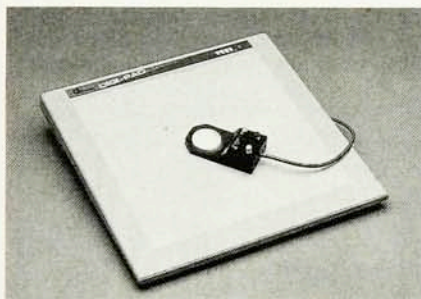


The descriptions of the new products listed in this section are based on information supplied to us by the manufacturers, and in some cases by independent sources. PHYSICS TODAY can assume no responsibility for their accuracy. To facilitate inquiries about a particular product, a Reader Service Card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

Illuminated Cursor for Digitizing in Dim Light

GTCO Corporation offers a self-illuminated, five-button digitizing cursor. Its two-inch lighted reticle is designed to enhance the user's ability to digitize accurately in the dimly lit environment required for some high-resolution graphic displays.

The cursor has several other noteworthy features. With a durable precision glass reticle, the cursor is



particularly suited for high-accuracy tracing applications, because the glass eliminates parallax. The cursor is heavier than most, which makes for smooth and controlled movement. The five high-profile switches are said to reduce operator fatigue. *GTCO Corporation, 7125 Riverwood Drive, Columbia, Maryland 21046*

Circle number 140 on Reader Service Card

Modular Semiconductor Wafer Processing System

Varian has introduced an isolated-chamber sputtering system, the Model M2000. Varian describes it as "the first of a new generation of processing systems which integrate the advanced process technologies required for fabrication of submicron semiconductor devices." Allowing process steps to be performed sequentially under controlled vacuum conditions, the system eliminates the undesirable effects of

intermediate air exposure, and it shortens the production cycle.

The M2000 integrates freestanding and interchangeable modules, providing a high level of flexibility with regard to applications and maintenance. Each module is self-contained, with independent systems for vacuum, wafer handling and process control. Modules are connected by a central wafer-handling system designed for good reliability and contamination control. The system is configured with modules for automated cassette-to-cassette wafer handling, sputter deposition and rf sputter etching. Process sequences can be tailored for different devices. The M2000 is intended for research and development or for actual production. It is said to be easy to upgrade or expand. *Varian Semiconductor Equipment Group, 611 Hansen Way, Mailstop G-105, Palo Alto, California 94303*

Circle number 141 on Reader Service Card

Data Acquisition Board for the IBM PS/2

Scientific Solutions, a subsidiary of REXON, has introduced a data acquisition and process control board designed to operate with the IBM PS/2 Models 50, 60 and 80. This new MC-DAS 1612 brings multifunctional digital and analog input-output to the microchannel bus, and "opens the door for the new IBM computers to move into the laboratory."

The MC-DAS 1612 is a single-slot board that implements the PS/2's microchannel interface bus, performing burst-mode direct-memory-access transfers as an input-output slave. All connections to the board are brought out through a 37-pin D shell connector at the rear of the computer. The analog-to-digital conversion circuitry is internal to the computer. The A-D conversion is based on a

Cryopumps For High Vacuum Applications



Complete Line of Closed-Cycle Cryopumps

- 4 Inches to 48 Inches Flange Sizes
- 400 to 60,000 Liters per Second Pumping Speed (Air)
- Multi Pump Operation Capabilities

- ☐ Mountable in Any Orientation
- ☐ Absolutely Oil Free High Vacuum Capabilities 10^{-3} to 10^{-11} Torr
- ☐ Low Maintenance Intervals
- ☐ Water and Air Cooled Compressors
- ☐ Field Serviceable

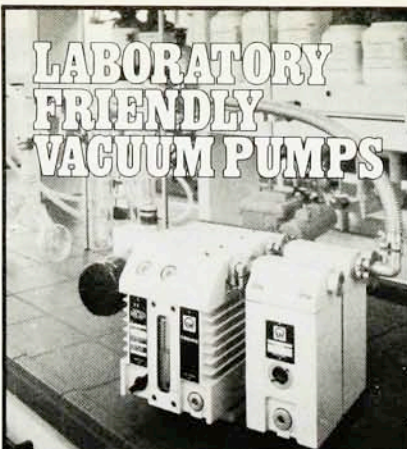
LABORATORY ASSISTANCE AVAILABLE FOR SPECIAL CRYOGENIC REQUIREMENTS AND DEVELOPMENT



LEYBOLD
VACUUM PRODUCTS INC.
5700 Mellon Road
Export, PA 15632
(412) 327-5700 Ext. 528

Circle number 40 on Reader Service Card

LABORATORY FRIENDLY VACUUM PUMPS



Get the Facts On TRIVAC® B

- Compact Design
- Low Noise Level
- High Vapor Tolerance
- No Oil Backstreaming
- Solvent Resistant Seals

**Ask for the
7 Golden Rules for use in
Chemical Laboratories**

Leybold
Vacuum Products, Inc.
Export, PA 15632
412-327-5700
Ext. 528



Circle number 41 on Reader Service Card

single, multiplexed 12-bit successive approximation converter with 8.5-microsecond conversion time, programmable gain and 98-dB common-mode noise rejection. The converter's three modes of operation and unipolar-bipolar input ranges can be selected by software. The A-D conversion proceeds at full speed while the host processor is offloading for other tasks. Throughput in single-channel and auto-scan modes is 80 000 samples per second. Options include 14- and 16-bit accuracy with throughputs of 40 000 samples per second. The MC-DAS 1612 is priced at \$995. *Scientific Solutions, 6225 Cochran Road, Solon, Ohio 44139*

Circle number 142 on Reader Service Card

Low-Ripple High-Voltage Power Supplies

Glassman High Voltage claims "a dramatic reduction in the output ripple of [its] ultrahigh-voltage switching power supplies." They have achieved, we are told, a ripple of less than 5 volts peak to peak in a supply with an output of 300 kV at 1 mA. This 0.002% ripple is said to equal or exceed the best line frequency designs available.

The supplies are air insulated, eliminating the need for oils. Operating at high efficiency, they run cool. They weigh less than 200 lbs, and they are relatively small, requiring about the space of a desktop. Older designs, we are told, are much heavier and bulkier. The selling price of the Glassman supplies is claimed to be less than a third that of line frequency designs that meet the same specifications.

Ultralow ripple is available as an option on all Glassman PG Series models with an output of 100 kV or higher (open stack configuration). *Glassman High Voltage, Salem Industrial Park, Route 22 East, P.O. Box 551, Whitehouse Station, New Jersey 08889*

Circle number 143 on Reader Service Card

Capacitance and Voltage Measurement

Keithley describes its new Package 82 capacitance-voltage measuring system as "the only system capable of making both quasistatic and high-frequency (100 kHz and 1 MHz) capacitance-voltage measurements si-

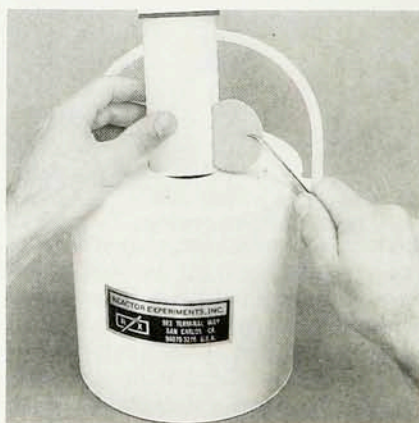
multaneously." Requiring only a single measurement setup and voltage sweep for both quasistatic and high-frequency capacitance-voltage measurements, the Package 82 is claimed to offer improvement of speed, convenience and measurement quality.

Included in the Package 82 are the Keithley Model 590 CV analyzer for high-frequency measurements, a Model 595 quasistatic CV meter, an input coupler to connect them to a Keithley voltage source of ± 100 V dc offset, connecting and control cables, and cable calibration sources. Graphics and analysis software compatible with the HP 9000 Series 200 programmable controller is also included. *Keithley Instruments, 28775 Aurora Road, Cleveland, Ohio 44139*

Circle number 144 on Reader Service Card

Neutron Flux Integrator for Accelerators

Reactor Experiments has introduced the Neutron Flux Integrator, a simple, assertedly convenient system that provides inexpensive neutron



monitoring in the vicinity of accelerators. This passive detector, with no electronics, can be used to measure either fast or thermal neutrons. Having no electronic parts, the instrument is not subject to high-flux limitations or gamma ray interference. The device weighs only 8 lbs, and it stands 6½ inches high by 6½ inches diameter. *Reactor Experiments, 963 Terminal Way, San Carlos, California 94070*

Circle number 145 on Reader Service Card

Flexible Multipurpose Diffractometer

The new Philips MPD multipurpose diffractometer has a new goniometer design that can easily be reconfi-

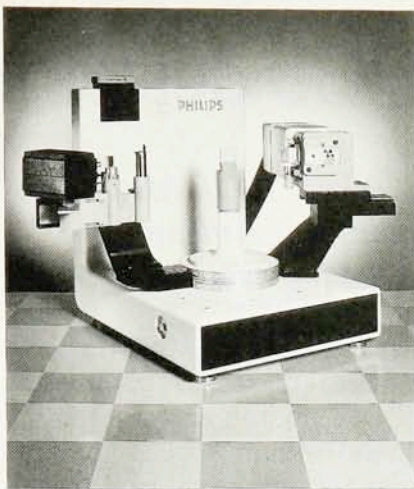
 THE CONFERENCE ON
COMPUTERS
IN PHYSICS INSTRUCTION
1-5 AUGUST 1988
NORTH CAROLINA STATE UNIVERSITY
RALEIGH, NC

Authors, publishers, physics teachers at all educational levels are invited to participate and submit papers and software.

**Deadline for contributions:
1 March 1988.**

For more information contact:

John S. Risley, Co-Chairman
Department of Physics
North Carolina State University
Raleigh, NC 27695-8202
Tel. (919) 737-2524
BITNET: RISLEY@NCSU



gured, we are told, "in minutes, instead of hours." The MPD design also facilitates the rapid exchange of accessories, detectors and x-ray tubes.

The new system operates horizontally or vertically, accommodating a variety of accessories for all analytical modes, including powder diffraction, texture/pole figure, stress, high and low temperature, transmission and fiber analyses. The proprietary Philips Flipfocus x-ray tube lets the user select spot or line focus without demounting the tube shield, repositioning cooling water lines or realigning the optics.

The instrument's "common reference interfaces"—precision-machined pinned surfaces, dovetails, and detented shafts with keyways—provide a stable goniometer platform. Factory-aligned optics with variable radius provide good resolution and intensity, we are told. The user can easily interchange detectors, monochromators and sample presentation accessories without assistance. *Philips Electronic Instruments, 85 McKee Drive, Mahwah, New Jersey 07430*

Circle number 146 on Reader Service Card

Pulse Generator with 20-Nanosecond Rise Time

Avtech has introduced the new Model AVR-4-PW-C pulse generator series, with output amplitude continuously variable from 0 to 400 volts for a 50-ohm load. Rise and fall times are less than 20 nsec. The generator's output pulse width for Model AVR-4A-PW-C is variable from 100 nsec to 5.0 μ sec; for Model AVR-4B-PW-C it goes from 100 nsec to 100 μ sec. Both models provide up to 3.2 kW peak power, 16 watts of average power and duty cycles to 0.5% with pulse repetition rates as high as a kilohertz. One gets

a choice of output polarity, or a dual-output polarity option can be provided. Also, a dc offset option is available on the output.

A delay control and synchronous output is provided for scope triggering. The output amplitude and pulse width are controlled by front panel controls. The units are mounted in a 4" x 16" x 12" chassis with BNC output connectors. They require 110 or 220 V, 50-60-Hz prime power. *Avtech Electrosystems, P. O. Box 5120, Station F, Ottawa, Ontario, Canada K2C 3H4*

Circle number 147 on Reader Service Card

New Literature

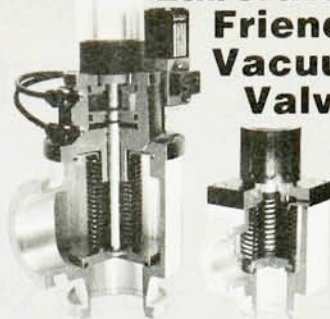
Materials analysis—Kevex offers its new catalog, *Selected Resources: A Catalog of Accessories, Supplies and References for Materials Analysis*. It covers products for x-ray fluorescence and microanalysis. *Kevex, 1101 Chess Drive, Foster City, California 94404*

Panel meter catalog—The new Simpson 28-page distributor stock catalog is a reference source for the designer selecting panel meter components. Analog and digital instruments are listed in a multitude of styles, sizes and ranges. The catalog contains complete specifications and line illustrations. *Simpson Electric Company, 853 Dundee Avenue, Elgin, Illinois 60120*

PC handbook—Cyber Research's 144-page 1988 edition of *The PC Systems Handbook for Scientists and Engineers—Data Acquisition and Instrumentation* includes over 1000 products for turning 8088-, 80286- and 80386-based personal computers into data acquisition and instrumentation systems. Products have been evaluated, we are told, for compatibility within systems so that users can concentrate on their functional needs rather than on integration issues. *Cyber Research, 5 Science Park Center, P. O. Box 9565, New Haven, Connecticut 06536*

Scanning tunneling microscopy—A four-page color brochure from Microscience describes the WA Technology scanning tunneling microscope. The brochure gives examples of the microscope's imaging capability and describes the image processing software included with the instrument. The WA STM is a flange-mounted, ultrahigh-vacuum-compatible instrument designed for integration with existing surface analysis systems. *Microscience, 41 Accord Park Drive, Norwell, Massachusetts 02061*

Laboratory Friendly Vacuum Valves



Building-Block Versatility For Rough and Medium Vacuum

- Interchangeable Manual and Electropneumatic Drives
- Aluminum and Stainless Steel Bodies
- International Standard KF® and ISO Port Sizes
- Leak Rates Less Than 1×10^{-9} mbar ltr/sec

Get the Facts NOW! Ask for our applications brochure.

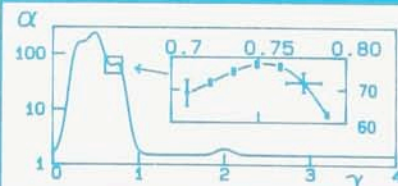


LEYBOLD
VACUUM PRODUCTS, INC.
5700 Mellon Road
Export, PA 15632
(412) 327-5700 Ext. 528

Circle number 42 on Reader Service Card

Temple Datatap™ Graph 3.1
for IBM and HP9000, SUN3

A NEW STANDARD FOR SCIENTIFIC GRAPH SOFTWARE



SEE THE GRAPH AT ALL TIMES

No commands to learn, you simply tap function and arrow keys to fit, edit, zoom, rescale, change variables or graph attributes and

THE GRAPH UPDATES INSTANTLY AND AUTOMATICALLY

Features Greek & Math symbols, sub & superscripts, log axes, auto error bars, multiple line, symbol, spline and frame styles, multiple curves, graphs, legends, vert., horiz., stacked and clustered bars of variable width and fills, x & y symmetric and asymmetric error bars, cartesian & polar METAS & MACROS, ASCII or 1-2-3 to PLOTTERS, PRINTERS, LASERS AND HPGL FILES AND MORE ...!

Mihalisin Assoc. (215) 646-3814
600 Honey Run Rd, Ambler, PA 19002

Circle number 43 on Reader Service Card