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## new products

(and developments)

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Further information about these items can be obtained direct from the addresses given. As in the case of technical papers, the Society is not responsible for manufacturers' statements, and publication of these items does not constitute endorsement of the products or services.

Two new Canon lenses, the Canon C10 × 12 Macro Zoom and the C6 × 14 super-16 zoom, have been announced by Eclair Corp. of America, 62 W. 45 St., New York, NY 10036, exclusive agents for Canon lenses in CA-1 mounts. The C10 × 12 is an 18-element, 13-group, *f*/2.2 12-120mm zoom lens. Described as "the first zoom lens to use the new artificial fluorite coating," the lens reduces chromatic aberration to near-theoretical levels. It can focus down to 1 mm from its front element, creating the potential for a large number of combinations for both macro and zoom. It is priced at \$1,600.

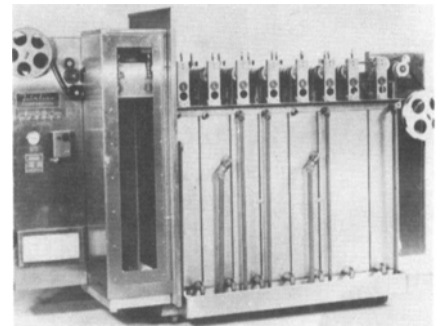
The C6 × 14 is an advanced 14-84mm zoom lens designed specifically for super 16. It has an *f*/2.0, 16-element, 12-group design using the new artificial fluorite coating. It is priced at \$1,450.

The Mini-Cam 16, a modernized version of the 16mm Bell & Howell G.A.S.P. camera, has been announced by Alan Gordon Enterprises Inc., 5362 N. Cahuenga Blvd., North Hollywood, CA 91601. The camera is lightweight and portable. It can be used for filming unusual angles in skydiving, bicycle racing, skiing and other sports. Two models are available: the 55GE-C, which accepts C-mount lens and is priced at \$298.50, and the 55GE-A, which accepts Arriflex mount lenses and is priced at \$354. The prices do not include lenses.

All formats of 35mm film products sold in lengths of 2,000 ft or longer will be supplied now and in the future on Type K 3-in cores except FSA665, Eastman fine grain sound recording film 5375, it was announced by Eastman Kodak Co., 343 State St., Rochester, NY 14650. The change has been made for convenience, consistency and ease of operation, the announcement stated, noting that completion of the change will take some months and dealers may have some stock with either the Type U 2-in or Type K 3-in core. The change in core size has necessitated changes in specification numbers and catalog numbers. The changes are shown on a data sheet available from Eastman Kodak Co.

The new System III tape-to-film transfer process has been announced by DeLuxe

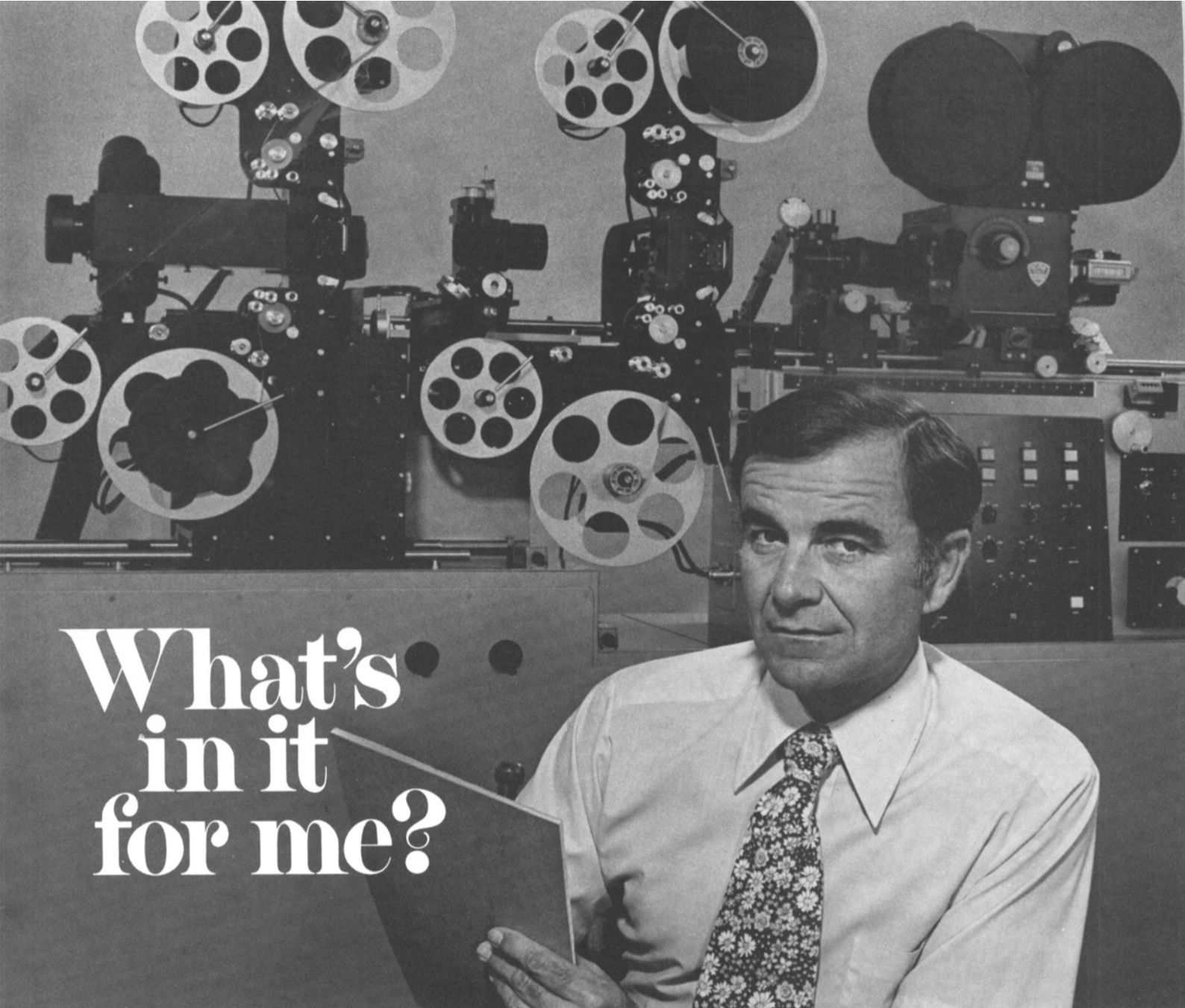
General Inc., 1546 N. Argyle Ave., Hollywood, CA 90028. The transfers are made electronically from 2-in quadruplex high-band videotape to a blue, green and red successive frame exposure master. The master is printed on a special printer to standard 16mm internegative film. Release prints are made from the internegative. Additional internegatives can be made from the master in single- or double-rank. The sound is transferred to magnetic ¼-in sync tape and then re-recorded to 35/32mm single- or double-rank sound negative.



A new processor for Kodacolor II has been announced by Filmline Corp., 43 Erna St., Milford, CT 06460. Designated the KC-735, it is the first of a series of processors for Kodacolor II utilizing the exclusive, patented, Micro-Demand Film Transport System, described as an advanced concept, providing self-compensating tension control, with minimum maintenance. There are no spring bushing rollers, sprockets or clutches.

Additional features include a speed of 7 ft/min for 110 and/or 126 film (all film formats from 8mm to 35mm being handled interchangeably); stainless-steel construction throughout; pump recirculation and professional spray bar agitation; developer filter; easily removable racks with precision pin-lock locator; submerged developer rack; Temp-Guard temperature control system with thermistor sensing and solid-state controller; an air squeegee and compressor; Film-Guard drybox with dual heat input and dial thermometer; bottom drains and valves on all tanks; and individual switches for all control functions. The processor is available for lease or purchase. Larger models are also available.

System DDM (Digital Dimmer Memory), an advanced computerized lighting control system developed by Rank Strand Electric Ltd., London, has been announced by Century Strand Inc., with offices at 5432 W. 102 St., Los Angeles 90045 and at 20 Bushes Lane, East Patterson, NJ 07407. Both firms are members of the Rank Organisation. Instead of employing specially designed control circuits the system incorporates a minicomputer developed by Digital Equipment Corp., Maynard, MA 01754. The system has recently been installed in the Royal Shakespeare Theater in Stratford-Upon-Avon, England. That DDM installation employs Digital Equipment Corp.'s PDP-11/20 minicomputer enabling the system to replace the traditional fader levers with digital controls such as rocker switches and pushbuttons. Other DDM installations include Hancher Auditorium at the University of Iowa



# What's in it for me?

Maybe we ought to start out by saying what is *not* in our new Model 2101 Aerial-Image Optical Printer.

To be exact, we left out mechanical gear trains, levers, one horsepower motors, shafts, stop-motion clutches, solenoids, relays, knuckle joints and a lot of other things like that. We thought of it as leaving out trouble. After all, if mechanical drive systems are going to wear, vibrate, backlash, gum up, drag or stick, you know when they are going to do it. Right in the middle of your rush job. When else?

Not any more.

Which brings us back to that original question. What we put in, in place of all that worry, was our space-age drive system called "PhotoTron". It's an all electronic film drive using computer-accurate stepping motors and solid-state electronics on snap-out circuit cards. That's right, *snap-out* circuit cards. They may not exactly eliminate down time, but they should put a pretty big dent in it.

If all that sounds pretty good, listen to this. We made our new printer automatic. Automatic zooms from 4X enlargement to 5X reduction, automatic dissolves, logarithmic or linear for perfect fades or dissolves without overlap, an automatic shutter that can be programmed, at the flip of a switch, over a predetermined fade count, and an automatic skip-frame programmer that gives you unlimited combinations at all speeds and with three heads at once.

Sound pretty impressive?

We like to think so, but there's more. By making the drive system all-electronic, it can be adapted easily to computer control or tape programming. So when you're ready for this, you'll know that your Model 2101 will be too.

Price? Brace yourself. The lowest in the industry for an optical printer with the same features. That's something you don't hear every day. But it's really very simple. By throwing out all that expensive tailor-made hardware and simplifying construction, advantage went up and cost of manufacture went down.

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using a PDP-11/15 computer and the Adelaide Festival Theater in Australia using a PDP-11/05 computer.

In use, each lighting state set up during rehearsal is recorded by the system. The data recorded show the voltage levels required to drive each dimmer circuit. The values are stored in the computer's memory for use during the actual performances. The computer is connected to a control console, output devices and a cassette recorder. The system scans the lighting controls, interprets the commands given to it, computes crossfade data for each control channel — updating when necessary — and initiates control commands to the theater lights. A high degree of man/machine interaction is possible. The operator can, at any time, modify the lighting levels and can also return them easily to the original unmodified state. While controlling the operation, the minicomputer also carries out checks to see that all equipment is performing correctly.

The Royal Shakespeare Theater was built in 1932 to replace the building of 1879 which was destroyed by fire. The original 56 dimmers of the 1932 Grand Master lighting switchboard were replaced in 1951 by a 144-way Preset Electronic system which has now been replaced by the 240-way DDM System.

Price of the DMM System ranges from about \$75,000 to \$100,000 for 80 to 300 channels.

The new 6-kW Dimmer Pack System has been announced by Berkey Colortran Inc.,

1015 Chestnut St., Burbank, CA 91502. The system has six 6-kW dimmers in a housing 20 in wide, 14 in high and 21.5 in deep. The Control Pack is a two-scene preset with individual channel mode selections of independent, preset and off. A master of each scene is provided with an LED to provide identification. The Master Pack provides mastering control for up to 20 control packs. It has A-B faders, an Independent Master and a Grandmaster.

The Dimmer Pack weighs 140 lb. Features include plug-in circuitry, phase change block and magnetic circuit breakers. The systems may be combined as building blocks up to 120 dimmers and may be mixed with 2.4-kW and 3.6-kW Dimmer Packs. The 6-kW Dimmer Pack is priced at \$2,125. The Control Pack is priced at \$300.

Two new helicopter camera mounts, the Mark 5 and the Mark 10 J.R., have been announced by Continental Camera Systems, Inc., 16800 Roscoe Blvd., Van Nuys, CA 91406. The Mark 5 accepts most 16mm cameras and the Mark 10 J.R. has been designed for exclusive use in a Bell Jet Ranger helicopter. It accepts both 16mm and 35mm cameras. Features of the Mark 5 include silent zoom and focus motors, vibrationless seat isolation, foot rest, self-contained battery power for camera, zoom and focus motors and variable presettable zoom and focus speeds from 5 to 90 s. All the motors can be swung out to enable the cameraman to get at the lenses. The motion of the mount can be securely locked

off in midair, if required, to change magazines.

The design of the Mark 10 J.R., isolates the camera and cameraman from helicopter vibration by mounting the camera arm over the gas tank and positioning the cameraman in the well of the passenger compartment, thus providing more room for camera movement. Both camera mounts are available for rent; intercoms, headsets and windshields are included in the rental fee.

Two Halliburton camera cases, one fitted for all Arriflex 16S cameras and the other for Arri 16BL cameras, have been announced by Arriflex Co. of America, 25-20 Brooklyn-Queens Expwy. West, Woodside, NY 11377. The case exteriors are made from heat-treated, hard aluminum alloys, formed and ribbed under great pressure to make a rigid shell. The cases have full length hinges and special latches designed to withstand hard usage. The interiors are precut foam, the density of which is matched to the purpose and formed to surround and protect the camera against shock, moisture and dirt. The Halliburton case for the Arriflex 16S measures 26 by 18 by 9 in and weighs 15 lb. It accepts the basic 16S, zoom and fixed focal length lenses, two 400-ft magazines and other small accessories. The price is about \$190. The case for the Arri 16BL measures about 21½ by 17 by 12 in and weighs 18 lb. The case accepts the 16BL camera with zoom lens, two 400-ft magazines, matte box and other small accessories. The price is about \$210.



# 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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ECCO 746, a system for cleaning motion-picture film up to 70mm, has been announced by Electro-Chemical Products Corp., 89 Walnut St., Montclair, NJ 07042. The system is used to clean and condition film and filmstrip in 46mm, 2½-in and 70mm formats. It consists of a permanent applicator plus one quart of ECCO 1500 antistatic film cleaning and conditioning solution, six cleaning flannel rolls and a set of 4- by 4-in felt pads. It is designed to clean, condition and stop dust-attracting static in one operation. Provided with a poly-feed bottle, the system supplies fluid to two feed valves which regulate the flow of cleaning solution. The system weighs 2½ lb. The price is \$69.

A new pre-amplifier, an optional accessory for the CP-16/A camera system, designed to accommodate the Sennheiser 804/805 series of condenser microphones, has been announced by Cinema Products Corp., 2044 Cotner Ave., Los Angeles, CA 90025. The accessory provides the camera system with an additional condenser microphone capability without requiring the use of the Crystasound Auxiliary Mixer (model 6C). When the pre-amplifier unit is plugged in, the CP-16/A Crystasound built-in amplifier can continue to 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 the required power is supplied by the same NC-4 Nicad battery powering the entire CP-16/A camera system. The pre-



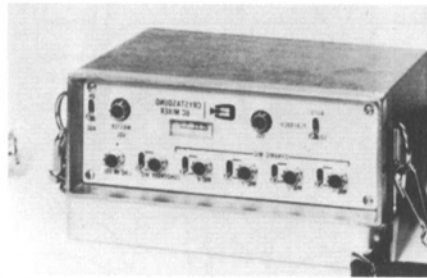
amplifier accessory is easily mounted or removed from the CP-16/A Crystasound amplifier cover. The price is \$175.



**Son of 36 Grand**, Model 501, an expandable, modular professional audio recording/remixing console designed to accommodate 24-track recording and quad mix-down, has been announced by Audiotronics, Inc., 180-B S. Cooper, Memphis, TN 36104. The console is expandable to 26 inputs with complete metering, expandable patching and a full line of matching accessories. There are 23 program output channels, 16 main, four quad, stereo and mono; four echo send and return channels; independent monitor echo return control; two cue channels; four control room monitor channels with automatic changeover for multitrack; quad; stereo; mono and two studio monitor channels.

Features include talkback and communications facility with independent select and level control to program busses, studio, cue 1 and 2, a built-in test and cali-

bration oscillator and silent electronic switching for all monitor muting, selection and input group muting. Sixteen VU meters are switched to indicate level conditions of 31 output channels, a built-in supply for phantom powering of FET condenser microphones is included and all active circuitry is contained within plug-in modules. The price range is from \$14,969 for the 8 input 8/24 output to \$25,433 for the 26 input 16/24 output console.



**The Crystasound Auxiliary Mixer**, Model 6C, an addition to the Crystasound Recording System for use in filming situations where it is not feasible for the TV-news/documentary cameraman to handle the sound recording process by himself, has been announced by Cinema Products Corp., 2044 Cotner Ave., Los Angeles, CA 90025. It has been designed for use, also, in situations where additional microphones are needed beyond those accommodated by the Crystasound built-in amplifier. The device, weighing 3 lb 1 oz and measuring 6½ by 2½ by 6 in, can 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 built-in amplifier. It draws its power from the NC-4 nicad battery pack powering the entire CP-16/A camera system. Model 6 Auxiliary Mixer is priced at \$850.

**The S-9B mono production board** has been announced by LPB Inc., 520 Lincoln Hwy., Frazer, PA 19355. The unit has four audio channels with two inputs for each channel. It is made of heavy-gauge sheet aluminum and is 16½ in wide, 11½ in deep and 5½ in high. It weighs 12 lb. Features include solid-state circuitry and PC board construction throughout, Allen Bradley pots, internal cue and monitor amplifiers, cue speaker on front panel headphone jack and full spectrum frequency response. The price is \$475.

**A 100-W solid-state power amplifier**, Model 810 for professional sound applications, has been announced by Electro Sound, Inc., 725 Kifer Rd., Sunnyvale, CA 94086. The amplifier is intended for continuous non-attended service in installations where trouble-free operation over long periods of time is required. The unit has an internal current sensing circuit which protects the unit from overloads and holds its output within safe operating ranges even if an accidental short should occur. The amplifier occupies 7 in of vertical rack space. It provides a 100-W rms output with less than 0.5% total harmonic distortion. The frequency response is ±1 dB from 40 to 20,000 Hz at 100 W or ±0.5 dB from 20 to 20,000 Hz at 1 W. The unit has a pre-wired socket for plug-in bridging or matching input transformers. Standard output impedances of 4-, 8- and 16-Ω are provided, plus 50-Ω (70-V line). The price is \$340.

**The Varispeech machine**, a tape recorder for time compression and expansion, has been announced by Rogers/Stewart/Cox and Associates Ltd., P.O. Box 395, Station F, Toronto 5, Canada. The machine is designed especially to enable control over time in the handling of recorded speech. Any recorded cassette can be played back at any speed between ½ and 2½ times the recorded rate without affecting voice pitch or speaker identification. In the compression mode a recording can be played at higher than normal speed to save time — for example an hour's tape can be audited in 24 min. In the expansion mode a recording is played at slower than normal speed permitting even garbled or excessively fast speech to be studied and analyzed in detail. The compressing and expanding of time are possible through electronic signal processing. It converts the voice signal to a digital format, then enters it into a small, special-purpose computer which converts the voice to a second digital format, correcting it for pitch, then finally converts it back to an analog or voice representation without loss of intelligibility or speaker identification. The Varispeech machine is priced at \$995.

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The lamphouse is designed to fit any standard projector base, and the

stack will adapt to any standard exhaust system. All internal electrical components are easily replaceable. Bulb is inserted through the top of the lamphouse without disturbing alignment. A trouble-free igniter gives instantaneous ignition.

The lamphouse measures 22½" long, by 12½" wide and 16" high including mounting brackets. The power supply is 20½" long, 18" wide and 8¾" high. The fan cooled power supply can be mounted vertically or horizontally.

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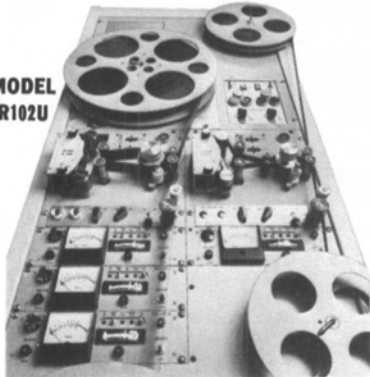
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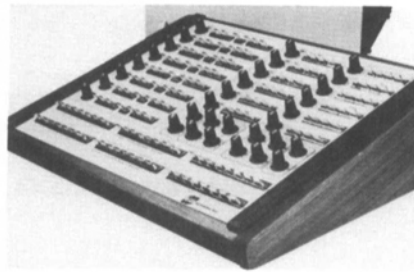
EAST: The Camera Mart Inc., N.Y.C.



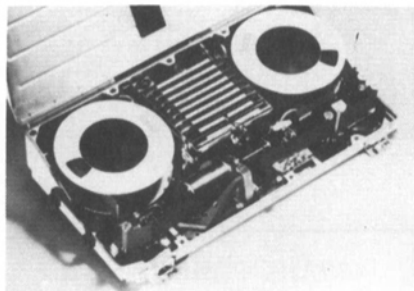
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The Chromaton 10, a self-contained device to produce controllable animated patterns in motion and color on a color TV set, has been announced by BJA Systems, Inc., 431 W. Glenside Ave., Glenside, PA 19038. It is used in the production of TV titles, backgrounds or sets for performers, special visual effects and graphics, and as a direct entertainment tool. The animated patterns are created and controlled by operating the console control panel. The action can be automatically related to an external audio input if desired. The number of different patterns that may be obtained is essentially infinite. Composite sync, blanking, color subcarrier and audio, if desired, are fed in. A composite 75-Ω, 1-V video signal is fed out. Local audio may be input if desired. Connection is made to the antenna terminals and a signal is provided on an unused channel. The control panel is 19 in wide and 15¼ in high (or with cabinet, 21 by 18 by 8 in). The generator is a standard rack mount, 19 by 17 by 5¼ in. Price of the Chromaton 10 is \$12,500.



The TPR-10, a portable quadruplex videotape recorder, has been announced by RCA Government and Commercial Systems, Moorestown, NJ 08057. Designed originally for airborne use, the unit can be used on location where conventional equipments are too large to go to provide 20 min of recording time for news, commercials and special events coverage. The tape speed, format and high-band signal system are compatible with quadruplex videotape machines such as the RCA TR-60 and TR-70. Tapes made on the TPR-10 can be played on any standard quadruplex system in NTSC color. A monochrome playback facility is included in the system. The transport and electronics of the TPR-10 are housed in two separate units. The transport weighs 45 lb and the electronics package weighs 55 lb. Price of the TPR-10 system is \$65,000.

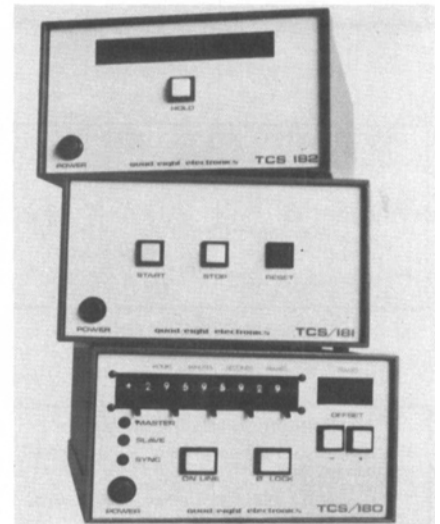
Three new closed-circuit TV cameras (CTS2, CTS3 and CTS4) designed to operate in daylight and darkness with interchangeable fixed or zoom lenses have been announced by Moxon Inc./CTS Div., 2222 Michelson Dr., Irvine, CA 92664. The cameras are housed in ruggedized dust-

and splash-resistant cases to allow operation in environmental extremes of temperature and vibration. The CTS2 provides up to 800 lines of horizontal resolution with automatic 20,000 to 1 light compensation (dynamic range). It has an adjustable peak white clipper and sensitivity of 42 dB at 10 MHz (60:1) peak signal-to-noise with 0.5-fc faceplate illumination.

The CTS3 is a low-light-level camera with over 700 lines of horizontal resolution from a burnproof pickup tube immune from intense light sources, such as the sun. It has 100,000:1 light compensation (dynamic range), a peak white clipper and usable picture to 0.005-fc faceplate illumination.

The CTS4 is a night camera providing fully automatic operation from midnight to noon. It provides 600 lines of horizontal resolution and automatic light compensation (dynamic range) of 2,000,000:1 from a burnproof pickup tube. The usable picture is 0.0001-fc faceplate illumination. Geometric distortion is less than 2%.

Common characteristics for all three cameras include dual isolated video outputs (composite or noncomposite) RS330 2:1 positive interlace, RS170 broadcast sync generator, all silicon transistorized, modular plug-in glass-fiber epoxy circuit boards, automatic solid-state scan failure protection, and automatic iris and filter wheel. All three cameras are 6½ in in diameter with lengths ranging from 12½ to 15 in. Weights are from 12 to 15 lb. Lens mounts are 16mm center mount. The CST2 (without vidicon and lens) is priced at \$1,310. The CTS3 (without lens but with SDA tube) is priced at \$2,925. The CST4 (without lens but with SIT tube) is priced at \$8,050.



The TCS Time Code Synchronizing System, a series of components designed for synchronization of multitrack audiotape machines with similar slave units, videotape recorders or sprocketed film interlock systems, has been announced by Quad/Eight Electronics, 11929 Vose St., North Hollywood, CA 91605. The basic system features the SMPTE Time-Code Generator, Reader and Synchronizer. A family of optional accessories includes a Motor Drive Amplifier and Search-and-Find Match-Up System. Heart of the system is the TCS 180 Synchronizer. Operating with



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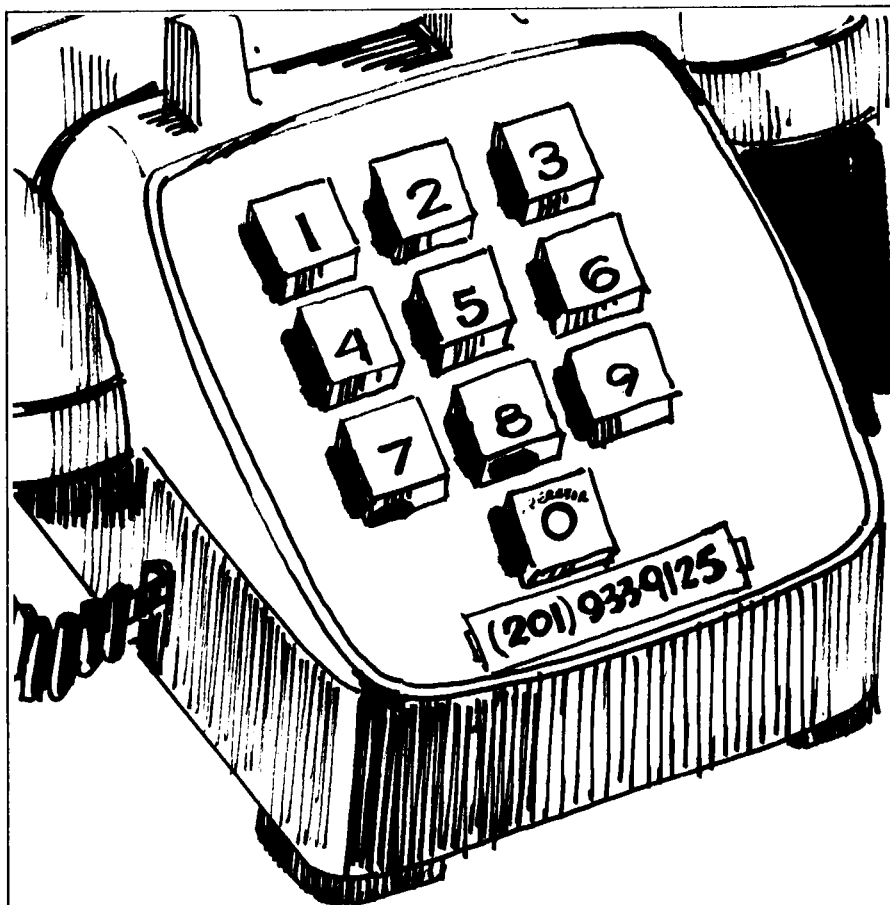
the TCS Reader, it provides the requisite "speed-up" or "speed-down" error signals to capstans that can be either ac synchronous or dc servo controlled. Other features include offset (slewing with frame indicator and pre-select lever-wheel switches), time/phase lock selection and on/off line switch.

The TCS 181 Generator is NTSC or 60-Hz data rate selectable. A provision for optional data display and lever-wheel code preset allows hours, minutes, seconds and frames to be read and/or preselected. Power, start, stop and reset controls, as well as connector provision for parallel data output, are provided.

The TCS 182 Reader receives time codes from master or slave machines and provides a large character display of encoded tapes at NTSC or PAL frame rates. A hold button is provided to allow annotation of exact tape position. It incorporates a high-speed forward or rewind reading capability which allows complete synchronization in the reeling modes of each slaved machine. Price for the basic TCS system, including one synchronizer, two readers and one generator is \$9,100.

A 200-in focal length lens, Model 200/16, newest in a series of high-resolution, large-aperture catadioptric objectives, has been announced by Fecker Systems Div., Owens-Illinois, Inc., 4709 Baum Blvd., Pittsburgh, PA 15213. The new lens, which has a relative aperture of  $f/16.7$ , has been designed for use in any thermal environment. It can be used in range instrumentation or aerial photography. There are two other lenses in the series — a 100-in focal length ( $f/8$ ) and a 50-in focal length ( $f/4$ ) catadioptric lens. The three lens systems are adaptable to either 35mm or 70mm camera format. The new lens has a resolution of 95 lines/mm across the field with a distortion of 0.73%. Overall length of the lens is 23 in. It weighs 115 lb and has a 65-lb mount. The price is about \$28,000.

The CPG-303 Cross-Pulse Generator, designed to display the sync pulse crossover point from any composite video source on any standard video monitor, has been announced by Perdisco, Inc., 19961 Merri-brook Dr., Saratoga, CA 95070. The new generator is intended to eliminate the need for a special-purpose cross-pulse monitor to perform professional dubbing, editing and VTR service. Using the CPG-303, the monitor picture can be switched from NORMAL to DELAYED (cross-pulse) from any location without readjusting the brightness or contrast of the monitor. Other possible uses include that of eliminating "heat rolls" by recognizing VTR lockup correctly; controlling tape tension (skew) during editing, dubbing and program replay; checking edits for correct sync pulses before dubbing and distribution; adjusting horizontal and vertical phase to coincide with system (house) sync; diagnosing alignment problems as they occur and adjusting head crossover point. The CPG-303 is referenced to either incoming composite video and separate sync (switchable) and provides standard composite video and separate sync outputs (for internal or external sync monitor operation).



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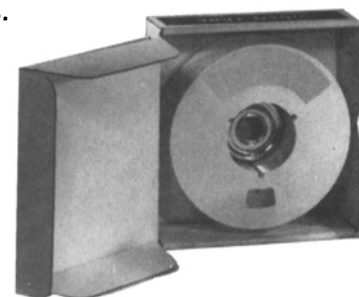
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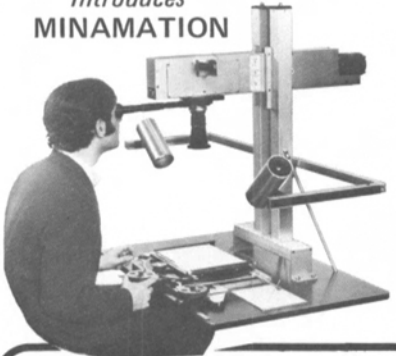
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A serial Time Code Reader, Model SP-435, has been announced by Datametrics, a subsidiary of ITE Imperial Corp., 340 Fordham Rd., Wilmington, MA 01887. The instrument is designed to accept a modulated time code signal generated from a master timing station over communication lines and to decode the incoming code to provide both a visual display and parallel BCD in days, hours, minutes and seconds. The unit will accept either the IRIG-A or IRIG-B code and optionally can provide for reading any of the standard NASA or XR-3 time codes. The price range is from \$685 to \$985 depending on the options selected.

A system combining a television film player and a computer terminal has been announced by Cassette Sciences Corp., 8899 Wilshire Blvd., Los Angeles, CA 90048. A television set of the existing type is used by the film player to show motion pictures and by the computer to display the computer readout. The player will be produced in two versions—one to show super-8 films and the other to show 16mm films. It connects to the TV set by clipping two wires to the antenna posts. The film is shown on an unused channel; operation of the player does not affect the normal function of the TV set. Both versions will accommodate up to 1200-ft cassettes or open reels. An adapter will be available to accommodate 2000-ft reels.

The computer terminal measures 12 by 6 by 3 in and weighs 10 lb. It is used with a telephone and a television set. The unit contains an acoustic cradle for the telephone receiver and a standard typewriter keyboard plus 22 mathematical and punctuation keys. To contact the computer, the telephone number of the local Cassette Sciences time-sharing computer is dialed. The receiver is placed on the terminal's cradle. A code for the particular computer program is entered with the keyboard. Once the program is selected all communications with the computer are viewed on the television screen. Hanging up the telephone ends communications with the computer. The TV screen can display up to 16 lines of information with 64 characters per line. All letters are displayed as capitals. The terminal has an auxiliary input for cable TV and auxiliary outputs for such devices as tape recorders and teleprinters.

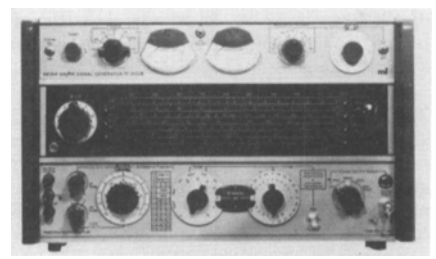
The terminal can be connected to the film player which can then be operated by computer command or by special function keys on the computer terminal. Computer programs are available for family financial planning, income tax preparation, tic-tac-toe and golf. Programs being developed range from chess to differential calculus. A combined film-computer program has been developed to demonstrate visual programmed instruction. Each unit—the film player and the computer terminal will be available later this year. The price of each will be under \$500.

An RF tuner/demodulator for monochrome and color pictures has been announced by SC Electronics, Inc., 530 Fifth Ave. N.W., St. Paul, MN 55112. Designated Model DEM 919, the instrument receives off-the-air video signals, processes the signals and provides composite video,

audio and 4.5-MHz aural subcarrier outputs. Features include Unit-Ized Plug-In Circuit Modules for reducing maintenance costs, eliminating downtime and providing on-the-spot servicing. The instrument is 3½ in high and 19 in wide. The price is \$349.

The Automatic TV Broadcast Transmitter Monitoring System consisting of an Insertion Analyzer, Model 2914, and Data Monitor, Model 2915, has been announced by Marconi Instruments Div. of Marconi Electronics Inc., 111 Cedar Lane, Englewood, NJ 07631. The analyzer permits the simultaneous measurement of up to 24 parameters of a previously introduced VIT signal. Some of the basic parameters which may be measured include the amplitudes of bar, sync and 2T pulses; chrominance/luminance gain, delay and crosstalk; luminance nonlinearity; noise; LF error; bar tilt; differential phase and gain. In the manual mode the parameters are expressed in units of mV, ns, degrees or as a percentage and can be displayed on a 3½-digit panel meter. In the automatic mode, the digitized signal is passed to the data monitor. The Data Monitor automatically scans each parameter in turn and compares the result to preprogrammed limits. When an out-of-limits condition occurs, a front panel LED is extinguished and alarms or necessary control action can be initiated. The Insertion Analyzer, Model 2914, is priced at \$8,750. The Data Monitor, Model 2915, is priced at \$5,900.

A Test Line Generator, Model 2913, which may be used with the automatic monitoring system or independently, permits insertion of internal or external test signals on field one, lines 17 through 22, or field 2, lines 280 through 285. National or international test signals may be applied. The unit is priced at \$4,800.



A new generator/synchronizer combination designed for use in the HF band has been announced by Marconi Instruments, 111 Cedar Lane, Englewood, NJ 07631. The basic signal generator, Model 2002B, covers the wide range of 10 kHz to 88 MHz and provides full AM and FM facilities. The synchronizer unit, 2170B digitally sets the carrier frequency in 10-Hz steps with crystal stability and presents a 6-digit display of the RF frequency. The instrument can accomplish readily performance testing of HF and single sideband receivers to the latest standards. Price of Model 2002B is about \$3,750.

Two new 20-MHz function generators have been added to the Gold Line Series, it was announced by Ailtech, 19535 E. Walnut Dr., City of Industry, CA 91748. The generators incorporate output amplifiers with 3 dB down limits above 60 MHz. Rise time is 10 ns; output range is 24 V

peak-to-peak open circuit and 12-V peak-to-peak into 50  $\Omega$ . The amplifier summing input is front-panel accessible. Features include 5% to 95% symmetry control output frequencies down to 0.02 Hz 0- to 80-dB attenuation range. Waveforms include sine, triangle, square, pulse and sawtooth, with and without offset, dc only. Model 520 is priced at \$695. Model 521 has triggering and gating capability and is priced at \$795.

**The CVI Model 615**, a laboratory-type test signal generator, has been announced by Colorado Video, Inc., P.O. Box 928, Boulder, CO 80302. The instrument provides the means of analyzing geometric, gray-scale and frequency response characteristics of video equipment. The unit has a movable multiburst pattern for use in

analyzing TV monitor resolution at all parts of the screen. It measures  $5\frac{1}{4}$  by 19 by 14 in and can be mounted in a standard 19-in rack. The price is \$1,500.

**A self-powered intercom** headphone providing two-way intercommunication on a single shielded wire has been announced by R-Columbia Products Co., 2008 St. Johns Ave., Highland Park, IL 60035. Designated Model T4/IC, the headphone has a built-in 4-transistor amplifier and 9-V battery supply. Sound can be transmitted over distances up to 1,500 ft and as many as 10 headphones can be connected together. A volume control is used to vary the output of the headphone transmitter from full on to off. The headphone is priced at \$95.

## Positions Wanted

**Film Student.** Experienced professionally as a camera operator, assistant director, production manager. Currently attending a film school in Manhattan, specializing in cinematography. Looking for employment in motion picture production; especially used to small-budget, small unit setups. Jim Knusch, c/o Ciparick, 220 E. 57th St., New York, N.Y. 10022.

**Grad Student.** Currently attending USC-Cinema, seeks employment in TV-related industry. BA in theatre/cinema; MS in cinema. Experience in audio/visual communications, film, TV. Will relocate, will travel. Wm. B. Mc Govern, 2324 Scarff St. #2, Los Angeles, CA 90007. (213) 748-4466.

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**Film Production or Promotion.** Assistant Professor of Speech and Drama, experience in theater production facilities and phases of both theater and film studies and teaching, desires opportunity in a production organization, including writing and public relations. Robert L. Richey, 847 N. Main St., Lindsborg, KS 67456, (913)227-2127.

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**Designer/Engineer.** To work with rapidly expanding Virginia instrumentation camera manufacturer in medical, aerospace, microfilm and surveillance fields. A knowledge of optics and electronics is required. Large film format, pulse and cine background would be desirable. A general knowledge of instrumentation equipment and data reduction techniques helpful. Send resume to: Arthur Dorman, Instrumentation Camera Corp., 97-45 Queens Blvd., Rego Park, NY 11374, (212)275-3400.

**Film Technology Instruction.** To teach in undergraduate film program. Temporary position for one academic year starting September, 1973. Experience in the profession desired. Salary: \$12,700. Equal opportunity and affirmative action employer. Send resume to Professor Herman Krawitz, Director, Davis Center for the Performing Arts, The City College of New York, New York, NY 10031.

**Technical Supervisor.** For undergraduate film program. Temporary position for one academic year starting September, 1973. Experience in maintenance of film equipment required. Salary: \$9,000 to \$11,000. Equal opportunity and affirmative action employer. Send resume to Professor Herman Krawitz, Director, Davis Center for the Performing Arts, The City College of New York, New York, NY 10031.

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