

Camera Mart now has the world's first portable $\frac{1}{4}$ " Video Tape Recorder

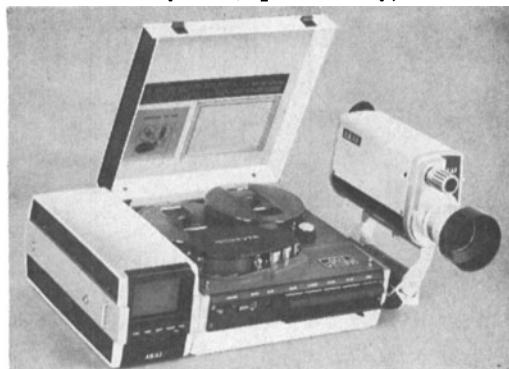
Akai's new $\frac{1}{4}$ " portable Video Tape Recorder with simultaneous video and audio recording provides everything needed to produce professional video tape presentations. No film processing costs. No expensive lighting setups. No special equipment of any kind. And all on low cost $\frac{1}{4}$ " video tape at $\frac{1}{3}$ the operating cost of other systems.

Unit includes: Instant playback on built-in TV monitor. Exclusive built-in super-sensitive microphone. Zoom lens. Built-in optical viewfinder. Automatic light compensator. 12-volt AC/DC system (two rechargeable 6V batteries included.) Easy-to-use push-button operation with automatic fast forward and rewind.

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RF Converter allows VT-100 to play through any TV. (Opt. Accessory)

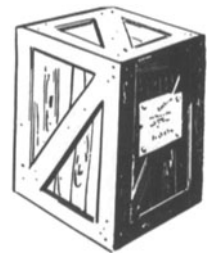
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new products (and developments)

.....
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.

Erratum: There is given below information to correct or supply data regrettably not properly given in the original *Journal* publication.

JULY 1971

On page 598, New Products item, "Hahnel VB-200 Super 8/Single 8 Editor-Viewer (Allied Impex Corp.): The photograph in the June *Journal*, p. 528, shows the Bauer T30 super-8 sound projector. The correct illustration for the Hahnel Editor-Viewer is shown below.

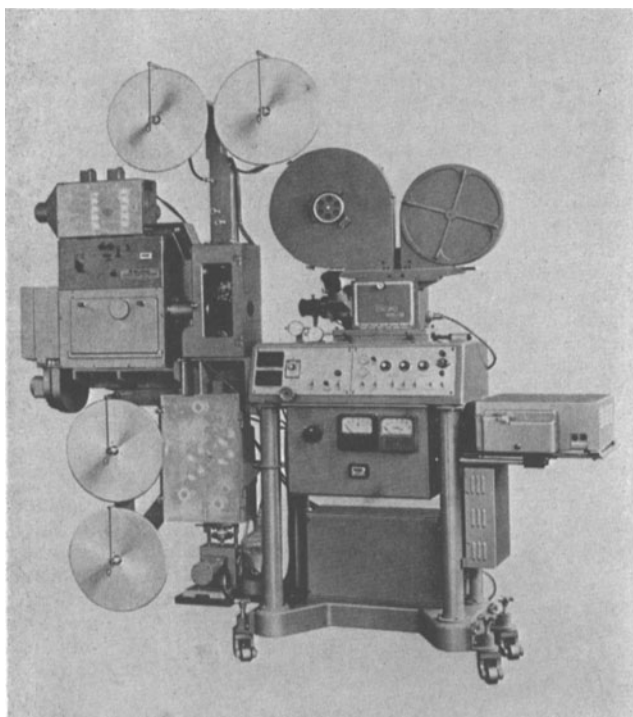


The Magcam, a 16mm high-speed general purpose and instrumentation camera capable of speeds from 16 to 150 pictures/s, has been announced by Redlake Labs, Inc., 2991 Corvin Dr., Santa Clara, CA 95051. The camera weighs 8 lb and uses magazine, daylight load 100- and 200-ft capacity film spools. It can be used as a standard cine camera of 24 pictures/s with the capability of quickly changing to high speed for special slow-motion events as in recording sports events and other documentary work. It can be readily adapted to permanent installation on a wide variety of recording instruments and provides infinitely variable frame rate selection. The Magcam is priced at \$2,000.

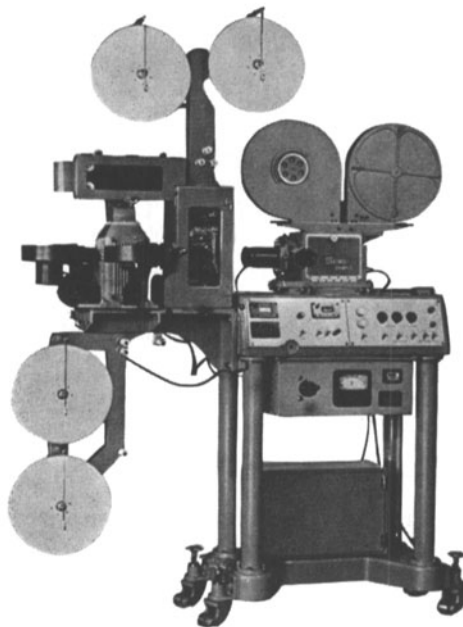
Fog Effect Filters which create the same optical effect as is seen in natural fog and which can be used for matching fog conditions when photographing from day to day have been announced by Alan Gordon Enterprises, Inc., 5362 N. Cahuenga Blvd., N. Hollywood, CA 91601. The filters are available in a range of 10 steps and can be used with both black-and-white and color film. They are available in a variety of sizes and shapes ranging from Series 5 through 9 and 2- to 12-in square and 2- to 10-in round. Prices range from \$6.50 for Series 5 to \$330 for the 12-in round.

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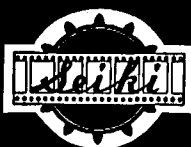
35mm to 35mm

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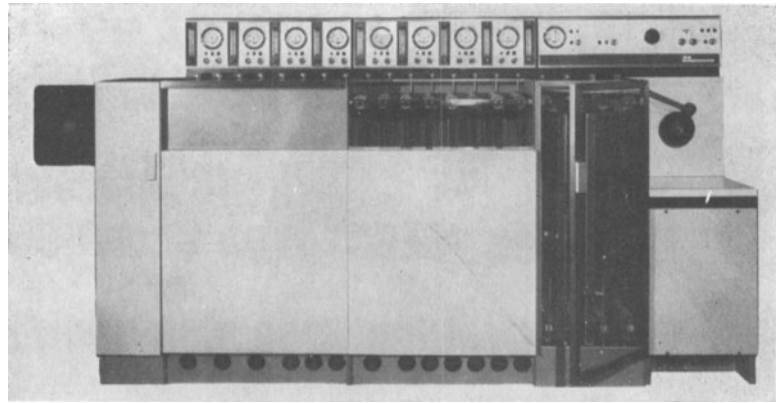
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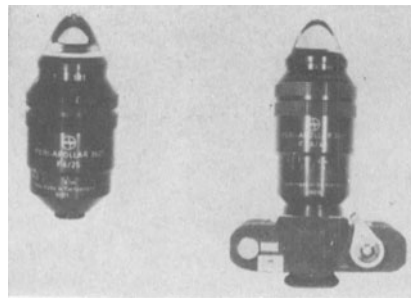
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Television Engineers

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Telephone: 212 / 867-5410



Flowline modular film processing machines, a group of self-contained units that can be mated together for processing 35, 16, 8 or double 8mm film, have been introduced by John Hadland (Photographic Instrumentation) Ltd., Newhouse Laboratories, Bovingdon, Herts., England. The Flowline, designed by Stanley Fitch, consists of modules that can be assembled for any process and for a wide range of production speeds. The elevator module has a multilage magazine which allows adequate time for stapling in new footage without stopping the machine. The wet section modules are made up of completely self-contained units with four, six

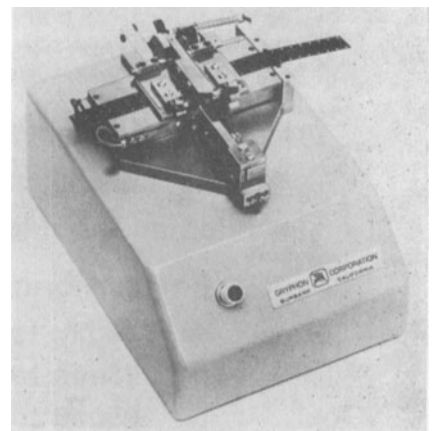
or eight tanks, depending on the complexity of the process required. Black-and-white negative needs only one of the eight tanks. The dryer module has a recirculating air system with a built-in dehumidifier. The take-up module is powered by a torque motor and is fed from a large-capacity elevator section, thus allowing adequate time for core changing. Features include integrally fitted replenishment systems, individual temperature control, recirculation and filtering of all solutions, sprocketless tendency drive and a closed-circuit drying system. Price range is from \$16,185 to \$44,548.



The Peri-Apollar 360°, a lens with a new optical design, has been announced by Karl Heitz, Inc., 979 Third Ave., New York, NY 10022. The lens, custom-built in Switzerland, covers a complete circular image of 360° without gaps. If mounted in a vertical position, the horizontal field of view has a vertical angle of 60°, i.e., 30° above and 30° below the horizon. Distances and *f*/stops are set as with any normal lens. The taking point, i.e., the lens itself in the image center is blocked out. The complete image—with reference to the image center—is recorded at the correct angle and unreversed. All vertical lines extend to the image center. The lens can be adapted to various formats including 16mm, 70mm, 24 by 36 mm and 2½ by 2½ in. It can also be adapted to vidicon, Plumbicon, orthicon and other types of TV cameras and can also be used for projection and for periscope without camera. The price, including any mount, is \$2,495.

The Panacolor Magazine Projector, developed by Zeiss Ikon A.G., has been announced by the United States distributor, Precision Sound Centers, Inc., 3601 Biscayne Blvd., Miami, FL 33137. The

projector uses a side-to-side film flow to project color or black-and-white motion pictures on a built-in screen or it can project theater-size motion pictures. It is expected to be used for "micro-mini" movie theaters and to be used as an entertainment device in bars, restaurants, and the like.



The Gryphon thermal butt-weld splicer for polyester base film has been announced by Instrumentation Marketing Corp., 820 South Mariposa St., Burbank, CA 91506. Splices can be made on Mylar, Estar and Croner films. It requires less than 15 seconds to make a splice as strong as the film and no glues, bonding material or other items are required. The splicer measures 7 by 10 in and is 7 in high. It weighs 13 lb and operates on 115 V ac, 60 Hz, ½ A. Three models are available to accept super 8, 35mm and combination super-8/16mm. The price is \$925 for the 16mm and 35mm models and \$975 for the combination super-8/16mm model.

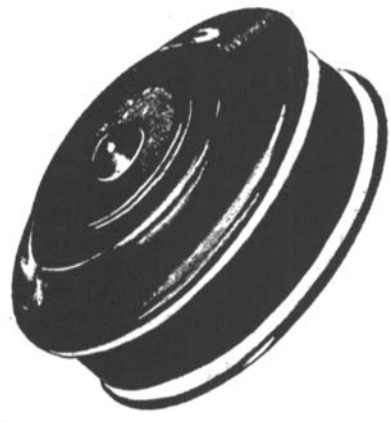
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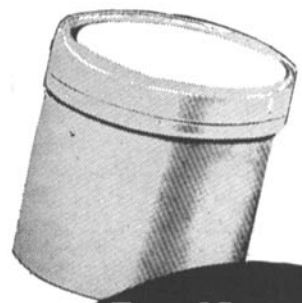
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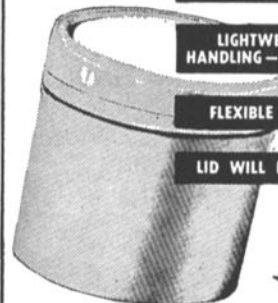
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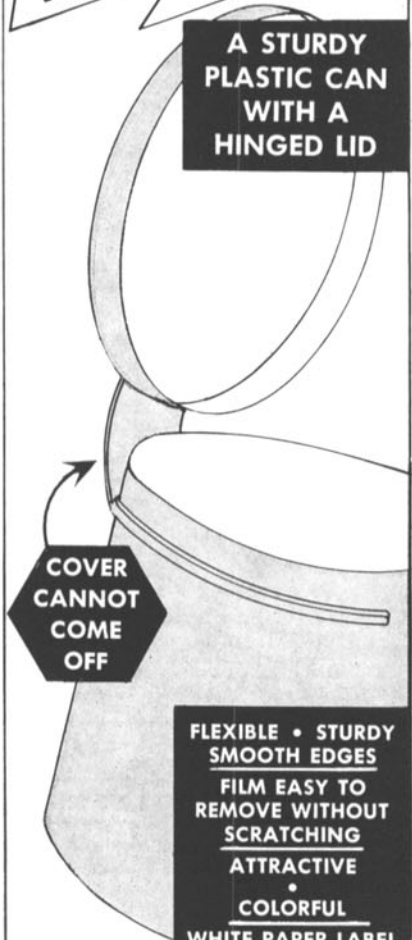
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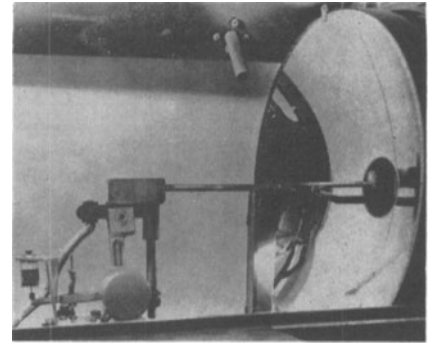
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The Simplex PEC (Projector Electronic Control) AutoArc, a device for automating carbon arc motion-picture theater projectors, has been announced by National Theatre Supply, Div. of National Screen Service Corp., 1600 Broadway, New York, NY 10019. The device was designed for use with the Peerless Magnarc lamp, but can be adapted for installation on other lamps using Suprex arc carbons. In installing the AutoArc, four screws in the Magnarc lamp are removed and the AutoArc replaces the positive carbon holder mount, making use of Magnarc's positive carbon jaw. The screws mount the electronic control box in which only four electrical connections are required. When the system is activated, a solenoid moves the positive carbon forward, the electronic circuit senses the arc voltage drop and the positive carbon is moved back to normal operating position. An air pot or pneumatic control damps the action for smooth operation at a regulated speed, and thus there is no carbon splatter. In the event the arc is not established, the action is repeated, and a transistor sensing circuit sounds a beep alarm which can be remotely connected. The Auto-Arc is priced at \$550.

A wide-angle rear-projection internal mirror lens system for Kodak Carousel and Ektagraphic slide projectors has been announced by Buhl Optical Co., 1009 Beech Ave., Pittsburgh, PA 15233. The system works with various prime lenses to cut the focal length in half. For example, when used with a 5-in focal length prime lens, the effective focal length becomes 2.5 in and with a special 3.6-in prime lens it yields a focal length of 1.8 in. A self-contained dust-free optical system with a highly reflective internal mirror attaches to the projector housing without the use of special tools. After installation the internal mirror is in alignment with the centerline of the lens assembly. Focusing is accomplished by moving only the prime lens. There is no strain on the focus mechanism of the projector and no wobble of image during focusing. The internal mirror eliminates the need to reverse slides for rear projection. The system is priced at \$133.50.

Colorcaster IV, a color studio system package for use in cable and closed-circuit TV production, has been announced by International Video Corp., 675 Alamanor Ave., Sunnyvale, CA 94086. The package includes the IVC-40M monochrome camera, the IVC-700 color videotape recorder and the IVC-870 color video-

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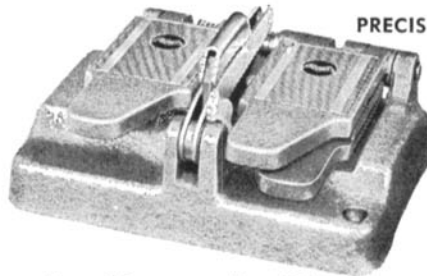
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tape recorder with assemble and insert electronic editing. The full color IVC film chain in the package includes the IVC-92 color camera with a three-input multiplexer plus 16mm film projector and 35mm slide projector remotely controlled. All the equipment in the system can be interconnected and operated through a single control console. The Colorcaster IV package is priced at \$39,914.

A monochrome TV camera, the IVC-40M, designed for closed-circuit and cable TV production has been announced by International Video Corp., 675 Almanor Ave., Sunnyvale, CA 94086. The camera has a modular design and can be operated as a self-contained unit or with a separate camera control unit and external drives. It is available with a 7735A vidicon or a lead oxide image tube. The camera has 850-line picture resolution and 40 dB SNR. It weighs 25 lb including the viewfinder. Prices begin at \$1,400.

The IVC-700 series of color videotape recorders has been announced by International Video Corp., 675 Almanor Ave., Sunnyvale, CA 94086. Three models are available including a playback-only version and an electronic editing model with capstan servo. The recorders deliver 5-MHz bandwidth, have 42-dB SNR and offer 400 lines of horizontal resolution. All three versions are available in either monochrome or color. Price range is from \$1800 for the playback-only unit in monochrome to \$3900 for the color model with electronic editing and capstan servo. The helical scan recorders use 1-in tape and are designed for closed-circuit and cable TV applications.

Channel multiplier arrays constructed out of a special glass compound featuring current gains of 5,000 to 10,000 have been announced by the Palo Alto Tube Div. of Varian Associates, 611 Hansen Way, Palo Alto, CA 94303. The new devices, designated VUW-8960, consist of 1- or 2-in diameter arrays of glass channels connected electrically in parallel by means of metal electrodes on both surfaces of the disc. These devices, when coupled with appropriate image intensifier techniques, permit brightening of images that are far below previously viewable levels. They are so sensitive that in special monitoring equipment and surveillance apparatus, they can enable an observer to "see" a person hundreds of yards away even on a starless, moonless night. The new arrays feature resolution of 44,000 bits/cm² and transit time of 1 ns. Applications include low-light-level TV camera operation, security systems and various industrial processes and research. Engineering samples of the arrays are available at a price of \$250.

The Setchell Carlson 10-in monochrome monitor, Model 10M915, offers a horizontal resolution of 640 lines or better. It is equipped with front-located operating controls for convenience and ease of operation and front panel screwdriver adjustments for vertical linearity, height

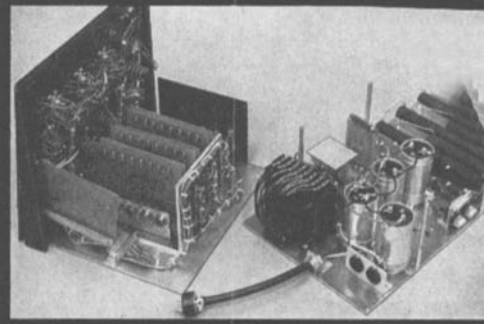
and focus to prevent accidental misadjustment. Features include Unit-Ized plug-in circuit modules for rapid, on-the-spot maintenance and servicing, a fast AFC circuit which ensures good display for helical-scan video recorders and a regulated power supply for stable operation that prevents raster size or brightness deviations due to line voltage fluctuations. The monitor is priced at \$189.

The Setchell Carlson Triple Five, consisting of three 5-in monochrome monitors mounted side by side in a 3-unit configuration, has been announced by SC Electronics, Inc., 530 Fifth Ave., N.W., St. Paul, MN 55112. The three monitors are designed for convenient monitoring of three video sources in the least possible space. They occupy 5½ in of vertical rack space with a depth of 14 in. The weight is 25 lb. Features include 540-line horizontal resolution, Unit-Ized plug-in circuit modules for rapid on-the-spot maintenance and front-located operating controls. The price is \$695.

A battery-powered portable time-lapse videotape recorder and camera system weighing less than 25 lb has been announced by Odetics, Inc., 1845 South Manchester Ave., Anaheim, CA 92802. The system, designated TP-400, can be used for real-time recording or for logging up to 15 h of time-lapse viewing on a 1200-ft reel of tape. It operates on an internal rechargeable battery for about 45 min, or it can be plugged into an ac outlet or run off a car's cigarette lighter plug for dashboard mounting in surveillance applications. The system uses ½-in tape. It includes a video camera with zoom lens and built-in electret condenser microphone and a miniature (11 in wide, 6½ in high and 11½ in deep) videotape recorder. Besides recording and playing back at normal speeds the videotape recorder can be preset for time-lapse speeds up to 30:1. The system, including the camera, is priced at \$2,995. The videotape recorder alone is priced at \$2,595.



The Motorola EVR Teleplayer, a product of Motorola Systems Inc., 4501 W. Augusta Blvd., Chicago, IL 60651, is connected directly to the antenna terminals of any television set. A special film is packaged in a 7-in cartridge and the cartridge is placed in the player, like a record on a phonograph, and the film images are picked up and converted to video and audio signals by an electronic scanner. Features particularly important



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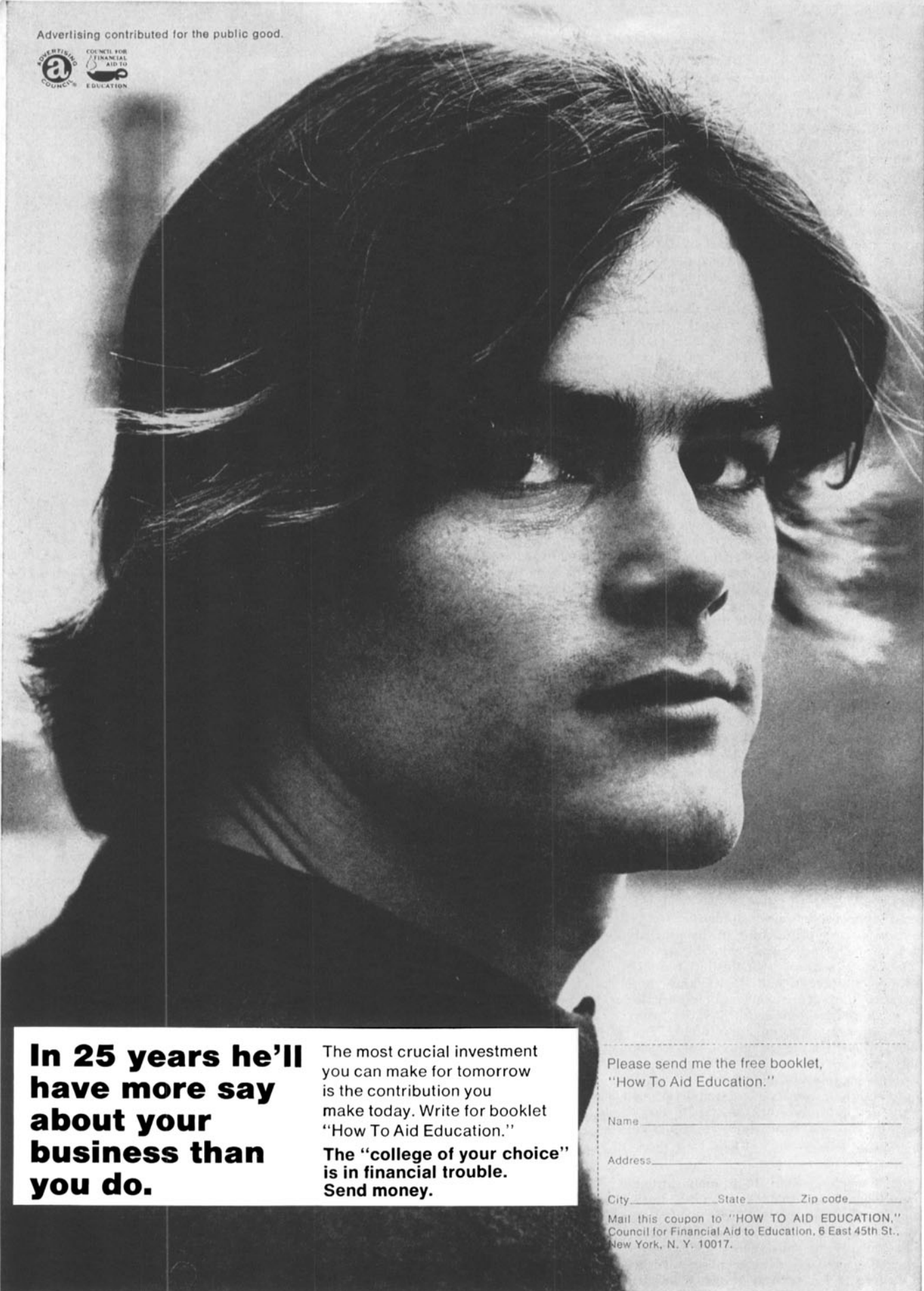
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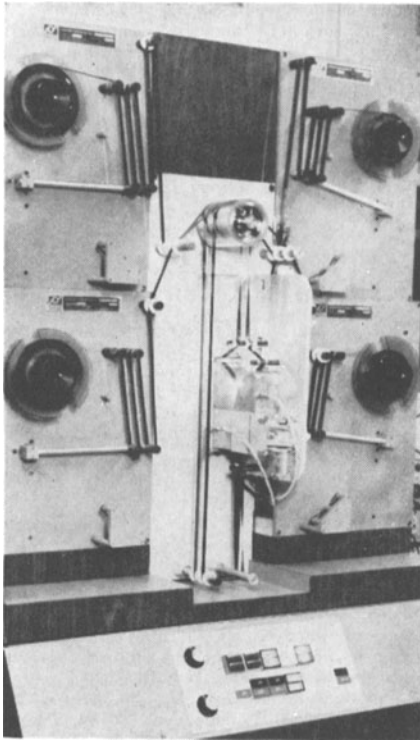
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for education and training purposes are instant-replay, freeze-action and lights-on viewing. The Teleplayer was described in the July 1970 issue of the *Journal* (p. 640). At that time a photograph was not available.



A duplicating machine which duplicates videotape 10 to 15 faster than conventional electronic methods has been built as a developmental laboratory model at E. I. du Pont de Nemours & Co., Photo Products Dept., Wilmington, DE 19893. The machine uses Crolyn chromium dioxide magnetic tape. It is based on a principle called thermoremanence (J. E. Dickens and L. K. Jordan, "Thermoremanent duplication of magnetic tape recordings," *Journal*, pp. 177-178, March 1971). As explained in detail in the paper, the tape is heated slightly above its Curie point of 130° C. As it cools in contact with the master tape, and in a small magnetic field, it acquires the signal from the master tape. In the developmental tape-to-tape copy machine, the master and copy tapes are drawn together by an air clamp. Surface heating of the copy tape is by 1000-W tungsten-halogen lamps and differential stretching of master and copy tapes is accomplished by a common stepped vacuum capstan. Tape speeds of 150 in/s are attained with servo-controlled tape feed and take-up.

A professional condenser microphone featuring an improved combination of the pressure-gradient and interference design principles has been announced by Sennheiser Electronic Corp., 500 Fifth Ave., New York, NY 10036. Designated Model MKH 415, the microphone has a super-cardioid pattern below 2 kHz and at higher frequencies the response pattern is beam-shaped. Besides improved directivity, the resulting higher on-axis conversion efficiency renders the microphone more immune to wind noise and pops. It is priced at \$396.

The Hewlett-Packard spectrum analyzer system, announced by Hewlett-Packard, 1501 Page Mill Rd., Palo Alto, CA 94304, includes a CRT-equipped mainframe, plug-in IF sections, and plug-in swept tuning sections each covering several octaves of spectrum. A new audio tuning section, the 8556A, which scans over the 20 Hz to 300 kHz range, extends spectrum analyzer capability for fast, accurate characterization of signals to a wide range of low-frequency systems and devices. In addition to its low-frequency analyzer capability, the new audio tuning section contains a built-in tracking generator. As the analyzer scans, a high-level signal that tracks the analyzer tuning frequency is generated. Frequency response of external devices and networks can then be measured by applying the leveled signal to the unknown and reading the response on the analyzer's CRT. The 8556A—LF section—is priced at \$1,690. With Opt 001—balanced input—it is priced at \$1,900.

The Universal Sound Simulator System has been announced by Universal Research Laboratories, Inc., 2501 United Lane, Elk Grove Village, IL 60007. Each sound is on an individual printed circuit board that plugs into an interconnect assembly which provides isolated ac supply amplifier inputs and outputs and a central edge-connect for command closures. Each system accepts up to five sound boards and plug-in power amplifier available in 4-, 10- and 30-W versions. Some of the sounds available include automobile motor, automatic machine gun, thunder clap, animal growl, duck quack, prehistoric animal, locomotive whistle and numerous others. The basis chassis assembly including a 10-W amplifier and self-contained power supply is priced at \$105. Individual sound-effect modules are priced at \$25 each. The Sound Simulator System is also available in a cabinet version with a control panel and 8-in full range speaker at a price of \$195. The rack mount unit is priced at \$170.

The Microdot F380A, an all-solid-state audio sine wave generator, has been announced by Microdot Inc., Instrumentation Div., City of Industry, CA 91744. The generator covers the 20-Hz to 20-kHz frequency range in three continuously variable decades. Output is ± 15 dBm into 50-, 150- and 600- Ω impedances. The output is transformer coupled, permitting either balanced or unbalanced configurations. Hum level is more than 75 dB below the output voltage or more than 100 dB below zero level. The output attenuator provides up to 111 dB in 0.1-dB steps. An ac voltmeter continuously monitors the output in volts or dBm. Frequency response is within ± 0.2 dB from 30 Hz to 15 kHz. The instrument makes use of a Wein bridge to limit distortion to less than 0.25% from 20 Hz to 100 Hz and less than 0.1% from 100 Hz to 20 kHz. The distortion is normally not affected by component aging. The instrument measures 17 by 13 by 5½ in and weighs 21 lb. It can be rack mounted or used on bench-top. The price is \$925.

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