

new products

The descriptions of the new products listed in this section are based on information supplied to us by the manufacturers, and in some cases by independent sources. PHYSICS TODAY can assume no responsibility for their accuracy. To facilitate inquiries about a particular product, a Reader Service Card is attached inside the back cover of the magazine.

Liquid-helium level sensors

Cryomagnetics is offering two new liquid-helium level meters that employ "all new, state-of-the-art digital circuitry," we are told. The model 12 and model 15 meters provide 3½-digit read-out in centimeters. Both models employ a low-loss, 3-wire, superconducting level sensor, available in active sensing lengths from 1 cm to 200 cm. Rear-panel calibration adjustment for different sensor lengths is said to be easily accomplished.

The model 15 also provides switch-selectable operation of 2 sensors, an adjustable 1-mV/cm recorder output, and an adjustable alarm limit. The alarm function includes a blinking alarm indicator and an SPDT 5-amp buffer relay contact. The price of the model 12 is \$285, and the model 15 costs \$395. Sensors are available in active sensing lengths from 1 to 200 cm. Sensor prices range from \$125 to \$325. Cryomagnetics, 795 Oak Ridge Turnpike, Oak Ridge, Tennessee 37830

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Programmable current source for bench top or systems use

Keithley's model 224 programmable current source can be set from ± 5 nA to ± 101 mA dc in 6 ranges. A separate voltage compliance limit is settable from 1 to 105 V in 1-V increments, and



the instrument is capable of 4-quadrant operation for full bipolar source and sink. The model 224 is well suited, we are told, for bench or system applications. The data keypad permits straightforward entry of output conditions. These can also be changed within the instrument's full scale range by selecting a display digit and incrementing from some preset value. "Auto" capability generates a staircase ramp at a step size determined by the selected display digit. Time between steps, dwell time, and high/low current output limits are programmable from the front panel.

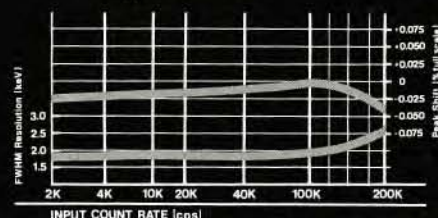
The optional IEEE interface includes four input and four output TTL-compatible I/O lines, which may be programmed and read through the interface. These may be used for monitoring external system events or controlling system activities. External triggers facilitate synchronization with triggerable measurement instruments. A "dwell time" is also programmable from 50 msec to 999.9 sec; it acts as a trigger delay to allow for external setting or other system timing. In component testing on switches, relays, connector contacts and other low-resistance applications, the low currents and compliance settings can assure against punch-through on oxide layers. The two currents available from the model 224 can reduce self-heating errors substantially in precision thermometry with thermistors or platinum resistance temperature detectors. The Guard output is useful in performing in-circuit measurements on resistance networks or reducing the effective capacitance in long runs of interconnect cabling. Keithley Instruments, 28775 Aurora Road, Cleveland, Ohio 44139

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Streak camera with video monitor

Hamamatsu's new Temporaldisperser streak camera System IV allows the

Safe at any Speed.



Minimal peak shift at high count rates with the new 2021.



CANBERRA

Canberra Industries, Inc.
45 Gracey Avenue
Meriden, Connecticut 06450
(203) 238-2351

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High efficiency arc lamp systems from PTI will give you a lot more optical output for a lot less money.

Due to higher collection efficiencies of our arc lamp housings, we can collect more light from a lamp and deliver it to where you need it.

That is why we require 200 W of power to give the same output power as normal 1000 W conventional systems. The result is that you save money. Our systems are less expensive to buy and operate.

Incidentally our power supplies have the highest regulation, therefore you get the lowest optical ripple. We also have optical feedback regulation and can offer a pulsed mode of operation.

PHOTON TECHNOLOGY INTERNATIONAL INC. U.S.:

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new products

user to observe streak events on a large video monitor as they occur. Time, intensity and position can be viewed and stored in memory for review and data extraction. A standard keyboard is provided for inserting instructions and directing output to the monitor and other peripherals. The event sequence can be programmed and experiments repeated with a single keystroke. *Hamamatsu Corporation, 420 South Avenue, Middlesex, New Jersey 08846*

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Pulsed molecular beam valve and driver

Newport's new model BV-100 is a pulsed molecular-beam valve that can emit gas pulses as short as 100 microseconds with backing pressures up to 10 atmospheres. It is said to be well suited for pulsed laser spectroscopy and molecular scattering studies because it delivers high-intensity beams with a narrow velocity distribution that can be synchronized with a laser pulse or a second gas pulse.

One can use the BV-100 with corrosive gases; it is rated for temperatures up to 100 °C, and it is compatible with high vacuum. The model BV-100D beam valve driver provides full electronic control for the beam valve. Front panel controls provide continuously adjustable repetition rate up to 50 Hz, delay, pulse duration and intensity. The repetition rate can be set by an internal trigger generator, or externally by a TTL-compatible input. The price for each of these instruments is \$950. *Newport Corporation, PO Box 8020, Fountain Valley, California 92728-8020*

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Infrared beamsplitter specialty coatings

Research Service has introduced a line of specialty coatings for interferometer beamsplitters, providing almost equal far-infrared transmission and reflection.



These coatings can reduce infrared wave transmission to 55% and reflection to 45% in the wavelength regime from 2 to 16 microns. The two-layer dielectric coatings protect crystals and compensators from moisture, abrasion and handling. Research Service beamsplitter coatings can be applied to any beamsplitter with a diameter from 1" to 8". They are available with visible laser alignment areas in any size and shape. *Research Service, 3A Bryant Street, Woburn, Massachusetts 01801*

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Wideband fiber-optic link for analog transmission

Two new fiber-optic links from Amplifier Research permit transmission of wideband analog data in radioactive environments and high-intensity rf or electromagnetic-pulse fields. When coupled with the appropriate test-item sensors, these systems provide wideband bipolar, interface-free transmission of analog information. Both systems are especially well suited for secure, multi-channel television transmission using standard rf-carriers techniques, we are told.

The new models FOL500-4 and FOL1000-4 include access for four inputs, making possible transmission of information from four sources without changing cables. The 3-dB bandwidth is 1 kHz to 500 MHz for the FOL500-4 and 10 kHz to 1000 MHz for the FOL1000-4. The signal-to-noise ratio at rated bandwidth is greater than 40 dB for the FOL500-4 and greater than 36 dB for the FOL1000-4. System gain is 27 dB for the FOL500-4, 22 dB for the FOL1000-4.

Both systems employ a battery-powered transmitter, shielded for use in high-intensity EMP and pulsed rf fields to 100 kV/m. Transmitter functions, including variable-input attenuation, calibration and standby control, are remotely programmable using the shielded receiver/control unit and a control optical fiber. Fiber-optic signal and control cables are available in lengths up to 500 meters. Both models are manufactured by Electro Optic Developments, Ltd, Basildon, England. In the USA contact *Amplifier Research, 160 School House Road, Souderton, Pennsylvania 18964-9990*

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Infrared lens with 130 mm focal length

Dallmeyer has introduced an infrared lens with a focal length of 130 mm. It is claimed to be the first in commercial



production with a focal length exceeding 100 mm. The lens has been developed for close-detail, long-range infrared inspections. Dallmeyer has adopted a catadioptric design to maximize transmission and to allow the lens to have a wide aperture without the weight and expense of large germanium components. Specifications include an aperture of $f/0.83$ ($t/0.95$), 7° field of view, and weight of 2.1 kg. High image resolution has been achieved; the lens has an MTF of 50% modulation at 10 cycles/mm.

The lens exceeds the requirement of most infrared cameras. It provides a standard 16-mm-diameter image to a vidicon, and it fits directly onto a Wreathall mount without special attachments, enabling the camera to be completely sealed. *JH Dallmeyer Ltd, High Road, Willesden, London NW10 2DN, England*

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Quiet head-on deuterium lamp

Hamamatsu has announced the new, Super Quiet L1888 deuterium lamp, consisting of a uv-transmitting glass window and a JEDEC No. B8-6 eight-pin plastic base. The head-on configuration of the L1888 lamp allows emission over a 60° angle through the end of the bulb. This configuration permits easy adjustment of the light axis. The lamp's spectral wavelength distribution extends from 185 to 400 nm. The L1888 is claimed to offer high stability over long periods of operations. Hamamatsu's Product Bulletin PB-131 lists complete specifications. *Hamamatsu Corporation, 420 South Ave., Middlesex, New Jersey 08846*

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Multiplexed ramp generator for spectroscopy

The Multiplexed Ramp Generator from MiNa was designed for use in photoelectron spectroscopy, but it can also be

used in Auger electron spectroscopy, mass spectroscopy or any analysis requiring electrostatic fields. It is also useful for time-of-flight studies.

The purpose of the instrument is to provide a linear voltage ramp to a system of electron or ion optics, letting one analyze the kinetic energy of the charged particles. The unique feature of this ramp generator, we are told, is that it can multiplex up to four "mini-ramps" in one sweep. This allows the user to select windows in a given spectrum.

The ramp generator produces linear ramps with amplitudes of either ± 10 V dc. Each mini-ramp has adjustments for starting and stopping voltages as well as slope. Slope stability is better than 0.1% after a 20-minute warmup period. Delays can be set at the start of each ramp, as well as at the end of each sweep. This allows external devices to be stabilized for the ramping. Front-panel controls make it easy to set parameters. By using the single-step feature, starting and stopping voltages of each ramp can be set to <0.5 mV. Slopes can be set from 0 to 100 mV/sec.

The instrument can be controlled via a computer, or it can be set to free run. The necessary outputs to synchronize peripheral equipment are generated in either case, and they are TTL-compatible. *MiNa and Associates, 2800 Jeanette, Suite 206, Houston, Texas 77063*

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New literature

EG&G Electro-Optics and EG&G Electronic Components have combined their product lines into a short-form catalog. Light instruments, silicon photodiodes, and xenon and krypton flashlamps are detailed. Trigger transformers, trigger modules and chokes, flashtube power supplies, EG&G/USSI products, strobes and sensitometers are also included. *EG&G Electro-Optics/Electronic Components, 35 Congress Street, Salem, Massachusetts 01970*

Optics—A new 140-page catalog and handbook entitled *Precision Optics and Components for Laser and Scientific Optical Systems* is available from Janos Technology. In addition to extensive listings and descriptions of such items as precision lenses, mirrors, filters, lasers and optical mounting devices, the handbook contains an optical-design-data reference section, serving as a guide to the selection of optical materials and the specification of components. It also includes lens formulae, design aids and tutorial reference articles on polarization, reflection and refraction. *Janos Technology, Route 35, Townshend, Vermont 05353*

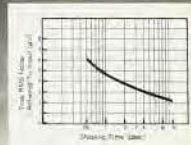
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