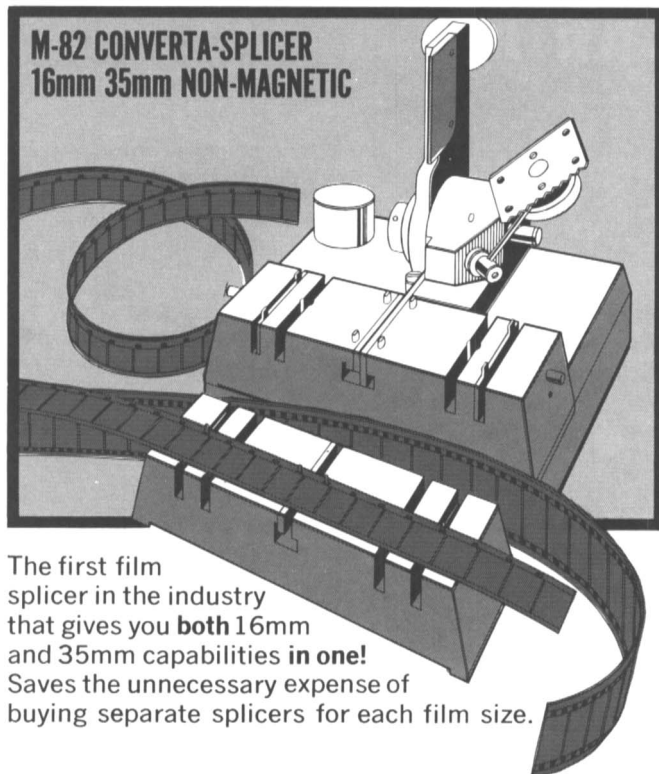
**Mobile broadcasting towers** that can extend to 100 ft in 12 min, yet are sufficiently rigid to operate without guy ropes or protective scaffolding, have been developed for the British Broadcasting Corp. and are available from the manufacturer, Eagle Engineering Ltd., Pepper Rd., Leeds LS10 2NH, England, at a price of \$85,000 for the tower and chassis, without the antennas.

The tower is capable of transmitting in busy streets from a base 9 ft 6 in wide and is designed to withstand winds up to 40 mi/h, even when fully extended, without deflecting more than 2%. Two 4-ft diameter dish antennas can be mounted at the top for transmitting and receiving and the complete unit is carried on a British Leyland Lynx 18-in wheelbase haulage chassis. A power take-off supplies an hydraulic system for mast erection. The vehicle is supported and made level on four independently operated electro-hydraulic jacks. Pushbutton controls enable the operator to elevate the mast assembly from its traveling position. The latticed mast is in four telescopic sections. The lower pair is extended by means of an hydraulic ram and the upper pair by means of a system of differential cables and pulleys. There are manual locks at both 75- and 100-ft extensions. In traveling configuration the vehicle is 35 ft long, 13 ft high and 8 ft wide with an overall weight of about 16.8 tons.

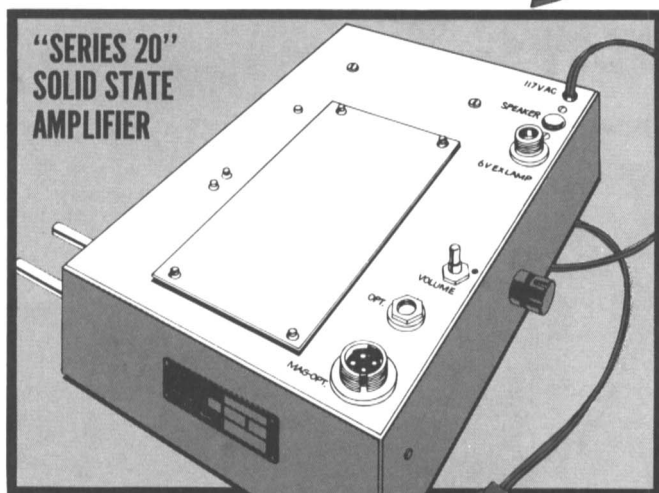
**A line of color TV sets** with a built-in capacity to receive 24 cable channels in addition to conventional VHF and UHF reception has been announced by RCA Consumer Electronics, 600 North Sherman Dr., Indianapolis, IN 36201. The new series, designated XL-100 is designed to eliminate the need for a separate converter or selector device to provide cable TV reception. The series included five 25-in (diagonal) console models specially engineered for cable TV. They are antenna-compatible and have a rear-of-the-set switch which permits the reception of up to 24 channels over the cable or up to 12 VHF and the same number of UHF signals through a standard home antenna. Price range for the new sets will be about \$675 to \$795.

**A new data generator** featuring dual 16-bit channels with a combined single-channel capability of 32 bits and selected pseudo-random sequences as well has been announced by Systron-Donner Corp's Data Pulse Div., 10150 W. Jefferson Blvd., Culver City, CA 90230. Designated Model 229, the formats include data content selection from 1 to 32 bits in single-channel operation and 1 to 16 bits in dual-channel with pseudo-random sequences of 15, 63, 511, 2047 and 32,767 bits. One of the channels may be delayed up to 100 ms with respect to the other in either single or dual channel mode to permit simulation of two skewed bit streams. The delay is employed in the pseudo-random mode to compensate for any delay in the received data. Data

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A new modular infrared LED photoelectric system for the detection and control of objects of any material down to thread size has been announced by Scientific Technology Inc., 1157 San Antonio Rd., Mountain View, CA 94040. Designated the STI 7060-series Optoswitch, the instrument was designed primarily for invisible transmitted beam operation, but it can also be used as a proximity or retro-reflective sensor. Among other applications, it has been used to count 0.020-in diameter drills passing on a conveyor, to maintain a liquid level to 0.005-in tolerance and to detect the presence or absence of a  $\frac{1}{16}$ -in-thick tabbed lock washer in an assembly. The  $\frac{3}{8}$ -in diameter sensor heads are threaded full-length to facilitate mounting in restricted spaces. They may be remotely mounted up to 100 ft from the control electronics and are completely sealed in epoxy to make them weather- and shock-proof. Price of the 7060-series Optoswitch Control System is \$155.

The Colortran Medical Light, which provides for the comfort of the patient being photographed by use of a heat filtration system that eliminates 85% of the heat from the light beam, has been announced by Berkey Colortran, 1015 Chestnut St., Burbank, CA 91502. Daylight type lamps or 3200-K lamps are available to meet any filming requirements. The lamps are protected from thermal shock by Pyrex glass and are easily replaceable. The unit has a handle for handheld requirements and a mounting bracket for stand operation. The light may be used in most medical applications — surgery, medical examinations, autopsy, etc. — except where flammable anesthetic agents are used. The light (without the lamp) is priced at \$290.

A line of Ushio quartz-halogen lamps, manufactured in Tokyo by Ushio Electric Inc., has been announced by Spectra-Tek Inc., 828 Commerce St., Chatham, NJ 07928. The lamps, designed for projection and instrumentation applications, provide-diffraction-limited performance combined with high brightness. The color temperature remains constant throughout the life of the lamps. The 12- and 24-V projection lamps are priced at \$2.15 each.

Print-through edge-numbering on 16mm release prints as an aid to 16mm film distributors has been announced by Consolidated Film Industries, 959 Seward St., Hollywood, CA 90038. Purpose of the edge numbers is to afford more accurate identification when replacement sections are ordered. Present methods require ordering the sections on rough footage estimates. CFI has engineered equipment to print the edge numbers through onto the release

print. Although this procedure has been available for 35mm, it has not previously been utilized for 16mm.

The Laboratory Practice Engineering Committee of the SMPTE is presently considering a Recommended Practice that would suggest that all 16mm release prints be edge numbered with numbers in accordance with American National Standard PH22.83-1972, Specifications for Location and Spacing of Edge Numbers on 16mm Motion-Picture Film (*Journal*, p. 928, December 1972).

A new transparent side wall and ceiling structure for Agnew-Higgins clean tunnels, making it possible to view operations, has been announced by Agnew-Higgins, Inc., P.O. Box 857, Garden Grove, CA 92641. Transparent Plexiglas panels admit ambient light. An open end permits rapid entrance and exit of personnel as well as of work in progress. In operation, clean air flows from the blower-filter modules at one end of the tunnel at the rate of 90 ft/min  $\pm$  20 ft/min. The unit can be moved if necessary. It operates from a source of 220-V 1-phase or 3-phase power. Various models are available. A typical model is priced at \$5,670.

A new model of the Kermacontrol Industrial Dust Collector has been announced by Kermacoil Corp., 330 Vista Park Dr., Pittsburgh, PA 15205. The dust and air are entrained by suction through special nozzles located for optimum dust pickup and are conveyed through 4-in diameter flexible hoses to a hopper. Dust collects on the underside of an absolute filter while cleansed air exits from the top of the unit. Vibration of the filter at predetermined intervals releases the accumulated dust into the hopper and from there into an attached plastic bag which can be removed when nearly full. A shut-off valve at the bottom of the hopper is provided to facilitate bag removal. The unit can be used to reduce the amount of dust on location and also in the areas of processing tape or film. The mode of installation would depend upon the dust problems that might arise in each individual application. The price could range anywhere from 16 cents to about \$2.00 per ft<sup>3</sup>/min of air.

The Identification Data Accessory (IDA), an accessory for the ACR-25 automatic videocassette recorder/reproducer that permits messages identifying spot announcements to be recorded on the cue track of the cassette, has been announced by Ampex Corp., 401 Broadway, Redwood City, CA 94063. Messages are displayed on the video monitor during entry and playback and then read out to a teleprinter or computer for logging. The identification message is entered as serial data at 10, 15 or 30 characters/s in standard 11-bit TTY code from a keyboard or other compatible device. A message normally consists of up to 14 alphanumeric characters, plus two nonprinting characters — line feed and carriage return. If the system is to be interfaced with a teleprinter, the message may contain 15 characters. During playback, the top message line identifies the cassette tape being played (or cued up) and the second line identifies the next tape to be played. Price of the IDA is \$9,500.