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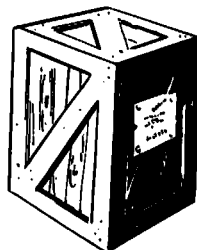
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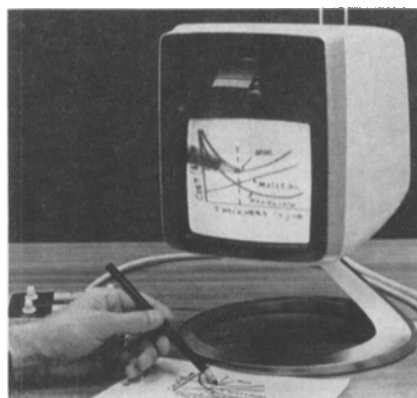
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**new products**

(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.



The Model II PICTUREPHONE, successor to the first PICTUREPHONE ("60 Frames/Second Film and Continuous-Motion Projector for PICTUREPHONE System Testing," by J. E. Berrang and R. L. Eilenberger, *Journal*, pp. 341-344, Apr. 1967) has been announced by Bell Telephone Laboratories, Murray Hill, N.J. 07971. The Model II can be used to transmit drawings or charts (graphics mode) by setting the camera focus at one foot. The user can also change the size of the field of view to close-up or wide-angle by "zooming" electronically and he can move freely from side to side while remaining "on camera" and change the camera focus to transmit larger scenes up to 20 ft away. The display unit, a tapered, cube-shaped unit with rounded corners, swivels through nearly a full circle on a pedestal slanting up from a ring-shaped base. The screen is 5 1/2 in. wide by 5 in. high. When the graphics mode is selected, a built-in mirror automatically swings to a 45° angle in front of the lens.

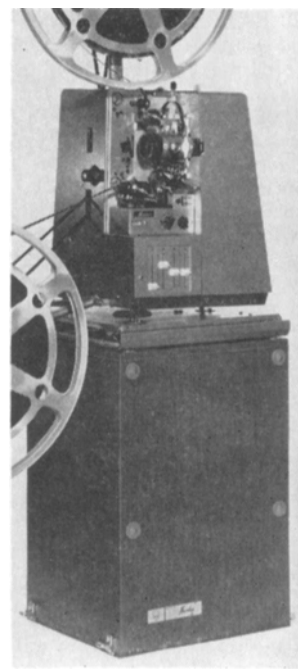
A new silicon-target television camera tube, developed at Bell Telephone Laboratories, is used to make practical the "electronic zoom" and to provide a better picture under both poor and normal lighting conditions. The new tube is not damaged by exposure to bright lights, and an iris in the camera automatically compensates for a wide range of ambient light intensities. The station set is comprised of a display unit, a control unit, and a service unit. A standard TOUCH-TONE telephone set equipped with a standard 12-button dial is used for dialing and for providing regular telephone service.

Model II will be evaluated in a trial of PICTUREPHONE service at Westing-

house Electric Corp. Selected offices in Westinghouse headquarters in Pittsburgh and at its New York City locations will be linked by video telephone. The trial is scheduled to start in September 1968 and will last from three to four months.

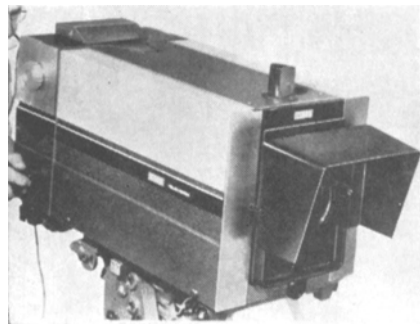
A compact unit for underwater photography comprised of the Spiro Film 60 camera, a color lighting unit and a light meter, has been announced by the Film Dept. of La Spirotechnique, 27 rue Trebois, 92 Levallois-Perret (Seine), France. The accessories and controls which permit the underwater photographer to illuminate the subject, measure the lighting, and make necessary adjustments for filming are mounted on or incorporated in the camera. The battery housing of the lighting unit is fixed onto a twin steel cylinder tank block and is connected by cable to the lighting unit, which is fixed to the camera.

A plate at the front of the camera housing carries all controls and the correction porthole and is directly connected to the internal mechanism which supports the special Beaulieu R 16 mechanism and the R 21 f/10 Angenieux lens and battery unit with incorporated charger. Film capacity (16mm film) is either 30 m or 60 m. The lighting unit is fitted with a watertight connection. Sylvania tungsten-halogen lamps are fitted with a watertight Spirotechnique cap, permitting choice of 150-, 250- or 350-W bulbs. The reflector covers a 60° field, the same as that of the lens. The Sekonic marine light meter is protected by a housing that permits it to be attached to the camera. The unit can operate in water down to 100 m. Surface weight of the camera with light meter is 9 kg. Surface weight of the lighting unit is 13 kg. The prices in France are: Camera, 8750F; lighting unit, 5158,80 F.



A portable 16mm motion-picture sound projector designated the Norelco Model EL 5100 has been announced by North American Philips Co., Motion Picture Equipment Div., 299 Route 17, Paramus, N.J. Designed and equipped for professional as well as institutional use, the projector has a

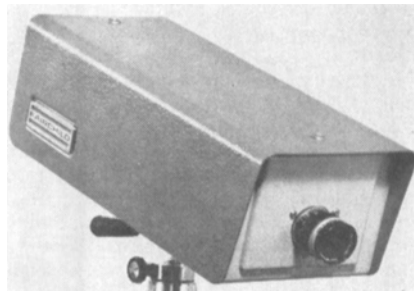
special low voltage incandescent lamp with a built-in condenser and reflector to provide up to 450 lm to the screen. Also available is the ML 5100 Marlite projector which uses the GE Marc 300 system employing a tungsten arc in a halogen atmosphere within a quartz envelope mounted in a dichroic reflector. A transistorized amplification system is used for both projectors. The projectors can run in forward and reverse directions and can reproduce optical soundtracks with emulsion on both standard and non-standard sides of film stock. Prices for the EL 5100 start at \$2,550.



**A compact, compatible color television camera** which contains a beam-splitting prism assembly feeding four lead oxide vidicon tubes, has been announced by E.M.I. Electronics Ltd., Broadcast Equipment Div., Hayes, Middlesex, England. The camera, designated the 2001, is 29 in. long, 15 in. wide, and 15 in. deep, including a zoom lens. Without the lens package, the camera weighs 160 lb. The camera has a direct-imaging optical system using the lightweight prealigned prism assembly. Light from the lens enters the splitting prism which uses dichroic surfaces to separate the light and feed it into the four lead-oxide vidicon pickup tubes, one each for red, green and blue chrominance, and one for the luminance signal. The use of the same type of tube for luminance and chrominance is said to simplify registration and performance matching. Picture detail is supplied by the wideband luminance channel, which also supplies the monochrome signal. The camera is designed for a 525-line output. The tilting electronic viewfinder is powered from the camera but can be used up to 33 ft away, if required. Solid-state circuits are built on to plug-in printed wiring boards and extensive use is made of stage-by-stage and overall negative feedback techniques, which, with close component tolerances, are said to ensure long-term stability against electricity variations and temperature changes.

**A new telecine system** called Type B3402 has been announced by Marconi Company Ltd., Chelmsford, Essex, England. The new system is used with the Marconi Mark VI television camera (type B3124) for black-and-white or with the Mark VII camera for color or black-and-white. The optics, from the lamphouse through the optical switch to the camera, have been designed as one complete system enabling use of a low-intensity lamp under most conditions. The optical switch, attached to the camera, enables it to scan images from various combinations of the 16mm and 35mm film projectors and the dual slide projector. Three units can be

grouped around three sides of the switch and on one of the sides there are two closely spaced inlets for a dual slide projector. Images are projected onto mirrors within the switch through four inlets. The Bauer 16mm projector has been adapted for the system and the mechanism of the Philips FP20 is used for the 35mm projector. Each projector is capable of forward and full speed reverse running by local or remote control. The slide projectors have been specially designed. Two of these are used individually and slide changing "on air" can be achieved by switching between projectors using the mirrors in the multiplexer. Up to 30 slides can be loaded into a single machine or 60 in a dual installation.



**A new series of closed-circuit television cameras** has been introduced by Fairchild Space and Defense Systems Division of Fairchild Camera and Instrument Corp., 300 Robbins Lane, Syosset, L.I., N.Y. 11791. The four-camera TC-177 line is designed on the "building block" principle. While each of the camera systems is available separately, the basic camera can be converted to more advanced configurations as desired to meet specific applications requirements. The TC-177 camera is a self-contained, crystal-controlled, random interlaced unit with 12-MHz bandwidth and 800-line resolution. It has 4,000 : 1 automatic light compensation and adjustable aperture correction. The TC-177RL camera may also be connected to a remote control panel or a combination video processor remote control. The other cameras in the series, the TVF-177 and TVF-177RL, incorporate the features of either the basic TC-177 or the TC-177RL models plus a small television viewfinder with optional rear-controlled zoom focus. It can be operated as a self-contained unit or remotely from a console. Prices begin at \$995.

**A solid-state modular VHF-TV head-end** has been introduced by the Educational and Communications Systems Div., Jerrold Electronics Corp., 401 Walnut St., Philadelphia, Pa. 19105. Called the Modline 12, the new head-end is the first of a series of matching components including amplifiers, filters and combining networks. The Modline 12 is housed in an all-metal compartment that can be placed on a shelf or mounted on a 19-in. rack. Each enclosure provides space for eight plug-in amplifier modules. Any amplifier can be replaced by pulling the module out of the enclosure. Removal of the module disconnects signal and power. When the replacement is slipped into the enclosure, indexing tracks guide it to the proper filter and power receptacles and it is operational immediately. The only tool necessary for replacement is a small

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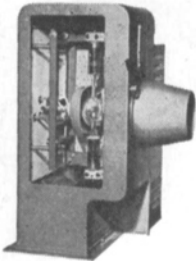
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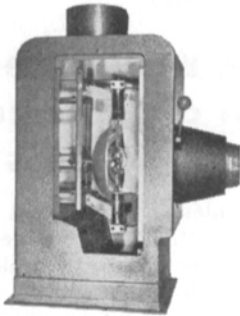
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## PRODUCTS DIVISION



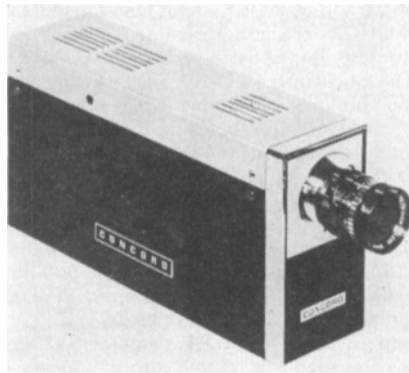
### CARBONS, Inc.

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Cedar Knolls New Jersey  
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screwdriver to set the front-panel level control. Price of the Modline 12 is about \$125 per channel.

A video switcher/fader, a vertical interval switcher, called Model VSF-100, has been announced by Ampex Corp., 401 Broadway, Redwood City, Calif. 94063. The machine is designed to allow smooth transition from one scene to another with no picture disturbance. It accepts eight inputs from either four composite signals, such as a video-tape recorder and four non-composite signals (such as a camera), or all eight from noncomposite signal sources. It will be available in June at a price of \$1,950.

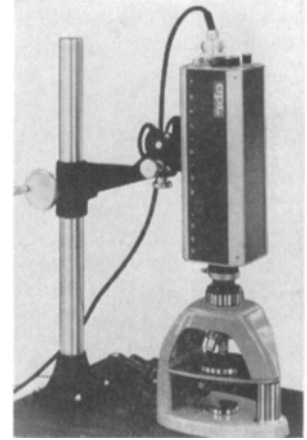
A special-effects generator and A/B switcher designated Model EF-200 has been announced by Ampex Corp., 401 Broadway, Redwood City, Calif. 94063. The device permits use of up to eight picture sources, such as from cameras, video-tape recorders and slide projectors for selection of program material. Split screen capability permits video display of up to four pictures on a single television receiver. Selection of either special effects or other picture sources may be made by switching from either the A line or the B line. The machine will be available in June and will be priced between \$2,375 and \$3,775.



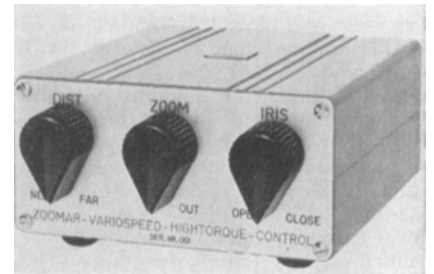
A new solid-state television camera designed for use with video-tape recorders and closed-circuit applications has been announced by Concord Communications Systems, 1935 Armacost Ave., Los Angeles, Calif. 90025. The camera, designated MTC-18, provides its own sync and operates as a sync generator for other MTC-18 cameras, or will accept sync from an external sync generator. A light control selector on the camera permits either automatic or manual adjustment for varying light conditions. The camera contains all-solid-state electronics with silicon transistors. It may be used with any standard monitor or Concord video tape recording system. It measures 5½ by 3 by 11 in. and weighs 7.5 lb. Video resolution is 550 lines. The camera is equipped with a 25mm f/1.9 adjustable iris lens with other lenses available. It is priced at \$450.

The V-1000 Video Recording Electronics, a device designed to adapt any conventional wideband longitudinal recorder to recording video, has been announced by Winston Research Corp., 6711 South Sepulveda Blvd., Los Angeles, Calif. 90045. Use of the V-1000 is said to eliminate the sync pulse problems encountered with the use of trans-

verse or helical scan equipment in high-vibration airborne and shipboard installations. The device requires only one wide-band channel and can be used simultaneously while recording other types of data on other tracks. It requires no modification of existing equipment and is available for mounting in standard EIA enclosures (3½ in. vertical space) or aircraft racks. It is priced at about \$2,000 per video input.



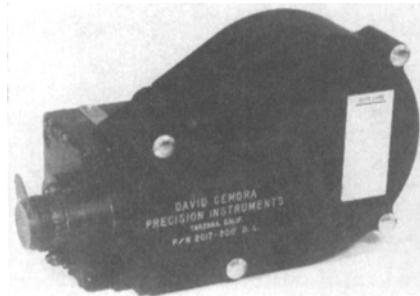
The Hercules Microscope Stand for positioning small TV cameras when used with microscopes has been announced by Quick-Set, Inc., 8121 Central Park Ave., Skokie, Ill. 60078. A handwheel operates a worm-gear drive which adjusts the height of the arm from 13 in. to 31 in. and holds the height without clamping. The camera lens can be aligned with the microscope eyepiece whether it is vertical or inclined since the pan head provides 130° of tilt and 180° of pan. The stand is available without the base at a price of \$170. The base is priced at \$30.



The Zoomar-Variospeed-Hightorque-Control, a remote control unit for ITV lenses, has been announced by Zoomar, Inc., Glen Cove, N.Y. Previous remote control units for ITV lenses have been limited to a 3 : 1 ratio. The new unit is a solid-state electronic speed-control system which operates over a broad range of infinitely-variable speeds while maintaining high torque quality. Zoom, iris and distance settings are independently controlled by switch-type knobs which change the speeds according to the angle of rotation from zero to maximum. The new control system measures 2½ by 5 by 6 in. and is suitable for standard rack mounting or table-top use. It is priced at \$350.

The Macro Zoomar, a zoom lens for use with 35mm SLR cameras, has been announced by Zoomar, Inc., 55 Sea Cliff Ave., Glen Cove, L.I., N.Y. 11542. The

four most common focal lengths (50, 75, 90, 125mm) and apertures are indicated by easily-read scales. Semiautomatic diaphragm operation can be done by a special cable release or by a lever which also permits checking depth of field before shooting. Manual diaphragm settings are also possible. The *f*-stop range covers *f*/4 to *f*/32 with click-stop settings. Focusing range is 7 in. to infinity. A 2× extender changes the range from 100 to 250mm and also produces 1 : 1 magnification at extreme close-up. At the macro-range no exposure compensation is necessary since the diaphragm in the lens remains in a fixed position relative to the film as the front elements are focused. The lens weighs about 20 oz and is about 5 in. long. It is priced at \$330.



**A film magazine**, design 2017 DL 16mm, has been announced by David Gemora Precision Instruments, 18436 Topham St., Tarzana, Calif. 91356. The daylight-loading magazine provides 200 ft of film for USAF Type N-9, KB-3, KB-17A/B, KD-7 and 917-F gun cameras. Features include double-tooth sprockets, film-remaining footage counter and coaxially stacked spools. The magazine is 7 in. long, 5 3/4 in. high, 2 in. wide and it weighs 2 lb without the film. It is priced at \$600.

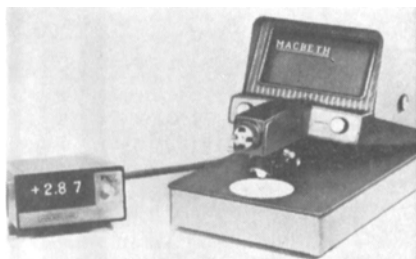
**A super 8 cartridge sound projector** called the Institor has been announced by Bohn Benton Inc., 305 E. 46 St., New York, N.Y. 10017. The projector will be manufactured by Konishiroku Photo Industry Co. of Tokyo. Closed, the portable model is an attache case 4 in. thick, 13 in. wide, 16 in. long and weighs 17 lb. The 9- by 12-in. picture screen folds inside. The Institor can also project pictures up to 6 ft wide on a wall screen and can stop the picture on any frame. The projector incorporates a solid-state audio system, a built-in speaker and a jack to connect an external speaker for auditorium-sized audiences, or an earphone for private listening. The cartridge holds more than 20 min of color film and includes a broken film detector and an automatic loop setter to prevent film damage. The Institor is priced at \$250.

**A microphone line RF interference filter** (RFI) intended for use in most situations where RFI is encountered has been announced by Recording Equipment Co., 114 W. 70 St., New York, N.Y. 10023. RFI is encountered in such situations as audio modulation communications signals, e.g., citizens band transmissions, as well as pure noise interference sources, such as induction heating equipment, arcing electrical power switches, automotive ignitions, etc. For sources ranging in frequency from AM radio, through the citizens band, FM radio

and VHF and UHF television, the RFI Filter provides a minimum attenuation of 60 dB. From 1 to 10 GHz, it provides an attenuation of 40 dB.

According to the announcement, one situation where the RFI Filter cannot help is where the RF carrier has already been detected and the audio modulation, whether a broadcast or pure noise, has been put on the line before the filter. The filter then sees an ordinary audio signal which cannot be distinguished from that coming from the microphone and which it must pass with no attenuation. RF detection can occur in the microphone, whether dynamic or condenser, so trying a new microphone is in order. A perfectly adequate audio connector, especially if the shell is not grounded, can do the same thing, so changing cables should also be tried. Finally, try all possible grounding connections with a heavy clip lead, which may possibly change the RF paths enough to allow the filter to function. The filter is priced at \$95.

**The Dynamic Noise Suppressor**, an instrument designed to reduce significantly the effects of interference noise and ringing in television transmission, has been announced by Winston Research Corp., 6711 South Sepulveda Blvd., Los Angeles, Calif. 90045. The new device, which contains a dynamic filter, provides for the reduction of transmission noise in communication and tape recorder systems. The unit depends upon the spectral characteristics of most signals carrying intelligence and dynamically changes the gain for high-frequency signals, thereby reducing wideband noise during transmission or recording of data. Used in video-tape recorders, telemetry and other communication systems, the instrument is said to provide 10 to 12 dB of noise reduction. Requiring no modification of existing equipment, the unit is packaged for a standard EIA rack mounting operating from 115 V ac or as a subminiature (3 3/4 in. wide and 8 1/2 in. long) module for airborne applications operating from ±12 V dc. The model used with video-tape recorders is priced at \$995. The model used in transmission systems, such as microwave or satellite transmission, is priced at \$1,150.



**A new transmission densitometer** with digital readout has been announced by Macbeth Instrument Corp., Newburgh, N.Y. 12550. Called the TD-402, the instrument has a readout head instead of the usual meter. The readout head uses nixie tubes to display illuminated numerals. No interpretation is necessary since each reading is displayed numerically to the last hundredth of a density unit. Each reading remains displayed until the next density measurement is made. The densitometer reads black-and-white or color filter densities directly from 0 to 4.0 with accuracy of

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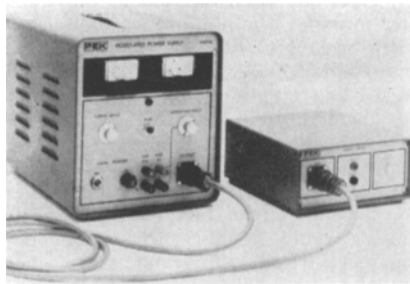
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$\pm 0.02$  and repeatability of  $\pm 0.01$ . No range changing is required. The instrument is priced at \$1,495.

**A new soundtrack densitometer** called the TD-206A has been announced by Macbeth Corp., Newburgh, N.Y. 12550. The instrument is designed so that visual, blue printer, and infrared densities can be read directly from 0 to 3.0 with no range changing. The instrument can be made to read indirectly to 4.0 on visual only. Precision is said to be  $\pm 0.02$  units, with repeatability of  $\pm 0.01$  units. The densitometer has a built-in film guide to position 8mm, 16mm or 35mm film for track readings, with reference numbers for speed and accuracy in the positioning of sensitometric steps for black-and-white density readings. The aperture is 0.015 in. by 4mm and a calibrated step tablet is supplied. The price is \$1,135.

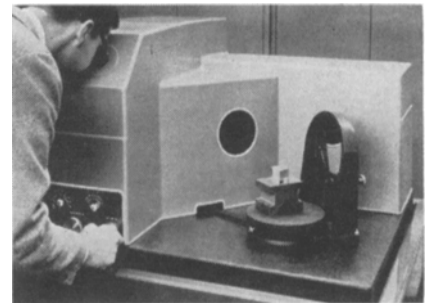
**Two new lighting units**, the 8,000-W Molequartz Super-Softlite, Type 2621, and the 650-W Teenie-Mole lamp have been announced by Mole-Richardson Co., 937 N. Sycamore Ave., Hollywood, Calif. 90038. The Super-Softlite accepts eight individually switched quartz tungsten-halogen globes in a choice of ratings up to 1,000-W each. The unit is designed to permit flexible lighting control without affecting desired color temperature. The Teenie-Mole is one of three focusable quartz lights. The others are the 1,000-W Mickey-Mole and the 2,000-W Mighty-Mole.



**A modulated power supply** designed to operate 3-electrode 75-W xenon arc lamps has been introduced by PEK, Inc., 825 E. Evelyn Ave., Sunnyvale, Calif. Called Model 402A, the power supply provides lamp starting pulse and boost voltage for easier starting. Adjustable modulation depth provides 90% or better current modulation. Frequency response is 5 Hz to 30 kHz. Average output current is 6 A and peak output current is 12 A. Current is regulated to  $\pm 3\%$ . Model 402A is priced at \$1350.

**Three new pH meters**, Models 85A, 115A and 126A, have been announced by Photovolt Corp., 1115 Broadway, New York, N.Y. 10010. The 85A is intended mainly for use in industries as well as high schools and colleges. It is stabilized against line-voltage fluctuations and is drift free. It is priced at \$139. The 85A is also available with a battery pack at a price of \$175. The 115A is designed for research applications as well as industrial use. It is adjustable for a wide

range of temperatures and is equipped with a large mirrored meter which displays both pH and millivolt scales for convenient measurement of oxidation-reduction potentials. It is priced at \$190. The 126A is portable and has a single operating control. It is completely sealed in a cast aluminum housing to withstand moisture, fumes and mechanical shock. It can be used in a very humid or corrosive atmosphere. The all-solid-state circuit uses advanced components and is designed for drift-free operation. An ordinary radio battery powers the instrument. It can be used in a horizontal position, hung vertically or placed in a tilted position so that it can be easily read. The price is \$335.



**A new laser rod and crystal analysis accessory** for the Model 723 Twyman-Green Interferometer is available from Perkin-Elmer Corp., 2930 Bristol St., Costa Mesa, Calif. 92626. The new accessory provides a  $3\frac{1}{2}$  times enlargement of the center 1-in. diameter of the 4-in. total system aperture thus enabling easier photographing and analyzing of the fringe patterns of very small diameter optics. The accessory is priced at \$1,400.

The Model 723 Twyman-Green Interferometer is used to test optical components for surface flatness, parallelism, and the wavefront distortion of light passing through the test sample. Other accessories for Model 723 include a built-in camera, lens test adapter and a laser light source. Prices for the instrument start at \$9,150.

**A dual-cell photocontrolled resistor** (HP Type 5082-4509) which combines in one package a dual-element photocell and a 12-V incandescent lamp has been announced by Hewlett Packard, 1501 Page Mill Rd., Palo Alto, Calif. 94304. Each of the two independent photocell elements has a resistance range extending from greater than 100 M $\Omega$  with the lamp dark to less than 10 k $\Omega$  with the lamp excited at the 10-V level. The two cells track within 10% of each other over the lower 3-decade resistance range (illumination range of 3 V to 10 V). Electrical isolation between lamp and dual photocell is greater than  $10^{12}$   $\Omega$ . Capacitance between cell and lamp is less than 0.05 pF. The resistor is priced at \$11. (In quantities of 10 to 99, the price is \$9.50.)

**A triggered spark gap** for applications in high-energy discharge and flashlamp triggering circuits, and pulse and high-voltage switching has been announced by PEK, Inc., 825 E. Evelyn Ave., Sunnyvale, Calif. Designated Model E-201 features include adjustable gap width, high current capability and an operating range of 2 kV to 20 kV. It is priced at \$70.

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