A summary of new products and services for materials research...

HPLC Training Programs: Savant offers a demo disk that allows users to sample the contents of eight high performance liquid chromatography (HPLC) and gas chromatography training programs. The programs range from an introduction to HPLC, to separation modes of HPLC, to HPLC calculations. The demo disk provides a table of contents for each program and shows individual pages available in each chapter, representative screens, simulators, and animations. The demo disk and all programs run under Windows® 3.1, 95, NT, or 98.
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850-nm Vertical Cavity Surface-Emitting Laser: Gigarray™, from EMCORE's MicroOptical Device division, is an 850-nm VCSEL 1 × 12 array designed for gigabit data communication and telecommunication switching. The array enables parallel optical links operating with aggregate throughput ranges up to 15 gigabits per second. When combined with Gigalase™ serial channel VCSEL technology, optical communication transceivers for high-speed communications can be developed.
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Vacuum Pump Data Management System: Busch Semiconductor Vacuum Group's InstaTrack™ database information management system is based on a barcoding system that logs inventory, process chemistry, average run times, and location of all pumps in a service cycle. The information can be used to schedule preventive maintenance and to measure pump repair cycle time. The Microsoft Access-based system converts data to Excel files. Users can access files at a dedicated PC or at the Busch web site from any PC via modem and a secure access code.
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Coating Thickness Measurement System: The Fischerscope X-ray XDVM®-W from Fischer Technology can measure coating thickness and alloy composition of metal coating systems, including single, binary, and ternary alloy coatings, double coatings with one alloy layer, and triple coatings. Programmable *XY* measuring stages have travel distances of 175 mm × 175 mm and 250 mm × 250 mm. The measuring head is programmable in the Z-axis, with a travel distance of 145 mm. Users select from two collimator assemblies, each with four apertures.
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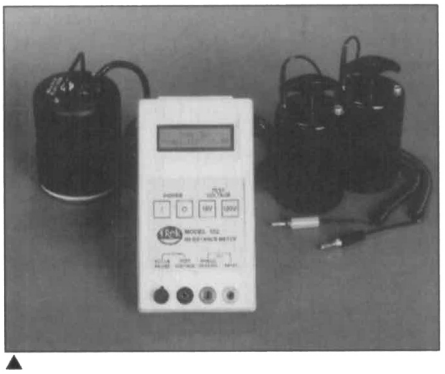

Surface Resistance Meter: Trek's Model 152 measures surface resistance on conductive, dissipative, and insulative materials. The measurement technique conforms to several ESD Association standards. Various measuring probe electrode configurations are available for point-to-point or surface resistance measurements. Measurement range is 10^3–10^{13} Ω. The electrode test voltage for the measurement probes is switch selectable for 10- or 100-V operation. A concentric ring measuring probe contains a preamplifier to eliminate noise, stray pickup, and long settling time.
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Fortran Symmetric Multi-Processor Library: Numerical Algorithms Group's Fortran SMP Library for Intel/NT workstations features optimized routines that scale well, allowing significant gains as the number of processors in use increases. The techniques enhance the performance of more than 50 routines in the NAG Fortran 77 library, mainly in the areas of linear algebra, FFTs, and multivariate statistics. The library also includes complete functionality of the NAG Fortran 77 library, with more than 1,100 user callable routines in areas of numerical and statistical computation.
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Nuclear Detection System: The SAM 905 gamma spectroscopy tool from Berkeley Nucleonics Corporation identifies levels of radioactivity and isotopes, including multiple radio-nuclides, and calculates dose rates and quantifying sample materials in one-second intervals. The system can count and store background at user-defined intervals for trending and histogramming. Sequential acquisition aids in optimizing NaI detector performance over a wide energy range. A dose-rate reporting option displays calculated dose rate in mR/h.
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Welding Catalog: Free 40-page catalog from the American Welding Society contains AWS standards, guides, handbooks, and CD-ROMs on welding and materials joining processes. The catalog features a new recommended practice for laser beam welding, cutting, and drilling. It also highlights the new structural welding code for stainless steel, which covers design, fabrication, qualification, and prequalification procedures, as well as welding personnel qualifications and inspection.
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Specialty Inorganics Catalog: CERAC's 350-page catalog of specialty inorganic chemicals, evaporation materials, and sputtering targets is available free in print or on the Internet at www.cerac.com. Materials are available for processes ranging from vacuum deposition and sputtering to ceramic and flame spray applications. Other specialty products and custom manufacturing also are available.
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Imaging Spectrometers: The TRIAX series of spectrographs from Instruments SA are available in focal lengths of 190, 320, and 550 mm. They feature an on-axis triple grating turret that allows flexibility in the choice of gratings for optimum resolution and spectral ranges. The large flat image field (30 mm wide × 12 mm high) accommodates large area detectors.
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Chemicals, Metals, and Materials Catalog: Alfa Aesar's catalog covers the company's line of inorganics, pure metals, elements, alloys, precious metal compounds and catalysts, rare earths, ceramics, composites, and labware. Almost 2,000 new products are included, as well as technical information, physical property data, 1,500 new cross references, and thousands of new chemical structures. The catalog can be found on the Internet at www.alfa.com.
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X-Ray and Power Conversion Subsystem: The Monoblock™ from DynaRad integrates x-ray tube and high voltage source technologies into one subsystem, which can be customized for requirements such as size, weight, ability to withstand heat, cold, humidity, pressure, altitude, and shock vibrations. Options include manual or motorized collimation, pulsed or continuous generation of x-ray, specially designed housing, and optimum filtration.
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