

NEW PRODUCTS AND DEVELOPMENTS

A new generation GSMO 16-mm cassette-load production camera incorporating several significant design improvements has been announced by Cinema Products Corp., 2037 Granville Ave., Los Angeles, CA 90025. Offering a 100-ft magazine in addition to the standard 400-ft magazine, the camera with the 100-ft magazine (less

lens and film) weighs less than 8 lb. The electronics in the GSMO represent the most extensive use of advanced microcircuitry in a 16-mm camera with hybrid chips employed for most operating functions. The GSMO features selectable crystal-derived speeds from 12 frames/sec to 64 frames/sec with principal sync speeds



GSMO 16-mm cassette load camera.

of 24 and 25 frames/sec. The new generation GSMO also features an optional 30 frames/sec crystal sync speed for direct frame-to-frame transfer to videotape. Another new feature is the viewfinder which is adjustable to accommodate 32 erect viewing positions. On normal operation it sets the eyepiece approximately 1 in forward of the film plane to achieve better on-the-shoulder balance. When articulated in the rearward position, the GSMO viewfinder eliminates the need for an eyepiece extender for tripod operation. Price of the new GSMO, including the viewfinder and two 400-ft magazines, starts at about \$15,000.

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Cinema Products 35-mm film editing console.

The U/F-35 upright/flatbed 35-mm film editing console has been announced by Cinema Products Corp., 2037 Granville Ave., Los Angeles, CA 90025. The upright/flatbed design permits interchangeability between the 16-mm and 35-mm formats. The basic U/F design employs three sets of terraced feed and take-up platters and three vertically mounted sprocket wheel assemblies to accommodate one picture and two soundtracks.

The U/F-35 features crystal-controlled sync-sound speeds of 24/25 frames/sec with variable speed control from 0.5 to 120 frames/sec forward and reverse; push-button on/off in sync mode to stop the machine on the desired frame; slide attenuators for each soundtrack and master

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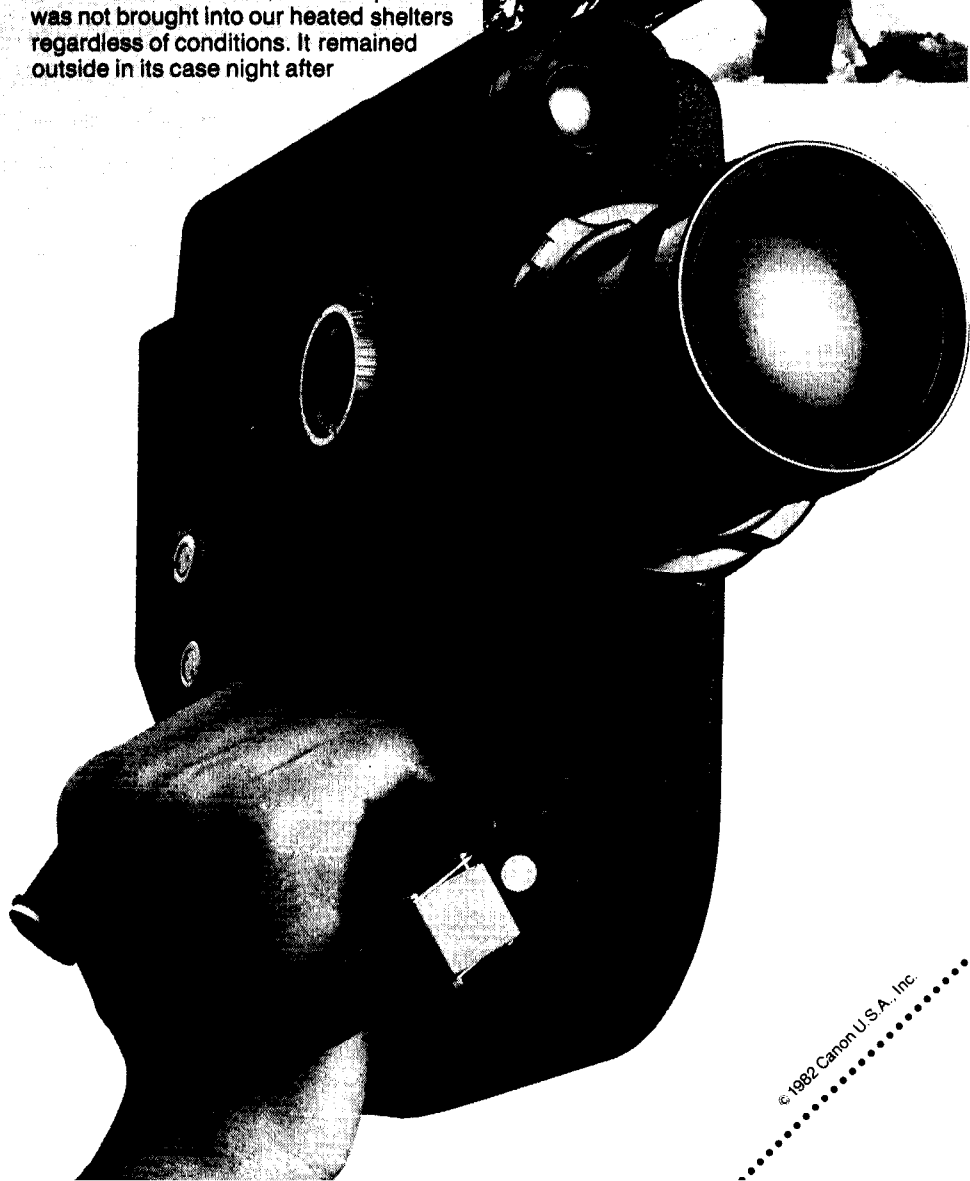


...the Scoopic 16MS...
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gain; and rotating switches for high/low equalization. The display head tower features a hollow polygon prism system, placed away from all heat sources and ambient room contaminants, for continuous flickerless projection on a bright viewing screen. The U/F-35 weighs about 150 lb. The price is \$17,800.

New accessory options for Hawkeye cameras, recorders, and recording camera systems have been announced by RCA Commercial Communications Systems Division, Cherry Hill, NJ 08358. The Hawkeye system consists of all the key equipment components necessary for field

and studio production and post-production including the HCR-1 combined camera/videotape recorder; the HC-1 portable camera; the HR-1 portable 1/2-in videotape recorder; the HR-2 studio model videotape recorder; and the HE-1 edit controller.

An optional field playback capability for the HR-1 videotape recorder allows direct playback of recorded material through the HC-1 camera's viewfinder for immediate review and confirmation of recorded video. The circuitry for this accessory is installed within the HR-1 recorder with no additional equipment necessary.

A new triax adapter with plug-in modules connected to the rear of the HC-1



Triax cable remote control unit for RCA Hawkeye camera.

camera, allows live production remote control of the camera over universal triax cable at distances up to 5,000 ft. The operator's remote panel for the triax system provides all standard controls for production flexibility.

In its recording camera configuration, the HCR-1 is an all-in-one system complete with camera, recorder, microphone, and batteries in an easy-handling lightweight package. The camera and videocassette recorder are coupled together in rugged weather-tight cases.

Designed as an integral element in the Hawkeye recording camera system, the HC-1 camera also provides full capability for independent operation as a new generation portable color camera.

An ENG/EFP color TV camera, the ITC-730, has been announced by Ikegami Electronics (USA), Inc., 37 Brook Ave., Maywood, NJ 07607. Designed for reliability at low cost (under \$10,000), the



Ikegami ITC-730 ENG camera.

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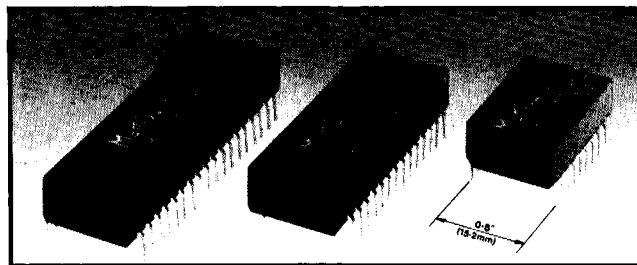
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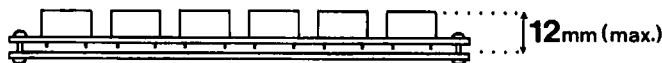
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camera is equipped with a 10X zoom lens, genlock, 2/3-in Saticons, battery pack/charger, and ac adapter. The ITC-730 uses a high-speed prism optics beam splitter. Maximum sensitivity is 60 lux at $f/1.4$ and SNR is 54 dB or better at $f/4.0$ (2000 lux). Resolution is better than 600 lines. A built-in bias light is provided to reduce lag so that the camera can be used for critical low light scenes. Horizontal and vertical detail correction circuits assure a crisp, sharp image.

Two 45-in projection TV systems using patented self-converging picture tubes have been announced by Zenith Radio Corp.,

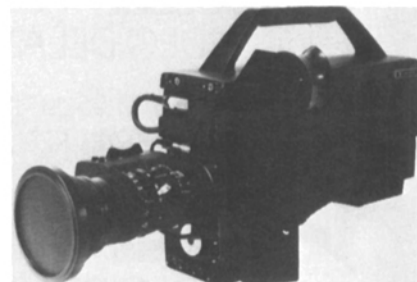
1000 Milwaukee Ave., Glenview, IL 60025. The self-converging picture tubes eliminate the need for convergence adjustments or controls. Built around a new bi-potential electron gun, the tube system is said to keep the picture sharp even at the high levels of brightness required for big-screen projection.

Model PV4535 is equipped with Computer Space Command 3000 infrared remote control which operates all TV functions. The TV system also has quartz-controlled electronic tuning for 112 channels including all VHF and UHF channels and 42 cable channels. Model PV4545 is equipped with Computer Space Command



Zenith's 45-in TV projection system.

5000 remote control and Advanced Space Phone which allows the viewer to place and receive telephone calls through the TV receiver. Model PV4535 is priced at about \$2,700; Model PV4545 at about \$3,750.



Harris TC-90 ENG/EFP camera.

A three-tube (Plumbicons or Saticons) ENG/EFP camera weighing less than 7 lb has been announced by Harris Corp., Broadcast Products Div., P.O. Box 4290, Quincy IL 62305. Designated the TC-90, the camera uses a graphite filament case and other design advances to make it small, light, and rugged. The TC-90 uses LSI chips and an on-board 2 Ah battery pack that provides up to 1.3 hours of continuous operation. Features include a low profile design for unobstructed view over the camera. Options include an EFP control up to 1000 ft through RG/59 cable with no interface unit required.

A 1/2-in VHS videocassette recorder, Model NV-8950, has been announced by Panasonic Video Systems, One Panasonic Way, Secaucus, NJ 07094. It is designed to eliminate completely noise and blurring in slow and stop-action and to provide clear



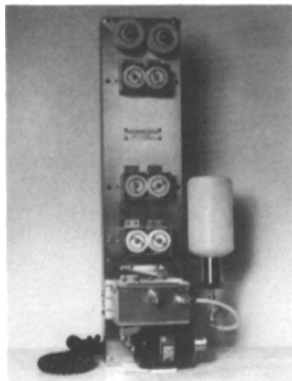
Panasonic VHS videocassette recorder.

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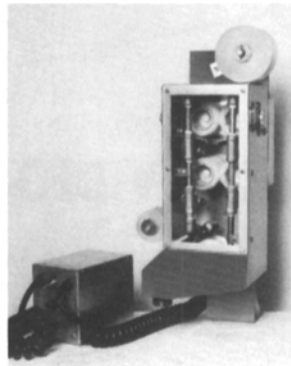
Anything whisked from the film by the fast moving plush is immediately thrown away from the roller by centrifugal force.



Model L-3 Rotary Buffer Lubricator with Automatic Feed Bottle



Model S-3 Rotary Buffer Squeegee with Power Pack



Model BR-2 Rotary Buffer Rem-Jet Removal with Power Pack

Wooster Buffers available for Rotary Buffer Units:

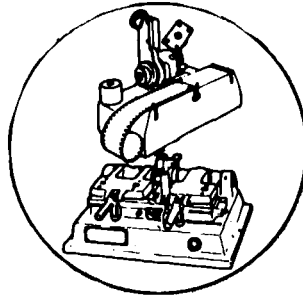
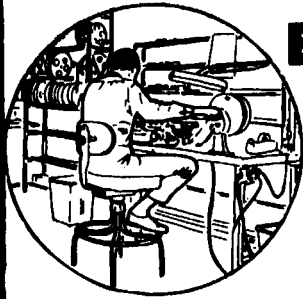
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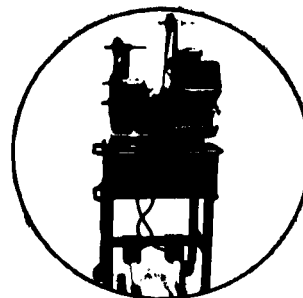
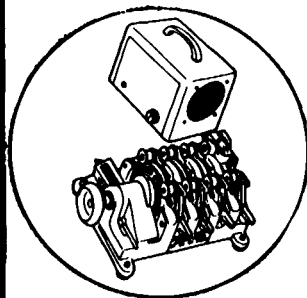


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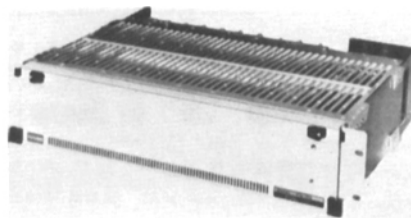
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bar-free pictures in high-speed playback modes. The high-speed playback operates in both forward and reverse directions when the tape is recorded in normal (SP) or extended slow (SLP). The recorder utilizes four video heads to eliminate the noise and blurring that can occur when a tape is played back at a speed different from its recorded speed. The two additional heads are designed specifically for fast, slow, and still-field playback to assure perfect tracking at any speed.

A modular TV signal distribution amplifier, the VTN-110A, has been announced by Ikegami Electronics (USA), Inc., 37 Brook



Ikegami distribution amplifier.

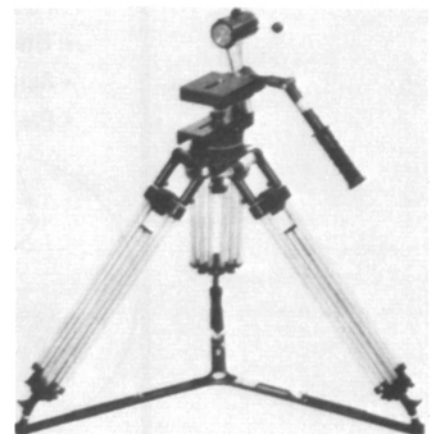
Ave., Maywood, NJ 07607. The system consists of a 19-in rack-mount housing and power supply/regulator which can accommodate up to 10 operational plug-in modules. The electronics in the modules employ hybrid integrated circuits. The

modules are for video distribution, pulse distribution, and video equalization. Each module has one looping input and four outputs using BNC connectors. Features include low power consumption (65 to 150 mA per module).



RECAM integrated VTR and camera system.

THE RECAM, an integrated 1/2-in VTR and camera system for ENG and EFP operation, has been announced by Panasonic Video Systems, One Panasonic Way, Secaucus, NJ 07094. The system is comprised of an in-camera VTR model B-100, studio VTR AU-300, and electronic editing controller AU-A30. It can interface with existing studio equipment. Weighing about 22 lb, the Recam B-100 in-camera VTR is compact, making possible one-person operation. Utilizing advanced electronics, the 1/2-in original recording system (AU-100) and 3-tube camera (AK-100) lock together forming a self-contained unit without umbilical cables. The camera and VTR sections of the Recam B-100 may be separated and used independently.

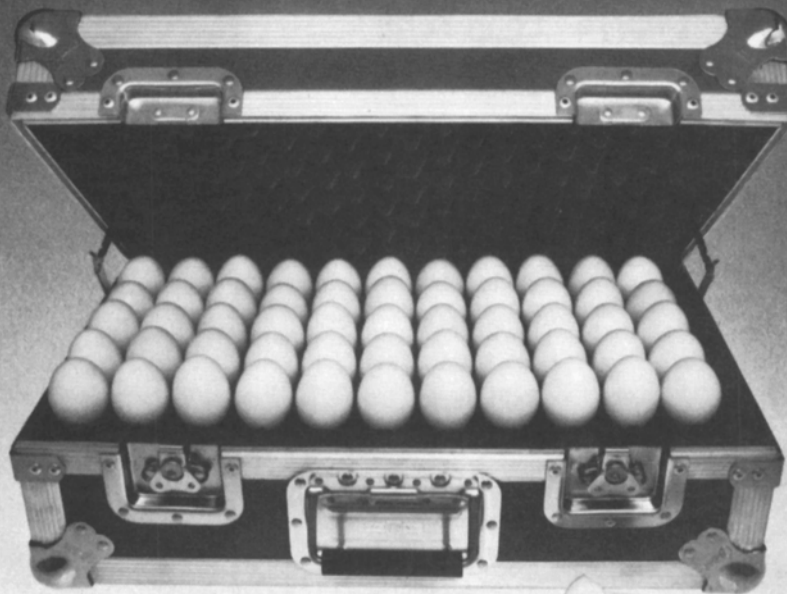


Newstar camera mount.

The Newstar Camera Mount and Camera Tripod for video cameras have been announced by Shinko Electric Co., Ltd., 11-2, 4-Chome, Soto-Kanda, Chiyoda-ku, Tokyo 101, Japan. The camera mount uses the CS-CGC system (Cantilever Supporting the Center of Gravity). Panning and tilting can be smoothly and easily done, regardless of the weight of the camera. A tiltable plate enables the operator easily to locate the center of gravity.

The Newstar tripod can expand to a height of 138 cm or can be shortened to 62 cm. Legs of the tripod are made of stainless

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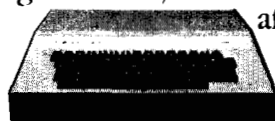
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steel. The Newstar camera mount is priced at \$1,450. The tripod is priced at \$960.

A new configuration of the IRIS II digital still store system has been announced by Harris Video Systems, 1255 East Arques Ave., Sunnyvale, CA 94086. The new system is designed to be compact enough for mobile van use while capable of expansion for larger studio and production facility requirements. The system uses Control Data Corp.'s lightweight and low power RSD disc drives and portable disc data cartridges. The cartridges are interchangeable between systems and each cartridge can store up to 260 stills. Stills can be created ahead of time at the studio and then delivered to mobile production sites in time to enhance the live broadcast.

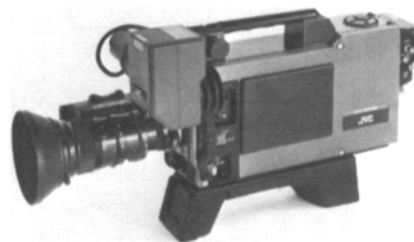


Canon video camera and video recorder.

A portable color video sound camera, the VC-10A, and, portable recording system, the VR-10A, have been announced by Canon USA, Inc., One Canon Plaza, Lake Success, NY 11042. Power for all functions of the camera and videocassette recorder is supplied by a 12-V rechargeable battery in the recorder. Recording time is about 100 minutes with full charge. The VC-10A weighs 15½ lb. It has an 11 to 70 mm f/1.4 zoom lens that incorporates the Canon Solid State Triangulation automatic focusing system and variable speed zooming with a range of from 5 to 10 sec. Features include a character generator that permits tilting while shooting; time lapse clock; control of all recording functions on the camera; and negative/positive switch permitting recording negative film images in normal color.

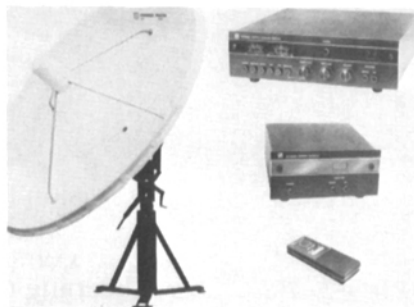
The VR-10A recorder weighs 8 lb 6 oz. Features include an electronic LCD memory counter with built-in battery charge display which can also be transmitted to the VC-10A camera; high speed forward and reverse; ability to retain memory until editing or reviewing at a later time; and up to eight hours recording time with T-160 tape.

The JVC-KY-2700A three-tube color camera featuring 600-line horizontal resolution has been announced by US JVC Corp., 41 Slater Dr., Elmwood Park, NJ



JVC KY-2700A three-tube camera.

07407. The camera has a matrix mask for improvement of color reproduction, an automatic black level circuit, and a master black control. The automatic black level circuit stabilizes any distinct darkness in a scene and the master black control permits simultaneous adjustment of red, blue, and green black-levels. The shoulder mount has been designed with a one-touch, quick-release plate. Features include a full-field color bar generator and a gain boost switch providing plus 6 and plus 12 dB. Other features include digital auto white balancing with memory, built-in gen lock, and automatic beam control for tracking shots at up to eight times the incident light-level without blooming or comet-tail effects.

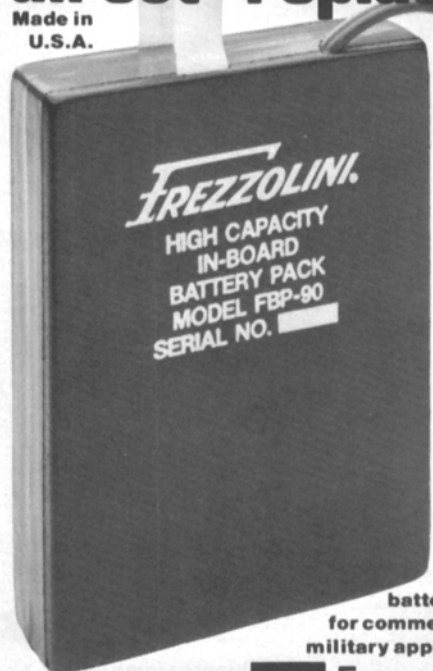


Satellite reception equipment.

A new generation of satellite earth stations has been announced by Channel Master, Div. of Avnet, Inc., Ellenville, NY 12428. Redesigned from feed to mount and featuring a more sophisticated and advanced electronics package, the new earth stations are available in eight different models. Each satellite system includes a 10- or 12-ft parabolic dish, motorized or manual polar mount, 100° or 120° low noise amplifier, scaler feed with automatic polarizer, full-feature 24-channel receiver/down converter, built-in modulator, and all necessary cables and connectors. The antennas, made up of four interchangeable lightweight sections for 10-ft models (six sections for 12-ft models) use a reflective metal layer that is encased in a rugged, weather-resistant fiberglass shell. The prime focus-feed assembly (low noise amplifier, scaler feed, and polarizer) and the downconverter are supported above the dish by lightweight, high strength aluminum struts providing added stability during operation and easy alignment during assembly. The correct polarity is automatically chosen by a special integral polarizer according to the channel selected by the receiver. Prices for the new earth stations range from about \$4,495 to \$5,955.

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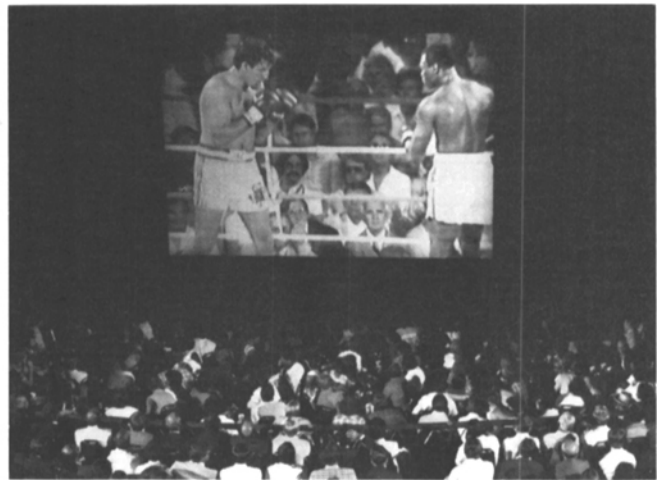
Education: Medical, dental, engineering, computer science instruction.

Business: Sales meetings, industrial training, product presentations, real-time display of computer-generated data, teleconferences.

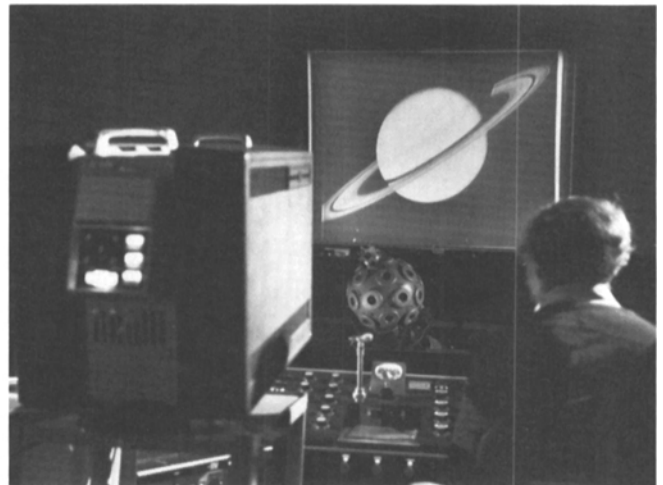
Entertainment: Theatre television, closed-circuit TV events, overflow crowds, special effects.

Television Production: Backgrounds for news programs, special effects, data display, program previewing.

Call or write: General Electric Company, Video Display Equipment Operation, Electronics Park 6-206, Syracuse, NY 13221. Phone: (315) 456-2152.



View from ringside transmitted live to guests in Caesar's Palace lounge.



View from spacecraft transmitted live from NASA to sell-out planetarium crowd.



View from finish-line projected in racetrack lounge is preferred over grand stand by many patrons.



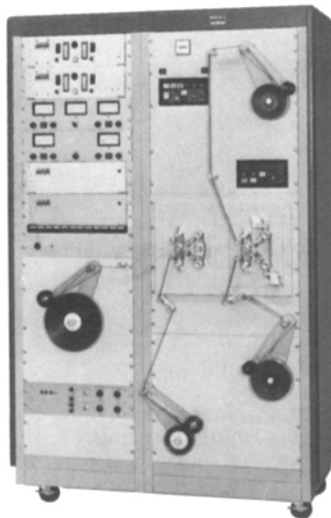
View from armchair at home is duplicated between races to draw extra admission fee at racetrack lounge.

GENERAL  ELECTRIC



Magnetic and Optical Sound Systems

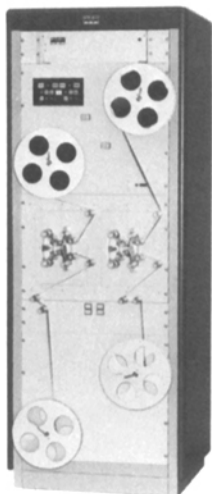
Including:
Our New 350-E Optical Electronics with Time Delay (GNR) and Cross Modulation Signal Unit



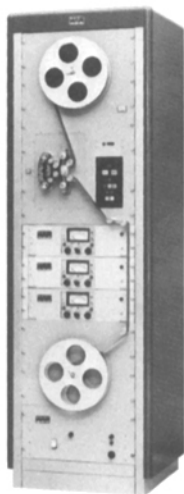
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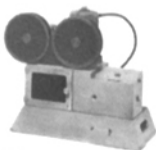
DUAL DUBBERS



PICK-UP RECORDERS



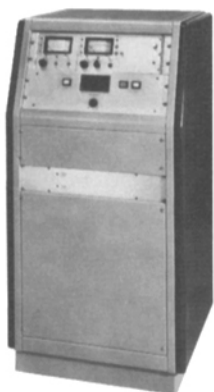
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Because they feature a completely new design in optical sound recorders, the 690s provide the user with a combination of capabilities not previously available in any other manufacturer's product. The combination includes:

- A new DC servo drive to provide exceptionally smooth film handling. This servo drive, featured on all models, also permits the user to interlock with a variety of different types of equipment when interfaced with a WRE shaft encoder.
- Split magazines, offered for the first time in a U.S.-built sound recording system. These make film loading and unloading faster, easier and more convenient than ever before.
- Positive to negative or negative to positive film track change with the simple flip of a switch.
- Field-proven solid state electronics that includes a cross modulation test unit, fixed low pass filter, and an anticipatory time delay circuit (GNR).
- A built-in playback system for high performance reproduction

capabilities as well as for aligning and testing purposes.

690C COMBINATION RECORDER

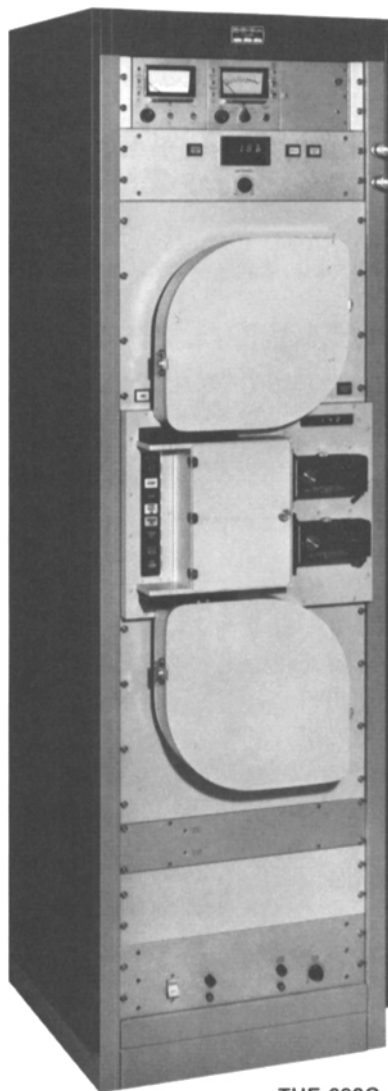
Model 690C is pictured below. It is the 16/35mm Combination Op-

tical Recorder offering all of the new systems latest innovations. In addition, the 690C features two WRE-Maurer F-Prime Galvanometers, recognized world-wide for high quality and performance. Both galvanometers can be switched to or from either 16 mm or 35 mm sound tracks.

WALK-AWAY FEATURE

The new 690 system's unique and exclusive microprocessor based counter counts both feet and frames. Its microprocessor memory can be preprogrammed to turn cross modulation unit and test exposure on and off automatically at any predetermined footage and, at command, at the end of each roll of film. It also shuts off the film transport automatically.

Because preprogramming with microprocessor accuracy is possible, most major recording functions can be automatically monitored and controlled. This walk-away feature permits virtual unattended operation of all models in the 690 series.



THE 690C
COMBINATION RECORDER

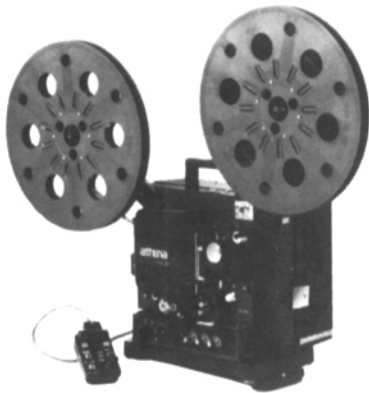


Technical details and information on production and delivery schedules as well as prices are available upon request from Wide Range Electronics Corporation, 2119 Schuetz Road, St. Louis, Mo. 63141.

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An earth station receiver, Model 6128, a 24-channel synthesized unit, uses a single-conversion downconverter installed at the dish and a receiver unit located in the home. For simplified tuning, the 24-channel number format is displayed on the receiver's LED digital channel display. Audio channels (6.8 and 6.2 MHz) are selected with two Priority Audio buttons. Additional audio channels can be tuned in manually. Additional features include automatic polarity switching which allows one-button selection of any channel without additional polarity adjustments.

A solid state color television modulator for cable TV head end applications has been announced by RCA Cablevision Systems, 8500 Balboa Blvd., Van Nuys, CA 91409. Designated the CTM20, the microprocessor-controlled modulator features capability for both local monitoring and for remote monitoring from a centralized control station, allowing all the modulators in an entire cable system to be controlled from a single location. Dedicated full-time monitoring of audio and video modulation is provided by two LED bar graph displays. The CTM20 also provides solid state switching functions, including automatic switching to alternate video sources in case of loss of signal from the primary source, and programmable switching to a selected video source at a predetermined time.

A compact, economical zoom lens for ENG cameras called the J15X9.5 lens has been announced by Canon U.S.A., One Canon Plaza, Lake Success, NY 11042. Featuring a 15:1 zoom ratio, the lens has a focal length of 9.5 to 143 mm. The maximum relative aperture is $f/1.8$ from 9.5 to 112 mm with a maximum relative aperture of $f/2.3$ at 143 mm, allowing shooting under a wide range of lighting conditions. The lens also has a minimum object distance of 3.3 ft (1 m) that permits close-up shots.

A new broadcast lens designed to be used with $\frac{2}{3}$ -in studio-type cameras has been announced by Canon U.S.A., One Canon Plaza, Lake Success, NY 11042. The lens has a 15:1 zoom ratio and focal length range from 8.5 to 128 mm allowing both wide angle and telephoto settings. Features include a built-in 2X extender permitting focal lengths from 17 to 256 mm. The high relative aperture of $f/1.6$ permits camera use under a wide variety of lighting conditions and the minimum object distance of less than 2 ft permits tight close-ups.

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Videola telecine V-500.

SMPTE Booth #162

A new model of the Videola telecine called the V-500 has been announced by Magnasync/Moviola Corp., 5539 Riverton Ave., North Hollywood, CA 91603. The new model offers the performance of the V-1000 but with two film plates instead of four and with the capacity for films up to 6,000 ft in length. Features include the Flickerless Prism optical system designed to eliminate flicker, jitter, and frame lines, and allows video transfers at any speed without regard for TV synchronization.



Rank Cintel MKIIC flying spot telecine.

The MKIIC flying spot telecine, and the FeRRIT separate magnetic sound recorder/reproducer for telecine, VTR, and sound-dubbing applications, have been announced by Rank Cintel, Watton Rd., Ware, Herts SG12 OAE, England.

The flying spot telecine operates on PAL, NTSC and SECAM standards and offers rapid changeover between 16-mm, 35-mm, and super 8 film formats and 35-mm slides. Optional equipment is available for full pre-programming, 6:1-ratio zoom, secondary color correction, and variable speed replay between 16 and 30 frames/sec.

The FeRRIT sound follower is designed for 16-mm, 17.5-mm, and 35-mm audio film at 24 or 25 frames/sec. Its microprocessor-controlled transport system incorporates a large-diameter capstan with 180° wrap-around. The film lacing path has been simplified by the use of an open-loop design which eliminates the need for a pinch-roller. The FeRRIT is able to synchronize with the MKIIC telecine at maximum shuttle speeds of 2 times normal. Up to six audio channels are available.

A video animation stand, Model NH 214, has been announced by Neilson-Hordell Ltd., Central Trading Estate, Staines Middx., TW18 4UU, England. The base unit is constructed of a sturdy 2½-in rectangular tube of welded steel with a heavy duty 6-in diameter column mounted on one

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corner to permit extended tracking of long title sequences. Television cameras up to 100 lb can be attached to the column, which has motorized elevation. Automatic follow-focus is available. A newly designed high-speed video rostrum table provides manual or motorized movements up to real time in the North/South and East/West directions plus rotation. Continuous loop peg bands on the table can also be motorized. All movements have digital counters which can add or subtract in either direction. The high-speed table is also offered for use on motorized film animation stands. Control is provided for the zoom, iris, focus, and black-level functions.

Data associated with a position can be stored in memory. A minimum of 50 positions can be stored and retained for at least one week after loss of external power. Long-term storage is provided by use of floppy discs. The table size is 34 x 28 in with center aperture. It is 32 in high. The camera column height is 11 1/4 ft. The rotational movement of the table is 360° at up to 4 r/min when motorized.

A film care system designed for the television industry was announced by Research Technology International, 4700 Chase, Lincolnwood, IL 60646. Model TV-120 inspects, cleans, previews, and edits film programs in one operation. It can preview and edit at 12 times sound speed.

A digital stereo "profanity" delay line, Model DN772, was introduced by Klark-Teknik Research Ltd., Walter Nash Rd., W. Kidderminster, Worcs, England. The unit is primarily designed as an obscenity filter for radio stations during phone-in shows. It features a 7.15-sec stereo delay with noiseless edit and skip functions, and a dynamic range greater than 80 dB without using noise reduction. The skip function automatically calculates the optimum time to increase the delay and does so without introducing pitch changes or noticeable coloration to the audio signal.

The Development of Geostationary Communication Satellites, Dietrich E. Koelle, *RTM Rundfunktechnische Mitteilungen*, Sept./Oct. 1981

The paper presents a survey of the past and future development of communication satellites. Major satellite systems since 1963 are identified and characterized in their major parameters. Present and future communications services via satellites and their growth rates are discussed. With increasing demand and limited orbital positions in geosynchronous orbit there will be a trend to larger communication satellite platforms with mass of more than 3,000 kg and later even more than 10,000 kg. An advanced U.S. platform concept and a European Geoplatform are shown as examples for future communication systems.

A computerized tracking camera system,

Model 820, has been announced by Elicon, 254 Viking Ave., Brea, CA 92621. The system, designed especially for the animation cameraman, consists of a 20-ft I-beam track, the Model 825 motion control system with computer, dual floppy disc drive, terminal and software, a camera pedestal, track drive with camera follow focus mount and x-y lens board (motors included), and the camera motor and mechanical linkage for camera drive. Eight axes of computer control are standard.

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Track zoom, camera motor, lens board north/south, east/west, as well as programmable follow focus, are standard. Three spare axes are provided for model or artwork movement. Because of its modular design the system may be expanded to a maximum of 64 axes. The price of \$64,000 includes a one-week training course in the system's use. Options include a light, box with two 12-field pan bars using a white neon light source and a rotation axis for the light, box.

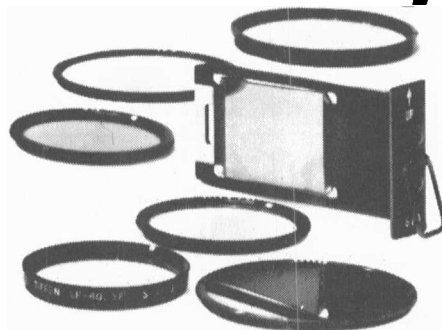
A quad channel, alternate time-base oscilloscope, the LBO-518, has been announced by Leader Instruments Corp., 380 Oser Ave., Hauppauge, NY 11788. Features include front-panel, four-channel operation, simultaneous displays of main and delayed time bases, and alternate channel triggering for viewing non-frequency-related signals simultaneously. Separate, independent, comprehensive triggering facilities for both the main and delayed time bases include HF reject, LF reject, video sync separator, alternate channel triggering for observation of line-related signal components and auto, normal, and single sweep modes. A dome mesh PDA CRT with 20 kV accelerating potential allows critical observation of fast rise time signals with low repetition rates and similar events. Price of the LBO-518 is \$2,295.

Two digital broadcast delays, the BD931 (mono) and the BD932 (stereo), have been announced by Eventide Clockworks, Inc., 265 W. 54 St., New York, NY 10019. The units provide the broadcaster with a low-cost, dependable alternative to tape loop delays for policing talk programs and telephone call-in shows. Each model is available with either 3.2 or 6.4 sec of fixed delay. The units offer greater than 90 dB dynamic range and full 16 kHz \pm 1 dB bandwidth. Prices start at \$1,795 (for the 3.2 sec mono unit).

Eventide also offers the BD955 series which features a patented auto catch-up feature which automatically rebuilds the delay safety margin after objectionable material has been deleted.

The new Two-on-One sealed lead-acid battery belts designed especially for ENG/EFP cameras have been announced by Portable Energy Products, 1875 South Pearl St., Denver, CO 80210. The battery belt is designed to allow it to power simultaneously a video camera and a 100-W sun-gun type light, eliminating the need for two battery units. It is said to have excellent voltage regulation even in extreme temperatures, low self-discharge, and greater reliability, since fewer cells are required for power supply. The battery belts are available in two configurations—for 12-V and 14-V video cameras, both operable with camera-mounted 100-W sun-gun-type lights. Prices start at \$550. The price includes built-in meters, chargers, and naugahyde belts.

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