

## 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.

### High-precision microohmmeter with voltage clamping

Keithley Instruments has added to its line of high-precision measurement instruments the Model 580 microohmmeter with a sensitivity of  $10 \mu\Omega$ . It has the ability to clamp the output voltage up to 20 mV for dry-circuit applications. One can select the test-current polarity and operation (pulsed or dc), and one can automate the instrument via an optional IEEE-488 inter-



face. The measurement range of the model is  $10 \mu\Omega$  to 200 k $\Omega$ . Other features include a  $4\frac{1}{2}$ -digit display with annunciators, continuous or single-trigger operation and digital calibration. The unit comes equipped with three sets of four-wire test leads together with a pouch in which to house them. A battery pack for portable operation is optional. The unit is priced at \$1495. Keithley Instruments, 28775 Aurora Road, Cleveland, Ohio 44139

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### Laser-power stabilizer with optoelectronic servo

The optoelectronic servo introduced by Cambridge Research stabilizes the power output of cw lasers operating in the wavelength range between 350 and 1150 nm. The device is based on improvements of a proven NBS design using a Pockels cell, a photodiode beam sensor and an electronic servo. The stabilization is better than 0.05% rms, the noise attenuation is better than 23 dB around 1 Hz and the servo bandwidth is 300 kHz. The optical transmit-

tance of the stabilizer, when used with polarized lasers, is between 70 and 75% over the 350–1150-nm spectral interval.

The stabilizer has a clear aperture of 2 mm. One can align it on standard optical mounts in the unexpanded beam of most He-Ne, He-Cd, argon-ion, or YAG lasers. It accepts input power levels of up to 15 W. An optional generator is available that produces optical waveforms for the measurement of detector and system time constants.

The stabilizer consists of two units: an optoelectronic cell module and the electronic control box. Prices range from \$5595 for the Model 100, with a 350–550-nm transmittance band, to \$8595 for the Model 200, with a 350–1150-nm passband. Cambridge Research and Instrumentation, 21 Erie Street, Cambridge, Massachusetts 02139

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### Integrating sphere for photometric calibration

Labsphere has introduced the Unisource-6000, an instrument illuminating a surface of 14 cm<sup>2</sup> with uniform light. The uniformity is within  $\pm 0.1\%$ . The system consists of a 6-inch integrating sphere illuminated by a 30-W tungsten halogen lamp, a regulated power supply and a digital photometer.

The inside of the integrating sphere is coated with Spectralon, a specially formulated coating that provides a diffuse distribution of light across the circular port. The photometer is cali-



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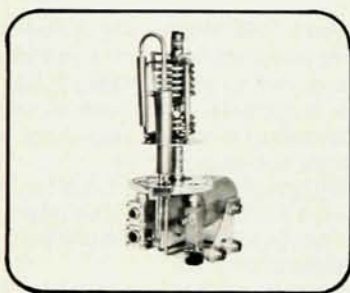
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## new products

brated in foot-lamberts and candelas/m<sup>2</sup>. The instrument provides factors for conversion of luminance to illuminance at various distances from the port.

One can vary the luminance level continuously from 35 to 900 foot-lamberts. A photopic detector monitors the operating luminance at the plane of the port and displays it on a 3 1/2-digit liquid-crystal display. Color-balancing filters are available to convert the spectral distribution to CIE standards A, B and C.

One can use the instrument to calibrate photometric instrumentation or to illuminate targets uniformly when testing the resolution of optoelectronic imaging systems. It is supplied with a support stand for tabletop use or can be mounted on any optical bench. Radiometric spectral calibrations are available on request. *Labsphere, P.O. Box 70, North Sutton, New Hampshire 03260*

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## Data-acquisition and control system for MicroVAX II

KineticSystems has introduced the 8040 Concept, a small data-acquisition and process-automation system for microcomputers with 32-bit VAX performance.

The system combines KineticSystems's standardized CAMAC (IEEE-583) hardware with Digital's MicroVAX II computer and supporting software. It is designed for automating such tasks as real-time data acquisition and test or production processes in scientific laboratories and industrial R&D and plant environments.

Operating under the MICRO-VMS operating system, the 8040 interfaces the MicroVAX II with the standard CAMAC crate via a dedicated Q-bus adapter and a CAMAC crate controller. MICRO-VMS, a fully compatible modular version of the VAX/VMS operating system, can be used in both multifunction and multiuser environments. It handles processor-intensive, input-output-intensive and real-time tasks, or any combination of the three. The 8040 is also supported by PC/DBS, KineticSystems's process-control and data-base-system software package.

Available in both pedestal- and rack-mounted configurations, the 8040 Concept system comprises the MicroVAX II with a 71-Mbyte Winchester drive, a 95-Mbyte cartridge tape drive, 2 Mbyte of memory and five serial lines. Also included are a VT-220 video terminal with keyboard, the MICRO-VMS operating system with eight user licenses, FORTRAN 77, a 25-slot CAMAC crate con-

troller, a Q-bus adapter (dedicated CPU interface), a MICRO-VMS software driver, all necessary cables, a power-distribution strip and an optional relay rack. *KineticSystems, 11 Maryknoll Drive, Lockport, Illinois 60441*

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## High-voltage supply with stabilized output

A new line of 500-W high-voltage dc power supplies introduced by Glassman High Voltage, the WH series, comprises 24 different models with a range of outputs from 0-5 kV at 100 milliamps to 0-75 kV at 5 milliamps. Regulation is better than 0.005%. The power supplies use air as their primary insulating medium and contain no oil or potting compounds, resulting in net weights of less than 25 lb. The units



are designed for a standard 19-inch rack mount and require 5 1/4 inches of vertical space. Standard input is 105 to 125 V ac, single phase, at 6 amps.

The power supplies offer both voltage and current regulation, with automatic crossover to voltage or current mode depending on the magnitude of the load. Other standard features include capability for remote voltage and current programming and monitoring, low ripple and a fast transient response—the recovery time from a 50% load transient is less than 3 msec. *Glassman High Voltage, P.O. Box 551, Whitehouse Station, New Jersey 08889*

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## Software and hardware for waveform analysis

The Computerscope-Phy, introduced by RC Electronics, consists of a plug-in board and software that convert an IBM PC, XT or AT into a digital-storage oscilloscope and waveform analyzer. The system is capable of acquiring up to 16 channels of analog data with 12-bit resolution and with a maximum sampling rate of one million samples per second. The memory depth can vary from 256 points to 16 million points of uninterrupted storage.

Used as a waveform analyzer, the system can digitize waveforms, analyze spectra, and produce real-time signal

averages, time-interval histograms, peak-amplitude histograms and distortion analyses. Digital filtering, integration and differentiation are available.

The basic price of Computerscope-Phy with digital-storage-oscilloscope option is \$2495. *RC Electronics, 5386-D Hollister Avenue, Santa Barbara, California 93111*

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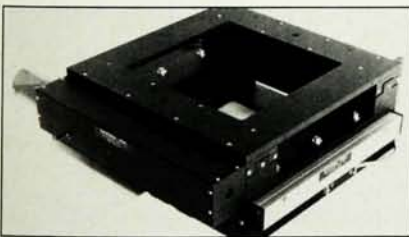
## Lightweight safety goggles for protection from laser light

The new optical-laser safety goggles from Newport are designed to provide maximum eye protection for those working with argon, GaAs, Nd:YAG, HeNe, ruby, nitrogen and CO<sub>2</sub> lasers. They have a soft vinyl body and a picture-window plastic lens. Four capped air vents allow air circulation but block hazardous light. These goggles may be worn comfortably for long periods, even over glasses, we are told. All filters have been tested and are not susceptible to bleaching or saturation under laser irradiation. Prices are \$106 for narrowband- and \$193 for broadband-protection goggles. *Newport, 18235 Mount Baldy Circle, Fountain Valley, California 92708*

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## Open-frame linear positioning table

Daedal has introduced a series of new open-frame linear tables that allow accurate positioning on either a single x axis or dual x-y axes. The tables are specifically designed for applications that require a large center opening (window) through which one can pass light or in which one can mount objects.



Preloaded linear ball-bearing systems produce precise straight-line movements accurate to 1/4 part per thousand. A precision-ground lead screw provides accurate point-to-point positioning. Tables are available with a variety of travel distances, load capacities, lead-screw pitches and performance grades. Linear encoders, travel-limit switches and "home" switches are optional. *Daedal, P.O. Box G, Sandy Hill Road, Harrison City, Pennsylvania 15636*

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## Gaussmeter compatible with IEEE-488 bus interface

Dowty RFL has introduced the Model 912 digital gaussmeter, which is directly compatible with the IEEE-488 bus through use of a simple interface. A 4 1/2-digit bipolar LED display indicates flux density. Three modes of operation—permanent-magnet and dc, peak and ac—are available. The accuracy is  $\pm 0.5\%$ .

The 912 can be converted to a differential gaussmeter with the addition of the Model 913 differential adapter and probes. The unit can be rack-mounted if desired. In addition to the IEEE-488 bus option, a binary-coded decimal output is available. *Dowty RFL Industries, Powerville Road, Boonton, New Jersey 07005*

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## New software

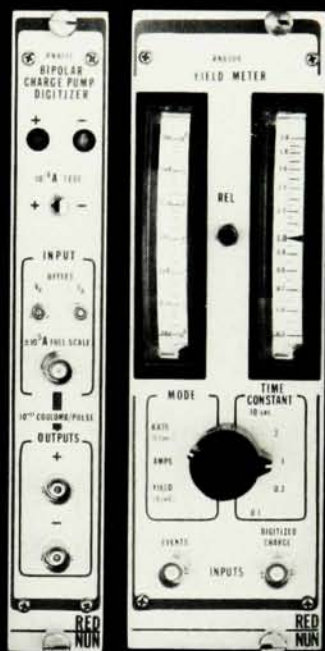
**Mathematics education**—True Basic has announced microcomputer software designed to improve students' understanding of elementary functions and calculus. The Calculus and Precalc packages are available for the IBM-PC family (with graphics capability) and the Macintosh. Calculus was written by John G. Kemeny and Precalc by Kemeny and Ruth Bogard. *True Basic, 39 South Main Street, Hanover, New Hampshire 03755*

**Digital-oscilloscope software**—HEM Engineering has introduced Snapshot, a digital-storage oscilloscope software package for the IBM-PC family. Capabilities include digital- or analog-triggered acquisition, time and magnitude readouts and the graphical representation of stored data. *HEM Engineering, 17025 Crescent Drive, Southfield, Michigan 48076*

**Optical-beam propagation**—New Wave Optics has released LOTS v, a VAX version of the standard optical-beam propagation code originally developed for large mainframes. Applications include resonator modeling and tolerancing, segmented apertures, laser-amplifier design and physical-optics education. *New Wave Optics, P.O. Box 9042, Santa Fe, New Mexico 87504*

**Technical BASIC**—TransEra has introduced TBASIC, a version of BASIC suited for scientific and technical applications. TBASIC supports GPIB controllers for both graphic and instrument peripherals of personal computers. It also features a set of mathematical functions and operations, and it supports the 8087 coprocessor. The language is available for CPM, PC-DOS, MS-DOS, UNIX and VMS. *TransEra, 3707 North Canyon Road, Provo, Utah 84604*

# Ion Beam Analysis Pair



**RN8111** — True bipolar response current integrator with 10 pico-Coulomb quantization spanning  $-10\mu\text{A}$  to  $+10\mu\text{A}$ . Features sensitivity and accuracy and no range switching.

**RN8309** — A rate meter designed for tuning and alignment. Displays **event rate, beam current, and yield** (events/nano-Coulomb) and on a separate scale the ratio of the rate, current or yield to the stored value.

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