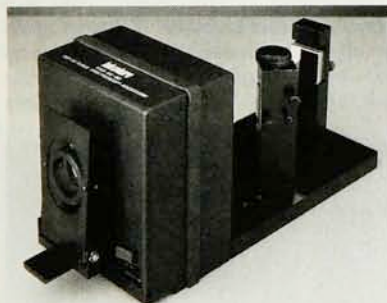


The descriptions of the new products listed in this section are based on information supplied to us by the manufacturers, and in some cases by independent sources. PHYSICS TODAY can assume no responsibility for their accuracy. To facilitate inquiries about a particular product, a Reader Service Card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

Reflectance Accessory for Spectrophotometers

Labsphere is offering the RSA-BE-60 reflectance-spectroscopy accessory for the Beckman DU-62, DU-64 and DU-65 spectrophotometers. The new accessory facilitates measurement of the diffuse and specular reflectance of opaque samples, and of the transmittance of turbid or translucent samples.

The RSA-BE-60 has an integrating



sphere, made of Spectralon, that exhibits superior spectral range, efficiency and extreme durability in harsh environments, we are told. This accessory is easy to install: It fits directly into the existing sample chamber. The RSA-BE-60 is compatible with all DU-60 series hardware and software, and it conforms to all ASTM and CIE design parameters. Labsphere, P.O. Box 70, North Sutton, New Hampshire 03268.

Circle number 140 on Reader Service Card

Storage Oscilloscope for Ungrounded Measurements

Gould has introduced a new four-channel digital storage oscilloscope, the Model 1624, whose differential inputs make it suitable for a variety of ungrounded measurements. The dif-

ferential inputs allow off-ground measurements to be made by removing common-mode or in-phase signals or by suppressing the dc component of a complex signal so that the dynamic components can be displayed in greater detail.

Applications for which the Model 1624 is suited include measuring current in off-ground shunts in power supplies or motor controllers; monitoring the output from ungrounded transducers, where the balanced character of the differential inputs cancels out unwanted common-mode noise; and analyzing of small dc signals superimposed on large dc levels. When the oscilloscope is used in its differential mode it offers an impressive 3-MHz bandwidth. This high bandwidth makes suitable for physiological measurements and for differential measurements in switch-mode power supplies.

The 3-MHz bandwidth and corresponding fast rise time allow the Model 1624 to perform differential measurements on high-speed power control circuits where large ground currents would make single-ended measurements very difficult. The instrument has a 20-MHz bandwidth for those measurements that can be made with single-ended inputs. Any combination of single-ended and differential channels may be used. Gould Electronics, 3631 Perkins Avenue, Cleveland, Ohio 44114

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Optical Fiber Fault Locator

Intelco's Model 301 VFL hand-held visual fault locator injects visible laser light into optical fibers, causing breaks and microbends in the fiber to glow. The glow is visible even through yellow- or orange-jacketed jumper cables. The device can locate faults within splice trays, optical branch panels and fiber runs up to 4 km long. By aligning mechanical

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splices for minimum glow, one can optimize splices for minimum loss. With single-mode jumpers, end-face quality can be checked by shining the output from the jumper onto a flat surface.

Up to -5 dBm of 632.8-nm He-Ne laserlight can be coupled into single-mode fibers. Intelco's companion Model 300 VFL is available for customers requiring higher optical output power (over 0 dBm into single-mode fiber). The VFL is powered by an external 12-V dc supply. An optional, rechargeable battery and adapter cable allow more than eight hours, operation. The adapter cable can be used for operation from a car battery. Intelco, 8 Craig Road, Acton, Massachusetts 01720-5405

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Hall-Effect Semiconductor Measurement

Keithley Instruments has introduced its new Model 925 Hall-effect system and Model 926 Hall-effect profiler. These systems offer an expanded measurement range. Both are designed for the semiconductor researcher who is testing the purity of GaAs, III-V, II-VI or silicon samples by measuring carrier concentrations and mobility. These parameters are determined by making resistivity and Hall-voltage measurements on the bar or wafer samples. Resistivity is measured by the van der Pauw method.

The systems are designed to minimize errors by taking numerous measurements on each sample. After the sample has been placed in the sample holder, the system automatically moves it between the poles of an electromagnet, measuring its resistivity and Hall voltage. Both systems conduct 24 measurements in each cycle, with up to 100 cycles per sample. The cycle consists of eight resistivity measurements and four Hall measurements done at the positive magnet pole, followed by eight resistivity and four Hall measurements at the negative pole. All testing is done in a light-tight chamber to avoid photogenerated effects.

The Model 925A is a room temperature system, while the Model 925B can perform at room temperature or 77-K. The latter system incorporates an insulated liquid nitrogen container for making the 77-K measurements. The Model 926A profiler also offers etching capability. Because carrier concentrations and mobility can vary with depth, a chemical etch

technique is used to remove thin layers from the semiconductor surface. The same cycle of measurements described above is used, though steps are added to etch and dry the surface between cycles. The etching depth is definable in 10-nm increments, from 100 nm to 20 μ m. The etch time can also be programmed.

Both systems offer resistance levels from 1 Ω to more than 10^{10} Ω , corresponding to a range of 10 orders of magnitude in carrier concentrations. Keithley tells us that ac and dc noise are less than 50 nV. Keithley Instruments, 28775 Aurora Road, Cleveland, Ohio 44139.

Circle number 143 on Reader Service Card

Oscilloscope with Live Statistics Displays

The new LeCroy 7200 series 400-MHz precision digital oscilloscope, we are told, "can do everything at once: capture the signal, automatically measure each of the specifications and simultaneously display the statistical result." The Model 7200 is a modular oscilloscope. With plug-ins such as the Model 7242, it provides up to four independent 400-MHz input channels that can be simultaneously



sampled at 1 gigasample/sec into individual 50-K point memories. It offers extensive built-in analysis capability, including waveform math, signal averaging, 100-to-50 000-point fast Fourier transforms, and time, frequency and statistical parameters.

Built-in hard and floppy disks provide storage for waveforms, screen dumps, front panel settings, and programs for automated operation. The Model 7200 is priced at \$16 000, and the Model 7242 costs \$900 more. Lecroy, 700 Chestnut ridge Road, Chesnut Ridge, New York 10977-6499
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New Scientific Graphics Software

RPlot is a new MS-DOS utility for plotting experimental and theoretical data. The software directly uses the

NEW PRODUCTS

ASCII data files created by data acquisition systems or theoretical computer codes; no file conversion is necessary. A wide range of formats, including multiple data sets and textual comments, are handled automatically within each file.

A command-line interface allows one to create special plotting utilities by writing one-line batch files that call RPlot with appropriate options. Numerous options are available for producing publication-quality figures. RPlot can work with other software by exporting its graph to a computer graphics metafile. This file, in turn, can be imported by the many word-processing or technical-drawing programs that understand the CGM format.

RPlot will run on IBM or compatible personal computers with 256K RAM; a CGA, EGA, VGA or Hercules video adapter; and MS-DOS version 3.0 or higher. It supports color output to an HP-compatible pen plotter or an HPGL file. RPrint, the high-resolution printing program supplied with the software, will work with Epson-compatible dot-matrix printers or HP Laserjet Deskjet printers. *RSoft, 345 Riverside Drive, Suite 2G, New York, New York 10025; (212) 666-0959*

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Ultrahigh-Vacuum Gate Valve for Accelerators

VAT is offering new type of ultrahigh-vacuum gate valve, with rf contacts for use in particle accelerators. The valve in the photograph is used in the Tristan ring in Tsukuba, Japan. Using VAT's proprietary Monovat sealing design, the new valve is conveniently small. It provides continuous

contact through the valve for low flange-to-flange rf electrical resistance. The valve uses a bellows-sealed actuator, metal static seals and a Viton gate seal. It can be manually locked in either the open or closed position. The Monovat design permits octagonal, oval or other user-specified profiles for individual accelerator applications.

VAT has recently delivered 75 custom all-metal gate valves to CERN for an upgrade of the Super Proton Synchrotron. Using VAT's proprietary stainless-steel-on-stainless-steel sealing technology, these valves provide up to 10 000 cycles between maintenance, we are told. They are bakeable to 300 °C for extreme u hv use. Special features for use at the SPS include additional vacuum ports and an actuator that is resistant to radiation at levels up to 10 rad. Similar valves can be specially designed for other accelerators or applications. *VAT, 600 West Cummings Par, Woburn, MA 01801. 617-935-1446. Fax 617-935-3940*

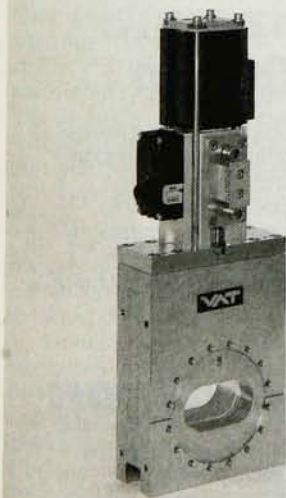
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125-kV Portable, Microfocus X-Ray Source

Kevex has introduced a new compact x-ray source, the Model PXS6. This model combines the firm's microfocus technology with its proprietary portable x-ray-source design. The PXS6 offers dual microfocus capability, allowing the user considerable flexibility in high-resolution radiography or microanalysis. Its maximum power is 10 watts for an electron-beam spot size of 10 microns. A 45-micron spot size permits higher powers, up to 62.5 watts. The spot size is selectable by switch from a control panel.

The PXS6 is intended to be a completely portable x-ray source, with the high voltage electronics, x-ray tube and radiation shielding in one 40-lb package. It can operate from a 28-volt dc source. A single multipin connector is used for input voltage, external monitoring, and control of the target voltage and electron-beam current. The PXS6 measures 18" x 7.3" x 7.3" and comes with a 0.01" titanium window for applications requiring higher-energy x-rays. An optional 0.005" beryllium window is available for the user who wants high flux at lower energies. *Kevex X-Ray, 320 El Pueblo Road, P. O. Box 66860, Scotts Valley, California 95066-0860*

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