

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.

Compact High-Voltage DC Power Supplies

The new LT Series of high-voltage dc power supplies from Glassman provides up to 2 kW of power in a rack panel 8.75 inches high, with voltage ranges, depending on the model, up to 125 kV. Each unit weighs less than 47 pounds. Line voltage is 220/240 V single-phase. Glassman stresses that the combination of high voltage and high power need not imply a big, clumsy power supply.

Voltage regulation is better than 0.005% for both load and line variations, we are told. Ripple is less than 0.03%. Automatic crossover from constant-voltage to constant-current operation protects against shorts, arcs and overloads. The LT Series can be had with an optional current "trip" circuit. Current regulation is 0.005% from short circuit to rated voltage.

All LT Series supplies have full remote-control capabilities, including terminals for voltage/current programming and monitoring, ttl high-voltage enable/disable, safety interlock terminals and a +10-volt reference source. Dual analog voltage and current meters are provided; optional dual digital meters are available. Prices start at \$4800. *Glassman High Voltage, P. O. Box 551, Whitehouse Station, New Jersey 08889*

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Ion-Implanted Silicon Detectors for Alpha Spectroscopy

EG&G Ortec has introduced Ultra, a new line of rugged, ion-implanted-silicon detectors for alpha spectroscopy. The detectors feature close mounting for high geometric efficiency, thin entrance windows for energy-resolution retention and an ultra-low background. A line of com-

panion products is also available, including NIM alpha spectrometers, multiplexers, software, as well as custom alpha-spectroscopy systems. Also available are ultra-thin ($\sim 5 \mu\text{m}$) or ultra-thick ($\sim 5 \text{ mm}$) silicon detectors. *EG&G Ortec, 100 Midland Road, Oak Ridge, Tennessee 37831-0895*

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Front-End Optical Receiver

New Focus has introduced a new front-end optical receiver. This photodetection module provides a convenient way to convert a weak optical input to a useful electronic output. It consists of a photodiode, a transimpedance amplifier, independently adjustable low-and-high-pass filters, and a final gain stage. The overall system



provides 90 dB of gain with shot-noise-limited performance.

The adjustable band-pass filter further enhances signal detection by eliminating spurious signal and noise outside the frequency range of inter-

NEW the eV-252A

Charged Particle Detector

Size: 1.50"L X 1.25" dia.

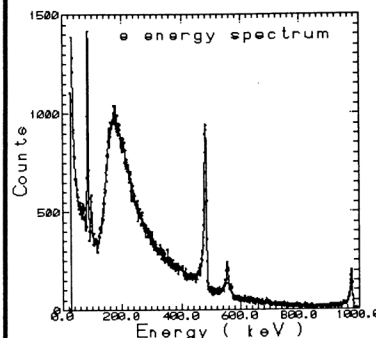
Replaces PMTs

30 Day evaluation period!

- One year warranty -

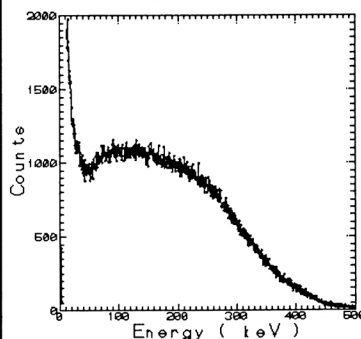
The eV-252A is a complete package: photodiode and preamplifier

- Works in Magnetic Fields
- Low Voltage Operation
- Low Power Consumption
- No Gain Drift



Bi^{207} Electrons

Photodiode - $10 \times 10 \times 0.5 \text{ mm}^3$



Na^{22} Positrons

Photodiode - $10 \times 10 \times 0.5 \text{ mm}^3$

eV Products

Division of Electron Control Corp

2b Old Dock Road • Yaphank, NY 11980

Phone (516) 924-9220 • Fax (516) 924-1631

Australia: Gammasonics Pty Ltd, New South Wales 7131122; **India:** Con-Serv Enterprises, Danabundar, Bombay 8725589; **Italy:** Data Max s.r.l., Catania 441203; **Japan:** Niki Glass Co., Ltd, Tokyo 4564700

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est. A useful dc-30 setting allows continuous viewing of the ac signal with an oscilloscope, even with large dc fluctuations. The price is \$750. *New Focus, Mountain View, California 94041*

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Multiple-Chip Cryotest System

Lake Shore has introduced the MTD-500, an eight-position carousel cryotest system for high-throughput chip testing. The system is available in two configurations: a pour-fill multiple-chip version for operation to 77 K; and a calibration-test system, a multiple-chip cryostat configuration that affords computer automation and incorporates ir sources, filter and aperture wheels for flux control. The configuration of the chip-carrier mounting hardware ensures constant electrical contact with the device under test. Each device can be functionally tested at room temperature to verify valid electrical operation prior to cool down. Optional equipment is available to control the signal and background flux to the device being tested. *Lake Shore Cryotronics, 64 East Walnut Street, Westerville Ohio 43081*

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Mercury Vapor Laser for Student Labs

QE Technology has introduced the EL-100 optically pumped Hg vapor laser at 546.1 nm. This is a student lab instrument designed to show the basic principles of lasers. It features a laser tube with internal mirrors that can be tilted to produce different transverse-mode patterns. The gain length can also be varied, to show its effect on laser output power. The device is pulsed at 30 Hz with 30- μ sec pulse width. Peak power exceeds a milliwatt. A photodetector package and a manual describing experiments with the EL-100 are also available. *QE Technology, 5008 W. Linebaugh Avenue, Suite 35, Tampa, Florida 33624*

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USSR Magnetic Anomaly Data

Magnetic anomaly data for the Soviet Union are now available on magnetic tape from the National Geophysical Data Center. The data can be used to study global tectonic processes and

the deep crustal composition of major continental cratons.

The data are divided into four regions; each region covers an east-west extent of 45 degrees longitude. The one-minute grid values are sequenced beginning from the lower left corner of each region, row-by-row, proceeding to the higher latitudes. Documentation accompanying the data tapes includes an English translation of a 1978 Russian publication, "Map of the Anomalous Magnetic Field, (ΔT) of the Territory of the USSR and of Some Adjacent Water Areas." Write to *National Geophysical Data Center, NOAA, Code E/GC1, 325 Broadway, Boulder, Colorado 80303*

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Ion-Laser System for the Visible and Ultraviolet

Coherent has introduced a new ion-laser system—the Innova 307. This newest member of the Innova 300 series, we are told, is the first ion laser to provide a 7-watt multiline output in the visible and a 600-mW multiline output in the ultraviolet. The new laser system incorporates all the productivity enhancements of the 300 Series, such as an actively stabilized optical cavity, active etalon stabilization to eliminate mode-hops in single-frequency operation, and complete system diagnostics.

The power levels available from the Innova 307 are the result of engineering advances in brewster windows, optics and plasma-tube design, yielding power one would not expect from a small-frame laser system. *Coherent, 3210 Porter Drive, P. O. Box 10321, Palo Alto, California 94303*

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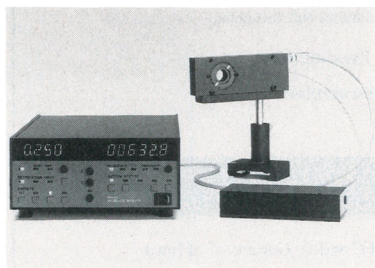
Polarization Modulator for Spectroscopy

Hinds Instruments has introduced the PEM-90 photoelastic modulator for modulated polarization in polarimetry, ellipsometry, reflection-difference spectroscopy and other laboratory applications. The PEM-90 can be used to measure circular and linear dichroism, birefringence and optical rotation by varying the polarization state of light at a fixed frequency from 20 to 100 kHz.

The new polarization modulation system includes the PEM-90 con-

NEW PRODUCTS

troller; optical and electronic modulator head assemblies for use from vacuum ultraviolet to mid-infrared; and modular accessory instruments for custom configurations. The controller features an RS232 serial interface for computer monitoring and control. The front panel permits precise setting of source wavelength and retardation level. New modulator heads offer 45° angular acceptance, variable-wavelength amplitude retar-



ation (out to quarter-wave at 19 microns), 6-cm aperture diameters and a choice of optic materials and designs. Accessories include new photomultiplier and photodiode assemblies, a high-voltage power supply, a signal-conditioning module, an analysis and control computer module, and software. *Hinds Instruments, 5250 NE Elam Young Parkway, Hillsboro, Oregon 97124-6463*

Circle number 147 on Reader Service Card

Scanning Electron Microscope

Philips Electronic Instruments has introduced a new series of digital scanning electron microscopes. They are designed, we are told, for ease of use, high productivity, and operation in normally illuminated, office-type environments.

Designated the XL series, these new SEMs incorporate "Microsoft Windows" technology. The microscopes can be operated entirely from its keyboard together with a mouse and monitor.

The operation of the XL Series has been simplified by incorporating standard applications programs. For example, once a sample has been loaded, the Image mode initiates a sequence that automatically saturates the filament, focuses and stigmates the image, and sets contrast and brightness. The Survey mode then allows the operator to find the best location on the sample. With the mouse pointing to features on the sample, these features are automatically centered on the monitor and the magnification is

steadily increased until the operator decides to save or reject it. As the magnification is increased, the spot size is automatically adjusted for maximum resolution with no image shift or rotation, and the image automatically stays in focus at the preset contrast and brightness.

The XL Series is suited to multi-user laboratories because parameters can be stored and recalled. The operator can override the automatic settings at any time and manually adjust the SEM to his needs. *Philips Electronic Instruments, 85 McKee Drive, Mahwah, New Jersey 07430*

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Variable Nanosecond Delay Line

A new nanosecond delay line, Model 015-500 from Bishop Industries, makes it possible to insert and measure time delays into circuits with a resolution of two picoseconds over a continuously variable range from 0 to 5 nanoseconds. Resolution can be increased to 1 psec for delay of less than 2.5 nsec. Constant 50 ohm impedance is maintained over the entire range to minimize signal degradation.

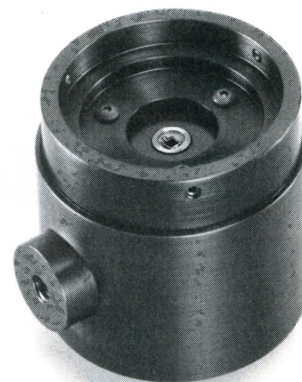
In the time domain, pulse reflections are less than 5% in an 80-psec risetime system. Maximum delay error, we are told, is less than 3%. The frequency range goes from dc to 5 gigahertz. The insertions length is 8.8 nanoseconds. One can also use the nanosecond delay line for phase shifts at frequencies exceeding 100 MHz. The line uses N-type female connectors. The price of the Model 015-500 is \$4400. *Bishop Instruments, 125 Presumpscot Street, Portland, Maine 04103*

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New Literature

Isotopes—Cambridge Isotope Laboratories offers its 1991-92 Stable Isotopes Catalog. The firm sells stable, isotopically labeled compounds, for example, deuterated nmr solvents and reagents, specialty gases, and biomedical products such as amino acids, drugs, metabolites, fatty acids, lipids, nucleic acids, nucleosides, steroids and sugars. They also offer carbon-13-labeled and custom-synthesis compounds. *Cambridge Isotope Laboratories, 20 Commerce Way, Woburn, Massachusetts 01801*

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