

lab Pty. Ltd. when this company was formed in 1939. During World War II he led Kinelab Pty. Ltd. in a rapid expansion program necessary to produce and print training films for the Australian Armed Services. This task called for great ingenuity as, at the time, a plant was almost unprocurable and materials very scarce. In postwar years, Geoff King adapted the production unit of Kinelab Pty. Ltd. to make industrial films, an activity which was later discontinued in order to concentrate on laboratory activities.

Shortly before the commencement of television broadcasting in Australia, he was appointed Film Consultant to Television Corp., the company which operates TCN Channel 9, the first Australian television station to commence regular transmission. Geoff King after his retirement as Managing Director of Kinelab Pty. Ltd. maintained an active interest in the company as a director and major shareholder.

His intense devotion to the industry left little time for any hobbies except flying, which was his main recreation. He was the holder of a commercial pilot's license in his physically active years and a member of the Royal Aero Club of New South Wales and also of Early Birds, an organization of people actively interested in flying prior to 1939.

He was an active member of the SMPTE, also of the BKSTS and the IREE Australia. Geoff King will be long remembered for his personality and his willingness to impart his knowledge and experience to those who sought it.—*Russel W. Knight*

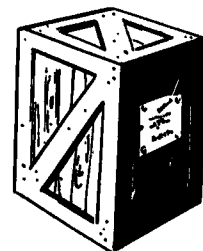


William B. Spooner

William B. Spooner died April 27, 1971, at the age of 73. At the time of his death he was Manager of the Western Division of Carbons, Inc., in Glendale, Calif. (The firm's headquarters are in Cedar Knolls, N.J.) Mr. Spooner had been with the firm for many years as a technical representative and before being assigned to the Glendale office in 1963 he had traveled widely on business for the firm. His activities in the motion-picture industry included work as a cameraman, projectionist, producer and developer of equipment. He did considerable research on metallic screens and at the time of his death he had become recognized as an expert in motion-picture projection and as being especially able in the art of properly lighting a motion-picture screen. At one time he was interested

in the development of a 3-D system without glasses using multiple screens.

He joined the Society in 1955. He was a contributor at meetings of the Film Projection Practice Committee at many of the Society Conferences. Bill will be missed by a host of friends and business associates.—*Frank H. Riffle*



new products

(and developments)

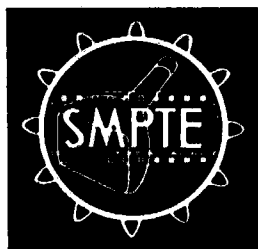
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Further information about these items can be obtained direct from the addresses given. As in the case of technical papers, the Society is not responsible for manufacturers' statements, and publication of these items does not constitute endorsement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

The P & T Motion Repeating System for motion-picture and television cameras, designed to repeat exactly the pan, tilt and zoom lens motion of a 35mm or 16mm camera, has been developed by Sherry Shourds, 10149 Toluca Lake Ave., North Hollywood, CA 91602. The system was developed primarily for use with traveling matte or split screen shots so that fully repeatable camera movements could be given to scenes of these types. In operation, the cameraman photographs the principal action in the usual way, using pan, tilt and zoom. The motion repeating system encodes and records these moves. When the camera is placed back on the original start mark, the recording is played back and the camera is driven in the identical moves that were originally recorded while the second half of the split screen or the background of the matte shot is photographed. The system can also be used in a remote control operation where the cameraman operates the master camera, and, simultaneously, a second, or slave camera, duplicates the motions of the master camera. A visual synchronizing mark is provided so that two or more pieces of film or tape, shot at different times, can be synchronized and their camera movements matched. An audio track is available for cuing purposes. The system weighs about 125 lb and can be operated by one person. It is presently available on a rental basis.

Development of a new magnetic particle called Cobaloy, resulting from the research efforts of the Graham Magnetics organization, has been announced by Graham Magnetics Inc., Graham, TX 76046. Cobaloy is expected to permit an increase of about 400% in the recording densities per inch of all magnetic tapes for home and professional use. It is reported to

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have a coercive force of 1000 oersteds with saturation magnetization of 980 EMU/cc. The new magnetic particle may lead to the development of higher fidelity videotapes, one half the length of present tapes which will play twice as long, for home video recording. It may also result in the design of a new generation of computers using recording densities of 20,000 bits per inch or 40,000 flux changes per inch. Test material made from Cobaloy as well as samples in the original powder form are being prepared for distribution, the announcement stated.

The Tracor Model 600 Rubidium Frequency Standard has been announced by Tracor, Inc., 6500 Tracor Lane, Austin, TX 78721. The instrument utilizes a stable quartz crystal oscillator whose frequency is controlled by the atomic resonance in the ground state of rubidium 87. Accordingly, the stability of the atomic resonance is transferred to the crystal oscillator. The output of the crystal oscillator is processed in a frequency synthesizer to produce 3.579545 . . . MHz. The synthesized signal is then fed into a phase shifter assembly and filtered to produce an extremely clean subcarrier source. Model 600 has a built-in Time Scale Selector which allows easy frequency adjustment so that the unit can be referenced to the National Bureau of Standards. Used in conjunction with the linear frequency vernier control, an adjustment range of 1050×10^{-10} is available with a resolution of 10^{-12} . Model 600 is priced at \$8,950.

Chroma 90, a new back-coated, color broadcast videotape, has been announced by Memorex Corp., Video Products Div., 1200 Memorex Dr., Santa Clara, CA 95050. The new tape has a binder with one of the smallest magnetic particles available today, the announcement stated, enabling the new videotape to record a 100% saturated color bar signal without picture breakup on playback. Audio sensitivity and audio uniformity are kept to a minimum variation of 1 dB to permit splicing of various tapes without discernible changes in audio levels. Application of a conductive back coating gives the back side of the tape a higher friction value which prevents cinching of the tape pack during editing operations and shipping as well as reducing the attraction of foreign particles which cause dropouts in the oxide side of the tape when the reel is wound. Chroma 90 is available within the same price range as conventional tapes.

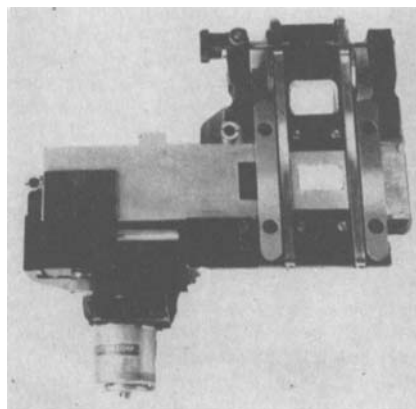
The Arrivox-Tandberg, a $\frac{1}{2}$ -in magnetic tape recorder for synchronous sound recording, has been announced by Arriflex Corp. of America, 25-20 Brooklyn-Queens Expway West, Woodside, NY 11377. The recorder, designed specifically for motion-picture use, was developed in cooperation between Arnold & Richter and Tandberg. It can be used with Arriflex cameras or any other camera equipped with a pilotone generator. The electronic section of the recorder is all solid state, comprising 70 transistors and one single



and three dual integrated circuits mounted on plug-in printed circuit boards. The instrument can be operated over a wide temperature range and in any position. Features include straight-line tape threading, single-lever operation, built-in preamplifiers and power supplies for dynamic and condenser microphones, and pilotone capability including start-mark oscillator. The Arrivox-Tandberg is priced at \$1,095.



A portable cassette copier with a duplicating speed of 15 in/s has been announced by MCA Tech, 13035 Saricoy St., North Hollywood, CA 91605. The copier, designated Model 521, can duplicate a 30-min cassette in less than 2½ min including recycling. It can also duplicate 60- and 90-min cassettes. It can copy from one to 50 cassettes. Features include a built-in cassette rewind. After the 2-min copy cycle it automatically rewinds the tape so that it is ready to be played from the beginning. Other features include playback amplifiers, record amplifiers, an 800,000-Hz bias oscillator and mixer and a power supply of all-silicon solid-state circuitry. Model 521 weighs 35 lb and measures 18 by 14 by 5 in. It is priced at \$2,195.



An integrated system of projector lens and aperture control for changing from CinemaScope to regular 35mm (or "flat" wide-screen) or vice versa has been introduced by Century Projection Corp., 165 W. 46 St., New York, NY 10036. The

Interchangeable 16mm and 35mm sprocket drives.

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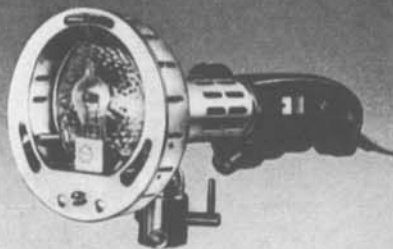
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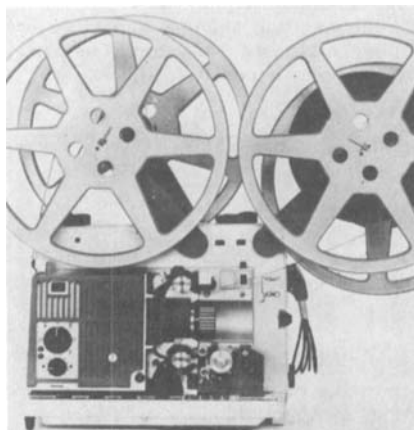
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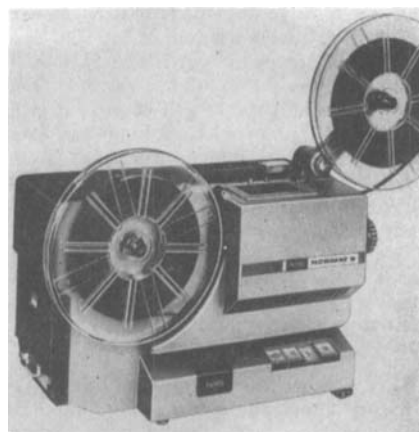
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system includes the Single Lens Concept for changing lenses (*Journal*, p. 256, Mar. 1971). The projector was developed in cooperation with Kollmorgen Optical Co. With the Single Lens Concept, the prime lens does not change when changing from one mode of projection from another. With the earlier projector there was a problem of what to do with the different sizes of aperture plates corresponding with the changing magnification of the lenses used. A motor-controlled aperture plate was developed as a solution to this problem. Shown above is the projector's film trap and motor-controlled aperture. The aperture and film trap are interchangeable with regular film traps used in other Century 35mm projectors.



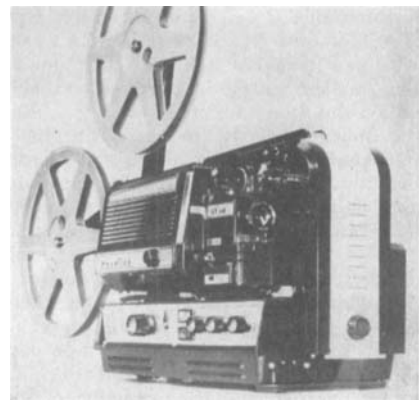
The Sonorex Double/16 Interlock Sound Projector, a successor to the Siemens 16/16, has been announced by Arriflex Corp. of America, Box 1050, Woodside, NY 11377. The new Sonorex has the same basic features as the original Siemens. New features include a built-in synchronous motor and an Elapsed Time Meter which provides the means of monitoring lamp life, preventive maintenance and service schedules. All solid-state electronics and plug-in circuit boards provide better audio, improved reliability and easier service. A new adjustable interlock has been provided so that synchronization between picture and track can be reset without unthreading the machine. The new deck has a tight loop film path which improves flutter and wow performance. Other changes include a built-in galvanometer-type modulation meter and an outlet for the connection of an accessory VU meter for better control of the recording level. The Sonorex Double/16 is priced at \$3,575.

The Norimat, a super-8 projector with an integrated sound cassette tape recorder, has been announced by Karl Heitz, Inc., 979 Third Ave., New York, NY 10022. Reel-to-reel threading is automatic. Features include a wide range f/1.3 Vario-Zoom lens and a pre-centered 12-V, 100-W halogen coldlight mirror lamp. Illuminated control buttons provide forward, reverse, single frame and stop, and also frame-to-frame advance and frame line adjustment. Mechanical coupling and electronic interlocking of the 1:1 motor drive provide exact synchronization of film and tape. The Infinator endless reel



provides continuous projection of 100 ft of film which can be synchronized with an endless 6-min soundtape cassette. The Norimat is priced at \$299.50. A convertible version (super-8 to 8mm or vice versa) is available at a price of \$399.50.

The Heurtier P6-24B Dual 8 Projector has been announced by Hervic Corp./Cinema Beaulieu, 14225 Ventura Blvd., Sherman Oaks, CA 91403. New features of the projector, improved from an earlier model, include a knob on the frame conversion unit which is simply pulled out or pushed in to accomplish conversion between 8mm and super 8. Other new features include a quartz lamp with a built-in reflector. The voltage has been permanently set at 117-V 60 Hz. The projector is available in a silent version at a price of \$249.50 and in a sound version at a price of \$699.50.



The Heurtier ST 42 Stereo, a super-8 projector with stereo sound, has been announced by Hervic Corp./Cinema Beaulieu, 14225 Ventura Blvd., Sherman Oaks, CA 91403. The new projector provides individual volume controls for both microphone inputs. In addition to stereo sound, other sound features include VU-level meters (one for each track), sound superimposition, echo effect and tone control for bass and treble plus a selector switch for recording in four different modes. The machine accepts 800-ft reels and provides projection speeds of 18 frames/s and 24 frames/s. It is priced at \$699.50.

The 1018 Audio Follow Programmer has been introduced by Viscount Video Sys-

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tems Ltd., 105 E. 69 Ave., Vancouver 15, B.C., to complement the 8V4 FER Video Programmer. When used together, the Program and Cue bus selections on the 1018 audio unit automatically follow the video selections on the Program and Preview busses of the 8V4. Where it is required to preview a particular video input, its selection on the video preview bus will automatically switch the corresponding audio source to the Cue bus of the audio programmer and when the video input is transferred to the Program bus the corresponding audio will go "on air." Automatic operation can be overridden, if desired, and the audio unit used as a straight, two-channel manual console. The 1018 audio programmer has eight balanced input channels (four microphone and four line level), the first four being switched as a group in audio follow. All audio switching and fading is solid state.

The 8V4 FER video programmer is a four-bus video production switcher with built-in mix and effects. It will accommodate six synchronous and two nonsynchronous inputs with electronic touchbutton operation. The matched equipments are designed especially for CATV, local origination, educational and medical programming requirements. The 1018 audio programmer is priced at \$2,400. The 8V4 FER video programmer is priced at \$3,995.

The firm also announced the 1120 Video Programmer, a self-contained unit. It accepts five synchronous inputs and employs a combination of mechanical preselection and vertical interval switching between the output busses. A built-in special-effects unit provides six split-screen patterns, all of which are reversible and adjustable. The design allows dissolves to effects and fading to an internally generated black. The unit is all solid state. It requires five standard rack units of space and is 4½ in deep. It is priced at \$995.

The Broadcaster, Model BC-8A, a stereo audio control console, has been announced by Langevin, a division of MCA Technology, 13035 Saticoy St., North Hollywood, CA 91605. It is designed especially for use by a radio station featuring FM stereo broadcasting with or without AM transmitters. The console has eight full-stereo input mixing channels, left and right stereo output channels, a stereo audition output, two stereo outputs with muting and on-the-air lamp relays. It is priced at \$3,550.

The MKH 815 shotgun condenser microphone, a successor to the MKH 805, has been announced by Sennheiser Electronic Corp., 500 Fifth Ave., New York, NY 10036. The firm's manufacturing plant is in Bissendorf, Hannover, Germany. The MKH 815 has the same acoustical, electronic and mechanical characteristics as the MKH 805 and it has additional resistance to pops and wind noise due to a modification in its interference design. The number of slots has been increased on the MKH 815 and the area of the individual ports has been decreased. This construction makes it often possible to

operate the microphone without the accessory shock-mount and windscreen in some situations where they were formerly required. The microphone is 22 in long and $\frac{3}{4}$ in in diameter. It weighs 14 oz and has a narrow-beam response pattern and extended flat response from 50 to 20,000 Hz. It is priced at \$493.

A series of seven in-line microphone attenuators, equalizers and adapters and a new microphone isolation mount have been announced by Shure Brothers Inc., 222 Hartrey Ave., Evanston, IL 60204. The isolation mount has been designed to control mechanically-induced microphone noise. It can be used on desk or floor stands or for boom operation in studio applications. It is priced at \$25.

The series of seven plug-in components includes a microphone attenuator, a phase reverser, high-pass filter, low-pass filter, presence adapter, response shaper and line input adapter. Each component is priced at \$25.

A microcircuit version of an electronic noise reduction system is being developed by Dolby Laboratories Inc. of London, England, and Signetics Corp., 811 East Arques Ave., Sunnyvale, CA 94086. The two companies are collaborating on the development of the system, invented by Ray Dolby, which provides a new method of reducing noise in audio transmission and recording. The system can be used in any situation in which the audio signal is available for processing at both the input and output of the audio chain. While the audio signal is unchanged, the system is said to attenuate noise such as rumble, hum, buzzing, etc., as well as crosstalk and print-through. Signetics will develop and produce the Dolby system in the form of a monolithic semiconductor integrated circuit.

The Mini-Pan 20, a 7-lb lighting fixture for high-intensity flood lighting applications, has been announced by Berkey Colortran, Inc., 1015 Chestnut St., Burbank, CA 91502. The unit provides flat field lighting suitable for "one-light" news setups. It provides enough intensity for direct or bounce illumination. The Mini-Pan 20 uses a heavy-duty socket and has a ventilated housing for improved cooling. It uses a 750-h, 3200-K, 200-W lamp and is supplied with a 25-ft cord with parallel blade u-ground cap. It is priced at \$78.

The Sunbrute 4kW, a new high-radiance xenon arc floodlight, designed for motion-picture and television cinematography, has been announced by Bell & Howell Ltd., Alperton House, Bridgewater Rd., Wembley, Middlesex, England. It was developed by Xenotech, Inc., 18651 Von Karman Ave., Irvine, CA 92664, and shown by Bell & Howell at Film '71 in London.

The new light has a color temperature of 6000 K. Normally it draws 130 A at 34-V dc. The power can be obtained from available battery carts, portable generators or from rectifier units connected to ac mains. Both flood and long-throw

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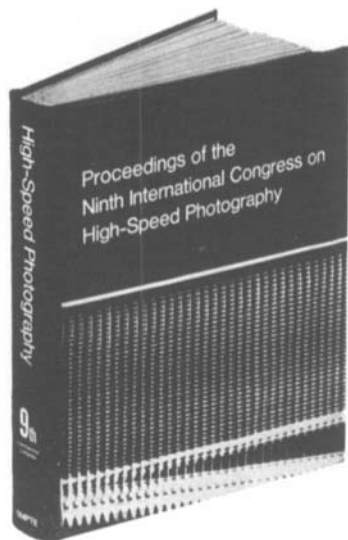
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optics are available. They provide 1000 fc at 20 ft (flood) and 85 ft (long throw). Focusing adjustments provide additional control over the beam from spot to flood. The Sunbrute 4kW is priced at \$3,850.

The **KDI-Adtrol Model NF-1 Neon Flasher**, a field unit for flashing neon bulbs in motion-picture cameras, has been announced by Instrumentation Marketing Corp, 820 South Mariposa St., Burbank, CA 91506. The unit accepts IRIG signals, amplifies them and provides two signals to neon bulbs, one for each positive zero crossing of the sine wave and the other for only the upper level sinusoids. Timing marks and real time of day are recorded simultaneously. The NF-1 eliminates certain problems inherent in flashers not suited for field use, such as internal clock drift, phase displacement from unit-to-unit, lack of power at the site, and others. The unit is portable and has a self-contained battery. It is priced at \$600.

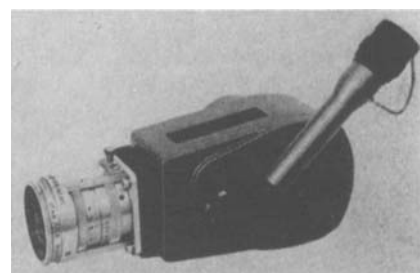
The **CE-EIP edge identification printer** for use on either printing or processing machines has been announced by Carter Equipment Co., Inc., 232 S. Glasgow Ave., Inglewood, CA 90301. The device is a small, sprocketless contact printer. Driven by the film itself, the printer uses as a negative any logo or other artwork reduced to a small film clip. Price range is from \$255 to \$345 depending on the width of the film to be identified.

The **Paulmar Model 9000**, an automatic 16mm film cleaning and inspection machine, has been announced by Bell & Howell Ltd., Alperton House, Bridgewater Rd., Wembley, Middlesex, England. It was developed by Paulmar, Inc., 464 Central Ave., Northfield, IL 60093. The machine was developed primarily for use by 16mm film libraries that must depend upon relatively inexperienced operators. The machine is threaded automatically and is equipped with built-in "wet" tape cleaning. Both film surfaces are cleaned and coated before the film enters the defect detector. The machine is equipped with the Paulmar Micro-Detector, a device that does not require regular checking and readjustment. It also contains a new device that checks the detector contacts electronically after every film is inspected to verify proper detector operation for the next film. Visual indicators above the detector make it unnecessary for the operator to use a test film to check detector accuracy. Both automatic and manual controls are provided to give immediate stop during inspection or rewind. In addition, control interlocks are provided so that even when the switches are incorrectly activated, the unit will not operate automatically.

A range of level controllers for liquids and free-flowing solids, including substances of low dielectric change, has been announced by Synatel Instrumentation Ltd., Walsall Rd., Bridgtown, Cannock, Staffs., England. Base of the controller is a transducer using high-frequency solid-

state switching to give accurate and stable operation even in changing ambient temperatures. Called Accroprobe, the range includes units for either continuous level indication or fixed point control of materials stored in bins, hoppers, silos or other containers. The capacitance/microamp transducer is mounted in a cast aluminum probe head completely encapsulated in epoxy resin. It requires no adjustments or maintenance. Energized at 24-V dc from a control unit, the transducer can be mounted any distance from the control, provided the resistance of the interconnecting leads does not exceed 500 Ω. Only three leads are required. The transducer covers a span of 20 to 20,000 pF in two ranges, selected by a link on the connecting terminal block. Other ranges down to 10 pF full span are available. The device is suitable for monitoring water levels in reservoirs.

An air-activated primary battery reported to be considerably more efficient than mercury-zinc batteries has been announced by Harden Associates Ltd., 66 Mosley St., Manchester M2 3HA, England. The battery, called Metair, is manufactured by Energy Conversion Ltd. Metair is a zinc-air battery weighing ¼ oz. It is a little over an inch long with a diameter of ½ in. It offers 250 mA at 1½ V with constant voltage throughout its life. The battery incorporates fuel cell cathodes which use ordinary atmospheric air to provide power from their zinc. It becomes activated only on removal of the plastic outer skin covering the tiny holes which admit air.



The **Stalex Type WS 1-C**, a 16mm high-speed camera with frame rates selectively variable from 25 to 3,000 pictures/s, has been announced by Redlake Labs., Inc., 2991 Corvin Dr., Santa Clara, CA 95051. Designed to withstand high g-load accelerations of up to 100 g, the camera is intended especially for crash studies where shock, vibration and temperature would destroy other instrument cameras. The Stalex uses a two-sided prism to provide high-resolution event recording on a continuously moving film. Powered by a 36-V dc motor with 14-A peak, the camera can use a wide variety of lenses. It weighs 6 lb, has a 100-ft film capacity and uses a standard daylight spool. Features include a light-emitting diode timing block, a revolving right-angle type viewfinder, stop-start operation and an event synchronizer. The price is \$2,500, including a heater with thermostat, viewfinder and two film spools. The price does not include a lens plate.