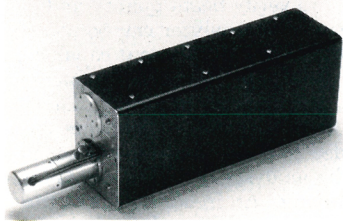


NEW PRODUCTS

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.

Portable Microfocus X-Ray Source

The PXS5-722SA portable x-ray source from Kevex X-Ray combines an x-ray tube, a high-voltage power supply and radiation shielding in a 7-pound package measuring 12.75" x 4" x 2.9". The



10-micron spot size of the x-ray beam is said to provide greater direct x-ray magnification for small samples than would a larger beam. The PXS5-722SA can operate continuously at a maximum power of 7 watts, and it can be powered with a 12-volt battery for operation in remote sites. The x-ray source has a single connector, which supplies input power and provides output for remotely monitoring and controlling the x-ray tube's target voltage and electron beam current. *Kevex X-Ray, 320 El Pueblo Road, Scotts Valley, California 95066*

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Human-Body Reference on CD-ROM

Research Systems's Visible Human compact disk and accompanying software, produced in cooperation with the National Library of Medicine, allow the user to view over 2700 cross-sectional images of a human male. A

point-and-click menu is used to select the position and orientation (axial, coronal or sagittal) of the image, the type of image (photographic, computed tomography or magnetic resonance) and the resolution (from 1 pixel per mm to 3 pixels per mm). A zoom feature allows magnification of a selected portion of the image.

The user can browse through several images in different windows, tagging interesting views with a "bookmark." Images can be exported in a variety of output formats, and they can also be turned into animations. The Visible Human System requires at least 16 megabytes of RAM, 15 Mbytes of disk space, a color display and a CD-ROM drive. It should be useful in education, medicine, biophysics and the physics of sports. *Research Systems, 2995 Wilderness Place, Suite 203, Boulder, Colorado 80301*

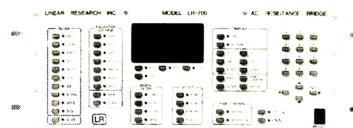
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Digital 1024 x 1024-Pixel X-Ray Imaging Camera

Photometrics's XR-200 charge-coupled-device camera digitizes an image measuring 58.4 mm x 58.4 mm with a resolution 1024 x 1024 pixels and 4096 gray levels. The camera produces the image by coupling the CCD to an x-ray scintillator screen by means of optical fibers. This arrangement is said to make the camera more sensitive than most x-ray screens or films. Each image is digitized in about 2 seconds and can then be transferred to an IBM PC or Apple Macintosh computer. The camera is said to be suitable for applications in medicine, tomography and nondestructive testing. *Photometrics, 3440 Britannia Drive, Tucson, Arizona 85706*

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LR-700



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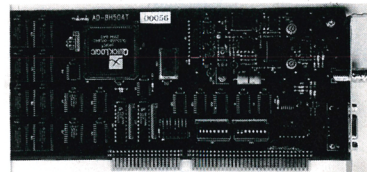
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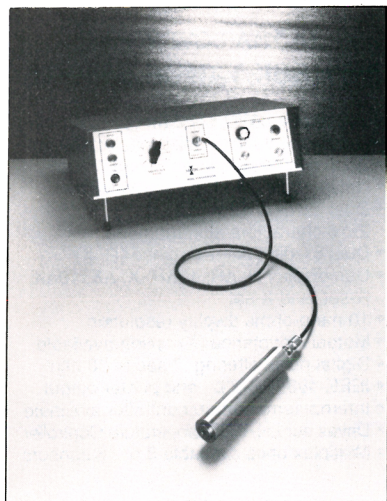


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Vapor and Liquid Analysis System

Neotronics Scientific has made available a system for making qualitative measurements of fluid and vapor composition—the Neotronics Olfactory Sensing Equipment. The system consists of analysis software, a sample vessel and a sensor head that accommodates an array of 12 electrically conductive polymer sensors. After the sample is placed in the sample vessel and allowed to equilibrate, vapor from the sample chamber is then passed through the sensor head. NOSE measures how much the components of the vapor or liquid change the conductivity of the polymer sensors. Each measurement takes about two minutes, with a recovery time of about five minutes between measurements.

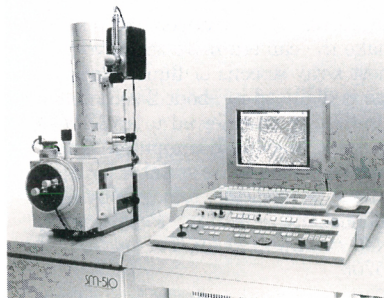
The analysis software can compare a sample's conductivity changes with those of a standard sample and plot the results in a variety of formats. Neural analysis software can be used to train NOSE to recognize more complex chemical signatures. The system should be useful in medicine and industry. *Neotronics of North America, 2144 Hilton Drive Southwest, PO Box 370, Gainesville, Georgia 30501-6153*

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Scanning Electron Microscope for Nonconducting and Conducting Samples

Topcon Technologies's Model 510 LaB₆ scanning electron microscope can be used by itself to provide images of conducting samples with 30-Å resolution or with the Wet SEM option for images of nonconducting or moist samples with 60-Å resolution. Other options include an integrated energy-dispersive x-ray spectrometer for elemental analysis of samples and an image-processing package to increase the clarity of the images.

The 510 can be operated from its



operating panel or from a computer by means of Windows-based software. Manual control of the microscope is possible even if the computer crashes, and automatic valving maintains the pressure in the chamber even if the sample outgasses. The 510 should find applications in biomedical physics and materials science. *Topcon Technologies, 37 West Century Road, Paramus, New Jersey 07652*

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Dose Analyzer for Electron and Photon Beams

Gammex RMI's RBA-5 is a microprocessor-controlled, battery-powered, five-channel photon- and electron-beam analyzer that displays the dose and dose rate delivered by a beam as measured by a parallel-plate ion chamber. Separate ion chambers measure the beam intensity ten centimeters to either side of the central detector, along vertical and horizontal axes, to verify beam quality and symmetry. The analyzer can be used as a stand-alone instrument capable of storing up to 200 measurements or it can be interfaced to a computer via an RS-232 interface. Software is included to facilitate computer control of the analyzer and data display and archiving. An indicator warns the user when battery voltage is low. The analyzer is recommended for assuring beam quality in radiation dosimetry. *Gammex RMI, PO Box 620327, Middleton, Wisconsin 53562-0327*

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Scanning Probe Microscopes for Large Samples

Topometrix's Accurex family of scanning probe microscopes is designed to handle samples up to 14 inches in diameter and 4 inches thick, in either air or liquid. The scopes' closed-loop linearization compensates for non-linearity and hysteresis in the x-, y- and z-directions. The optical system allows two simultaneous views of the sample—a 90° view with a seven-to-one zoom for locating interesting micron-size features and a 45° view for safely approaching the sample with the SPM tip. The system includes Topometrix's Windows-based software, which acquires the image with 1000 × 1000 pixel resolution. The mi-



oscilloscopes should be useful in biomedical physics and condensed matter physics. *Topometrix, 5403 Betsy Ross Drive, Santa Clara, California 95054-1162*

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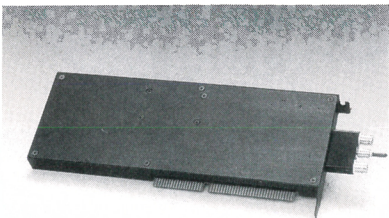
Diffusion Models Software

Micromath Scientific Software has released a library of diffusion models for use with its Scientist for Windows mathematical problem-solving software. The library exploits Scientist's Laplace-transform capability to solve a variety of diffusion problems. Each model has a file with sample calculations and a discussion of its physical significance. The library also contains a template to help the user develop additional diffusion models. The package should be useful for medical physics, biophysics and education. *Micromath Scientific Software, 2469 East Fort Union Boulevard, Suite 200, PO Box 21550, Salt Lake City, Utah 84121-0550*

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1-GHz-Bandwidth Digital Storage Oscilloscopes

LeCroy's 9370 family of two-channel and four-channel oscilloscopes is designed for applications ranging from experimental particle physics to studies of magnetic media. All of the oscilloscopes have a 1-gigahertz bandwidth and a sampling rate of 500 megasamples per second. They include a variety of triggering capabilities



ties and can perform basic mathematical and averaging operations on waveforms. The scopes can be configured with 3 different acquisition memory lengths—50 kilobytes, 250 kilobytes and 2 megabytes, and they come with 16 Mbytes of system memory, expandable to 64 Mbytes. Memory and data sampling of unused channels can be combined so that the memory and sampling speed of a two-channel scope can be doubled when used as a single-channel scope. Likewise, the memory and sampling speed of a four-channel unit can be doubled or quadrupled. Options include advanced mathematical waveform processing, a 3.5-inch floppy drive and a hard disk that allows data to be stored and then transferred to a computer. *LeCroy, 700 Chestnut Ridge Road, Chestnut Ridge, New York 10977-6499*

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Spectrograph on a PC-Compatible Expansion Card

Control Development's f/2.25 near-infrared spectrograph is said to be the first such device integrated into a computer card. The spectrograph covers the range 900–2400 nm and it can measure a complete spectrum in about 3 ms. A fiberoptic input illuminates the thermoelectrically cooled InGaAs detector array sealed inside the device. The system's Windows-based software performs calibrations, data processing, graphics and colorimetry measurements. The system should be useful for fluorescence, transmission-absorption, reflectance and Raman spectroscopy. *Control Development, 3702 West Sample Street, South Bend, Indiana 46619*

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New Literature

Biomedical catalog—ICN Biomedical's 1995 catalog lists over 55 000 products in biochemistry, radiochemistry, molecular biology, cell biology and immunology. *ICN Pharmaceuticals, 3300 Hyland Avenue, Costa Mesa, California 92626*

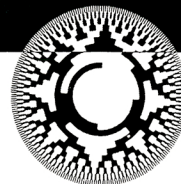
Interactive video—The American Vacuum Society has produced an interactive Hypercard stack detailing the history, fundamentals, techniques and applications of vacuum science. *AVS, 120 Wall Street, 32nd Floor, New York, New York 10005* ■

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