

# 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.

The CP-16A, A TV newsfilm 16mm camera with Crystasound recording system and built-in amplifier, announced by Cinema Products, 2044 Cotner Ave., Los Angeles, CA 90025, described on p. 830 of the October 1972 issue of the *Journal*, is priced at \$4,815. The record/playback head module is priced at \$480 and *not* at \$80 as reported. The *Journal* regrets the error and the delay in making the correction.



The Bivicon, a 1½-in TV camera tube (RCA type C23244) with two "eyes," or targets, has been announced by RCA Electro-Optics Marketing, New Holland Pike, Lancaster, PA 17604. The new tube has been developed through the combined efforts of scientists at the David Sarnoff Research Center in Princeton, N.J., and the RCA Electronic Components plant in Lancaster, Pa. Designed originally for the RCA HoloTape system, the tube can be used for generating color pictures from two-frame holographic or photographic films in which the luminance (black-and-white) portion of the picture is projected onto one target and the chroma (color) information, in suitable encoded form onto the second target.

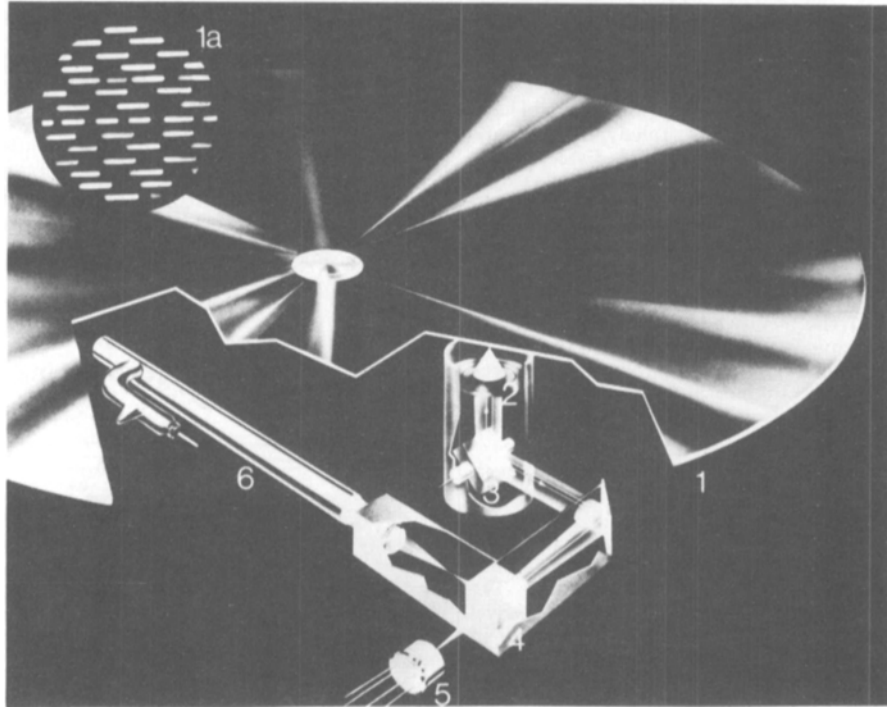
The new tube makes possible excellent registry between the luminance and chroma information without additional auxiliary coils because the beams generated by its two electron guns are controlled by a single magnetic focus and deflection system. The beams read out the stored picture information from the two targets and provide simultaneous output signals that can be superimposed with precision. The

Bivicon can be used to replace single target vidicons in one-tube color cameras that separate the luminance and chroma signals by optical filtering with the advantage that the second target can process the color signals independently. It can also be used in cameras designed to produce simultaneous optical images that can be played back on separate monitors or superimposed on a single monitor. Other possible applications include use in a TV surveillance camera with two fixed lenses that might be electronically switched from one "eye" to the other to provide both close-up and wide-angle shots of an area under surveillance.

Work on the Bivicon was directed toward the development of an inexpensive tube suitable for large-scale production.

To achieve these objectives, soft glass was substituted for more expensive hard glass normally used for tube envelopes, the electron guns were designed to provide easier fabrication and the size of the beam aperture was doubled, thus reducing the load on the cathode and providing longer life and better reliability.

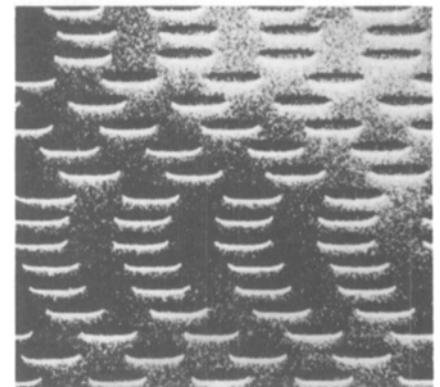
A typical raster format for the Bivicon is 0.50 × 0.38 in with center-to-center spacing of 0.41 in. The two rasters are scanned in parallel so that two simultaneous out-out signals are generated. The output signals are provided from two small metal contact buttons on the tube's faceplate while mesh contact is made through a stud in the glass bulb. All other electrical connections are brought out through the tube base.



The VLP (Video Long Play) television disc system developed by N.V. Philips of the Netherlands and marketed by North American Philips Corp., 100 E. 42 St., New York, NY 10017, plays color programs through an ordinary television set, via an ingenious "record player" attachment. The VLP uses a new type of record which, in many aspects, closely resembles an ordinary audio LP and is pressed in essentially the same manner, using modified record pressing equipment.

Shown in the keyed illustration are (1) the VLP Record; inset detail (1a) shows the pattern of pits (pits appear white); (2) spring-suspended lens; (3) hinged mirror; (4) beam-splitting prism; (5) photodiode (detector); and (6) laser light source. Also shown is a picture of the surface of Philips Video Long Playing Record, taken through a scanning electron microscope, showing the pattern of pits which contain the necessary video and audio information.

The VLP system has two basic elements, the record, made from the material used in a normal audio LP disc, and a playback unit. The playback unit is similar to a standard record player except that it employs a low-powered laser light source instead of a stylus and an electrooptical



pickup which plays the record without direct contact, thereby eliminating record wear.

The VLP record can provide color programs lasting up to 45 min on one side. The system provides for random access, image speedup, slowdown, stills, reverse or picture-by-picture display. Applications include entertainment, training, education or it can be used for visual storage for information retrieval. Initially, the price of the VLP system is expected to approximate that of a color TV set.

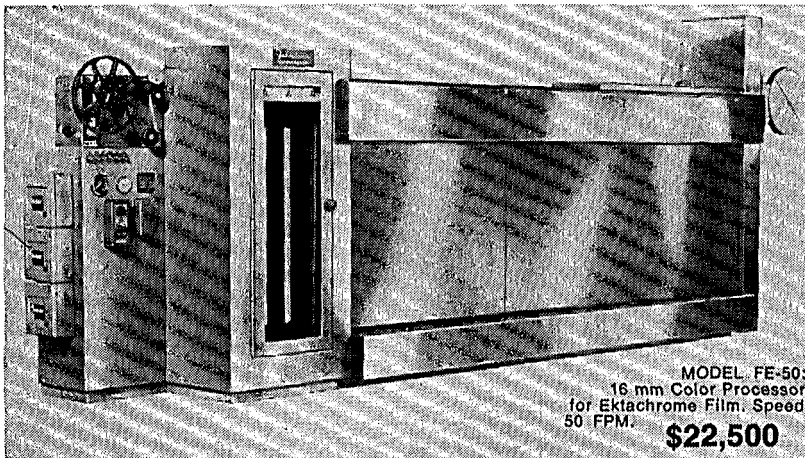
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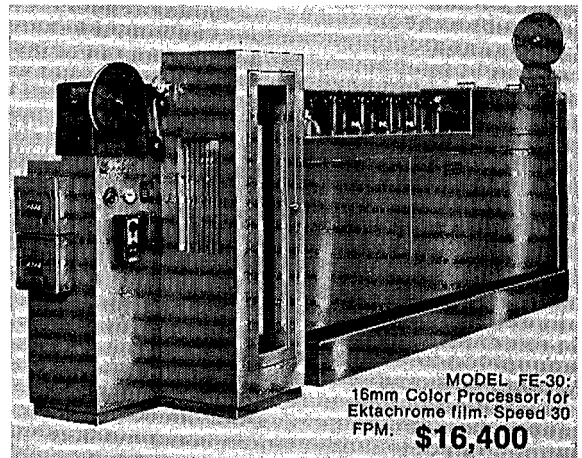
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Partial listing of Filmline Color Installations: — NBC- New York, NBC- Washington, NBC- Cleveland, NBC- Chicago, CBS & ABC Networks, Eastman Kodak, Rochester.

Laboratories: De Luxe Labs, General Film Labs (Hollywood), Pathe-Labs, Precision Labs, Mecca Labs, Color Service Co., Capital Film Labs, Byron Film Labs, MGM, Movie Lab, Lab-TV, Technical Film Labs, Telecolor Film Labs, Guffanti Film Labs, A-One Labs, All-service Labs, NASA Cape Kennedy, Ford Motion Picture Labs.

TV Stations: WAPI-TV, WHP-TV, WMAL-TV, WXYZ-TV, WWL-TV, WMAR-TV, WJXT-TV, KETV-TV, WTOP-TV, WEAT-TV, WCKT-TV, WAVE-TV, WAVY-TV, KTVI-TV, WCPO-TV, KTAR-TV, WSYR-TV.

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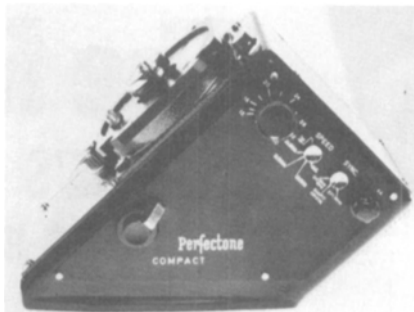
Time & Lease  
Plans Available

The MIT/Leacock Super 8 System, designed at Massachusetts Institute of Technology by Prof. Richard Leacock, has been announced by Hamton Engineering Associates Inc., 735 Providence Hwy., Norwood, MA 02062. The system's components consist of a camera and recorder, transfer machine, editing deck and projector. The camera is a blimped Nizo S56, 8:1 manual zoom, automatic light meter, battery-driven, built-in shoulder pod and crystal controlled at 24 frames/s. It is cartridge-loading. The recorder is a modified TC124 Sony cassette recorder (with no umbilical cord to the camera), ECM 21 modified microphone, crystal-controlled oscillator tone generator to "B" track, automatic gain control eliminated, external preamplifier, record level control, switchable bass filter, two light-emitting diodes for level control hi/lo indication and slating button (light and beep sync start control) in contour-shaped microphone for single-hand operation. The transfer machine has a Tandberg II transfer deck with guides modified to handle full-coated super-8 magnetic film. A photocell and light source are added for sync control in playback or re-record mode. Included is a cassette playback for transferring.

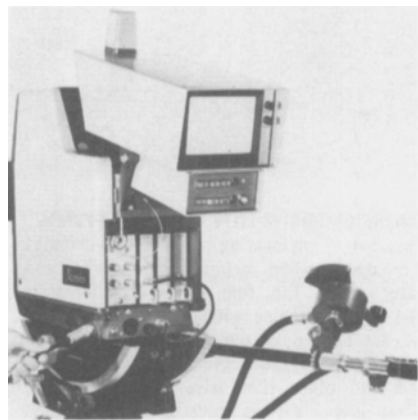
The editing deck is a four-plate horizontal deck with a  $3\frac{1}{2} \times 4\frac{1}{2}$  bright field image, 24 frames/s forward/reverse, fast forward/reverse, instant stop and start, double- or single-strand inching, separate clutches for tape and film, frame counter, second counter and footage/time rule. The projector is a Bauer T30 with five-bladed shutter for TV or standard use, servo-con-

trolled motor, interlock to Tandberg, record/playback magnetic striped film. The system is priced at \$6,675 for educational and nonprofit organizations. Commercial prices are about 10% more. The various components are available separately (with the exception of the camera/recorder available only as a set) at proportionately higher prices.

Thin neutral-glass filters that can be used as exposure reducers for color photography, especially for outdoor portraiture with Kodak CPS and Ektachrome high-speed film, have been announced by Fish-Schurman Corp., 70 Portman Rd., New Rochelle, NY 10802. When the lens aperture is opened to defocus and blur unwanted background, an appropriate exposure-reducer filter allows the same exposure time to be used as with a stopped-down lens. For example, opening four stops, which gathers 16 times as much light can be exactly compensated with neutral filter ER4 which has an average optical density of 1.2. Other filters are available for other stop jumps up to ER10 with an optical density of 3.0 corresponding to 10 stops ( $f/64$  to  $f/2$ ) or  $1000 \times$  exposure factor with little change in color balance. The glass used in these filters does not scatter or reflect light as other types of neutral filters do. The optical density is neutral within  $\pm 5\%$  between 420-670 nm. The filters are available in various sizes. For a filter  $1\frac{1}{16}$  in square or 32 mm round the price is \$6.50; 2 in square or 50 mm round is priced at \$20.



Univo, the Perfectone crystal sync motor designed to mate with the Eclair NPR, is distributed exclusively in the United States by Eclair Corp., 73 S. Central Ave., Valley Stream, NY 11580. Utilizing advanced integrated circuitry, the motor is designed to provide cameramen with a number of control options in a rugged, compact package. At synchronous motor speeds of 24 and 25 frames/s, the Univo provides switch-selectable pilot tone outputs of 60 Hz (24 frames/s) or 50 Hz (24/25 frames/s). Speed can be varied from 8 to 40 frames/s by means of a calibrated control. Another switch permits sync options of external 50/60 Hz, internal crystal or external 100 Hz. The Univo is priced at \$2,395.



The Norelco LDH-1T, a three-Plumbicon color TV camera using light, inexpensive triaxial cable instead of conventional multiconductor camera cable, has been announced by Philips Broadcast Equipment Corp., One Philips Parkway, Montvale, NJ 07645. The camera is a modified version of the Norelco LDH-1 which uses regular cable. The new camera has a compact cable adapter unit and a smaller, more economical cable between the camera head and the camera control unit. The camera head and the camera control unit can be separated as much as 4,000 ft without requiring any video compensation. Use of the triax cable provides significant operational and economic advantages. It weighs considerably less and is considerably less costly than the multiconductor cable used with the LDH-1. The LDH-1T is priced at between \$30,000 and \$40,000 depending on such variables as the type of tubes (industrial grade or broadcast grade) and the type of lens (5:1 or longer focal length).

A new computerized system for color processing control has been developed by DeLuxe General, Inc., 1546 N. Argyle Ave., Hollywood, CA 90028, it was announced by Robert T. Kreiman, President. Known

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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  $22\frac{1}{2}$ " long, by  $12\frac{1}{2}$ " wide and 16" high including mounting brackets. The power supply is  $20\frac{1}{2}$ " long, 18" wide and  $8\frac{3}{4}$ " high. The fan cooled power supply can be mounted vertically or horizontally.

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as the DeLuxe 7 Print Process Control, the new system utilizes an IBM System 7 Computer, a quantametric Automatic Densitometer and a Teletypewriter. The three components are combined in a program group to analyze information during film processing from sensitometric strips, to recognize abnormalities and to advise corrective action. The readout operation is fully automatic and is completed within a few seconds. Previous laboratory methods of performing the same control studies required up to 10 min per strip of film analyzed.

Before the new system was installed, DeLuxe followed the usual laboratory method of film process control, i.e., developing a standard gamma strip, reading 21 blue, green and red color strip values on a densitometer, plotting the readings by hand on graph paper, evaluating the resulting curve and comparing it with a master curve. The control technician then determined whether the film process was normal or abnormal and, if abnormal, he determined what to do to correct the developing process. The gamma strips were processed once an hour on each developing machine.

The new system was described in a paper, "Computerized Printer and Process Control," by David J. Degekolb, Harold W. Larson, Manfred G. Michelson and Fred J. Scobey, presented at the Society's 112th Conference in Los Angeles.



A portable TV console, Model PTC-15, designed to facilitate production of video programs for business, industry and education, has been announced by Concord Communications Systems Div. of Benjamin Electronic Sound Corp., 40 Smith St., Farmingdale, NY 11735. The new console provides fingertip control of camera switching, video special effects, special-effects preview and audio mixing. The basic unit, which is of modular construction, can handle five simultaneous video inputs. It has three 5½-in monitor screens which can be switched to any input. A crystal-controlled 2:1 synchronization generator has five vertical and horizontal outputs to synchronize up to five video cameras. There is also provision for external EIA synchronization for production of a composite video signal for cable or broadcast applications. The console is 20½ in wide, 13¼ in high and 27 in deep. The price is \$1,800.

The Model DCM-1 Data Cassette Memory System, a computer-type expanded memory system designed for direct interface with the Model PT-3200 Production Titler and all MSI Datacasting Systems,

has been announced by MSI Television, 4788 S. State St., Salt Lake City, UT 84107. Features include 250-page or title memory; full keyboard edit capability; numerical readout for page identification; automatic sequential access; fast, semiautomatic random access; permanent, protected data storage; and computer grade tape transport. The price is \$3,995. Optional features include high-speed random access and telephone circuit interface (acoustic or direct-coupled).

A line of modular components for advanced instructional audio systems employing BCD-coded signals and 5-V solid-state logic (TTL or DTL integrated circuitry) have been announced by Scott-Engineering Sciences, 1400 SW 8 St., Pompano Beach, FL 33060. The modules, all with time-sharing capability, include a load-sensing twin-cassette program deck, an integrated-power switching module, a plug-in BCD-coded, student-control panel and a single-side storage rack with 28-transport capacity. The twin-cassette transport assembly is remotely controlled and may be used as either a program-storage or a recorder system component. The designer can use the traditional 4-track pattern and can store 16 monaural or eight stereo programs in the space formerly required for four or two. He can also use four independent sources instead of four monaural or two stereo sources locked to each other. The twin-cassette module is priced at \$1,267.

The Integrated-Power Switching Module occupies less than 2 ft<sup>3</sup> and accepts up to 20 plug-in 5-V TTL/DTL logic cards, each providing on-command access to any of 100 signal sources. With cascading up to 1000 such sources may be accessed. The module contains its own power supply and a hinged distribution panel having 20 input, 20 output and 10 general-use snap-in multipin connectors. The 100 by 100 system is priced at \$39,624. A 50 by 100 system is priced at \$32,424.

A series of BCD-coded control panels has also been announced. The price range is from \$61 to \$244 depending on the controls required.

The Video Impedance Converter Type TSF, designed to act as impedance matching device at the interface point between 124-Ω balanced lines and 75-Ω single-ended television circuits and to adapt the output of single-ended 75-Ω test equipments to 124-Ω TV circuits, has been announced by Rohde and Schwarz Sales Co. (USA) Inc., P.O. Box 148, Passaic, NJ 07055. The Type TSF Impedance Converter is an active device as compared to the passive 197 B Coil which it tends to replace. Particular emphasis has been put on suppression of common mode voltages by using independent grounds in the converter. The device is priced at \$495.

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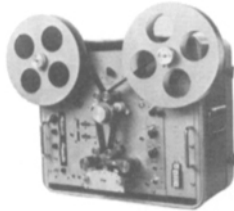


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has been announced by Memorex Corp., San Tomas at Central Expwy., Santa Clara, CA 95052. Each reel of the new tape is accompanied by an individual test chart showing the exact dropout count and location as well as giving data on audio stability throughout the reel. The new tape is free of dropout bursts and averages less than four dropouts per minute with a maximum of eight in any minute segment. The SNR exceeds 50 dB with virtually no audio variation. The one-hour price for 2 in x 4950 ft in a plastic shipper is \$220.50.

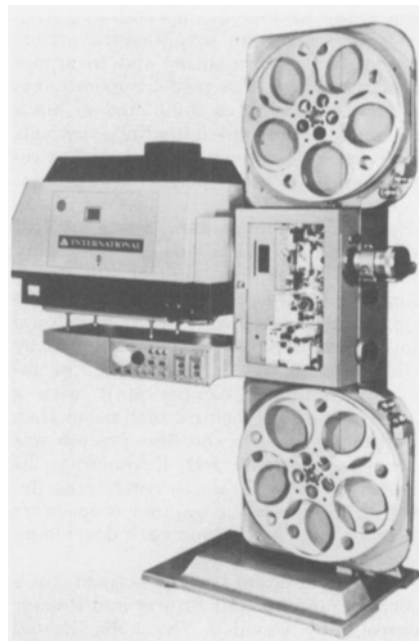


The Ampliguard headset, designed to correct the communications gap encountered on TV productions of musical shows, sporting events and other situations where the cameramen and production personnel cannot hear the director's instructions because of high ambient noise, has been announced by Television Equipment Associates, Box 1391, Bayville, NY 11709. Although liquid cushions are available for a maximum attenuation, foam cushions for TV applications and a 100-Ω noise-canceling carbon microphone with effective noise cancellation of 17 dB will interface to most TV intercom systems. Series parallel or independently wired earphones are of high impact molded plastic. The Ampliguard is priced at \$130.

A new TV production audio console has been announced by Opamp Labs Inc., 172 S. Alta Vista Blvd., Los Angeles, CA 90036. Model 210 microphone input panels may be used to fabricate a variety of portable consoles. As shown above, two 210 panels are used for a 16-input/4-output TV production console. The console also includes a test oscillator, slate microphone and boom; also, public address, auxiliary feeds, pushbuttons and meter. Model 1604 TVK is in kit form and costs \$4,200, while Model 1604 TVW is wired and costs \$6,500. Both versions include a cabinet, meters, power supplies, etc., and both have input noise and output levels rated at -127 dBm and +24 dBm respectively.

The Model 433 repairable dc amplifier has been announced by Opamp Labs Inc., 172 S. Alta Vista Blvd., Los Angeles, CA 90036. The device, measuring 1 x 3 x 2

in, has a hard anodized aluminum heat sink. It has a 16-W peak audio cont. and 4-W rms. The bandwidth is dc to 30 kHz. The price is \$35.



The International 16/35mm projector designed to convert easily from 16mm to 35mm film has been announced by International Audio Visual, Inc., 119 Blanchard St., Seattle, WA 98109. An automatic changeover mechanism is built into the projector. The film reels carry 4,600 ft of 35mm color film and 5,000 ft of 16mm film. A 2,000-W xenon lamp gives maximum brightness and intermittent sprockets move both 16mm and 35mm film. The projector is intended for use in large assembly rooms, including small theaters and auditoriums. The price of \$12,000 includes the lamp and lamphouse but does not include lenses.

The Cartriviewer, a device providing a double frame super-8 image with sound in a cassette cartridge, has also been announced. The double-frame super-8 image gives a clear, sharp image. The sight/sound cartridge—smaller than a shirt pocket—runs for 30 min. The Cartriviewer weighs 13 lb. The price is \$295.

The Atlas Hi-Lux, a miniature tungsten-halogen lamp for use in 8mm cine projectors has been developed by Thorn Lighting Ltd., Thorn House, Upper St. Martin's Lane, London, WC2H 9ED, in collaboration with Eumig of Vienna. Thorn Lighting is represented in the United States by GTE Sylvania, Lamp Div., Winchester, KY 40391. Rated at 8 V, 50 W, the new lamp is 25 mm long and 5 mm in diameter. It is housed in an aluminized metal reflector. Features include constant light output and color temperature throughout its life, increased screen illumination, a bright projector image and a long life. The lamp is filled with Krypton gas at a high pressure which allows the filament to be operated near the melting temperature of tungsten, thus achieving a high light output at a color temperature in excess of 3500 K. The halogen ensures that the light output is virtually 100% throughout the life of the lamp. The lamp is mechanically

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# Video Cartridge, Cassette and Disc Player Systems

## Proceedings of the Symposium

OCTOBER 7 AND 8, 1971, MONTREAL

Stanley F. Quinn, *Chairman*

**From the Foreword:** It was the purpose in organizing the Symposium to examine the new technology of videoplayer systems and to consider the likely impact on education, industry and the home. It was hoped to attract not only engineers but also educators and other professionals interested in this new medium of communication. There were four sessions: Perspective Session, in which particular emphasis was placed on the social and economic aspect of the new technology; Utilization Session, in which plans and experience of prospective users were outlined; and two Technical Sessions, which provided a review of the technology of storing audio-video information and new information about videoplayer systems. The matter of the multiplicity of systems standards received particular attention in several of the papers on both days.

### CONTENTS

- Foreword • *Stanley F. Quinn, Canadian Broadcasting Corp., Montreal*  
Socio-Economic Aspects of Videoplayer Systems — A Perspective • *Wilton R. Holm, AMPTP Research Center, Hollywood*  
Video Cassettes — The New Medium • *Daniel I. Cooper, McGraw-Hill, Inc., New York*  
Video Cassettes — Boom or Bust? • *Gordon B. Thompson, Bell-Northern Research Labs, Ottawa, Ont.*  
Some Reflections on Cassettes and Video Cassettes • *Claude Soulé, Secretary-General of UNIATEC, Paris*  
Techniques for Storage and Reproduction of Audio-Visual and Television Programs • *Richard Theile, Instituts für Rundfunktechnik, Munich*  
High-Speed Contact Duplication of Video Magnetic Tapes • *Charles E. Anderson, Ampex Corp., Redwood City, Calif.*  
Videoplayer Compatibility With Television Receivers • *Rolf Spies, Norman Parker and Albert W. Massman, Motorola Inc., Franklin Park, Ill.*  
Compatibility and Standardization of Various Systems of Video Cassettes • *José Bernhart, Assistant Director, Technical Services, ORTF, Paris*  
Quebec 1971 and Information by Images • *Gilles Bergeron, Deputy Minister of Communications, Government of Quebec, Montreal*  
Audio-Visual Methods of Self-Education in the Health Sciences or "What You Want, When You Want It, Where You Want It, and as Often as You Need It" • *Dr. J. Norrie Swanson, Faculty of Medicine, University of Toronto, Ont.*  
Cable Television Prospects for Cassette Systems • *Israel Switzer, Maclean-Hunter Cable TV Ltd., Rexdale, Ont.*  
Industrial Applications of Videoplayer Systems • *Thomas R. Shepherd, Shepherd Education & Communication Co., Inc., Concord, Mass.*  
Another Chance for the Individual (Home Utilization of Video Cassettes) • *Paul J. Caravatt, Jr., Newtel Communications, Inc., New York*  
The Design Concept of the Sony Color Video Cassette Total System • *Kazuo Iwama, Sony Corp. of America, Long Island City, N.Y.*  
Super 8 Film: A Universal Input to Video Cassette and Television Systems, Part I: Application Concepts • *Eric A. Yavitz, Eastman Kodak Co., Rochester, N.Y.*  
Super 8 Film: A Universal Input to Video Cassette and Television Systems, Part II: Technical Considerations • *Joseph L. Boon, Eastman Kodak Co., Rochester, N.Y.*  
Color Recording on the Video Disc • *Prof. Dr. Walter Bruch, AEG-Telefunken, Hannover, Germany*  
Panel Discussions: Perspective and Utilization • *Eric A. Yavitz, Wilton R. Holm, Daniel I. Cooper, Gordon Thompson, Yves Garneau (Bellevue-Pathé, Montreal), Yves Labonté (Radio Quebec, Montreal), Gilles Bergeron, J. Norrie Swanson, I. Switzer, Thomas S. Shepherd and Paul J. Caravatt, Jr.*

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focused into a metal mirror, ellipsoidal in shape, so that the filament is at one focus and the light is beamed onto the second focus, which is the film gate.

A new digital photometer, Model 820, and a new portable photometer, Model 900, for photometric and radiometric steady-state and integrate measurements, have been announced by Gamma Scientific, Inc., 3777 Ruffin Rd., San Diego, CA 92123. The ultraviolet, visible and infrared spectrum detector heads are interchangeable with the photometers without recalibration. Both of the photometers have a 0.1-fc full-scale sensitivity and can detect a 10<sup>-4</sup> minimum signal. Model 820 has a 3½ digital display and operates on 115 or 230 V. It is priced at \$650. Model 900 has a 4-in mirrored scale and has a battery life of 40 h. It is priced at \$275. Price of the detector heads ranges from \$205 to \$260.

**Instant Image Projection**, a slide projection technique incorporated in a Hanimex 110 slide projector, has been announced by Hanimex Corp., Brookvale, N.S.W., Australia. The new slide projector is designed to take the 30 × 30mm Kodak Pocket Instamatic slide format. In normal operation the new projector instantaneously merges succeeding images on the screen. There is no visible blackout, nor apparent fade-in or fade-out between the projected slides. The slide changer works at a search rate of 40 slides in 10 seconds, i.e., four slides per second. It is expected to be available commercially in the United States in about a year.

**Elpower** rechargeable solid-gel batteries have been announced by Elpower Corp., subsidiary of Eldon Industries, Inc., 2117 South Anne St., Santa Ana, CA 92704. The batteries are capable of being charged and discharged from 100 up to 1000 times in less than 14 hours depending on the type of charger used and the depth of discharge. The batteries can also be maintained continuously on float voltage. The sealed batteries do not require fluids, checking liquid levels or routine maintenance and there is no liquid to leak or splash out. The batteries are safe in that if excessive pressure build-up should occur within the battery due to abnormally high recharge currents, one-way relief valves immediately release the pressure and then automatically reseal. The batteries can connect in series for any multiple of 2 V or in parallel for other than standard capacities. Price range is from \$10.50 to \$18.95 for individual batteries with appropriate discounts for quantities from 10 to 1,000 or more.

**K-ramic**, a new wear- and corrosion-resistant inert composite material, has been announced by Kaman Sciences Corp., 1500 Garden of the Gods Rd., Colorado Springs, CO 80907. The material can be molded or machined in various configurations or it can be coated on metal substrates. It is highly resistant to chemicals and acids. The material is applicable to oil field tools, mechanical seals and bearings, valve and pump components, gas turbine and rotary combustion engine parts, and others.