

new products

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Andreas Mandelis

Focus on software and data acquisition

Graphics software

Golden Software has upgraded its graphing program for scientists, engineers, and business professionals. Grapher 8 allows users to create and customize 54 publication-quality 2D or 3D graph types, apply transparency to fill colors and graphics, and view multiple data sets at once. A portion of a graph can be magnified and displayed as an inset, with or without axes. Grapher's functionality can be integrated with any ActiveX automation-compatible software. Visual Basic, C++, and Perl scripts can be used to automate repetitive functions. The software includes a script recorder. A free demo is available at <http://www.goldensoftware.com/demo.shtml>. *Golden Software Inc, 809 14th Street, Golden, CO 80401-1866, <http://www.goldensoftware.com>*

Data converter

Agilent Technologies' peripheral component interconnect express (PCIe) high-speed digitizer with onboard field-programmable gate array (FPGA) now has a firmware-processing option, the U1084A, which allows for signal-



peak detection. It provides high sampling rates, fast measurement throughput, and flexibility. The U1084A is a dual-channel, 8-bit PCIe, 1.5-GHz bandwidth digitizer with up to 4 Gsamples/s real-time acquisition and peak detection capability. It incorporates a 15-ps-trigger time interpolator for accurate timing measurement. The FPGA has real-time signal processing, as defined by the chosen processing firmware. The signal-peak-detection firmware option enables the creation of a peak histogram of successive acquisitions, each histogram bin containing peak counts or summed peak amplitudes. Up to 60 Mpeaks/s can be achieved, with a trigger jitter of just 250 ps. *Agilent Technologies Inc, 5301 Stevens Creek Boulevard, Santa Clara, CA 95051, <http://www.agilent.com>*

Multichannel analyzer

The ORTEC business unit of Advanced Measurement Technology Inc has introduced the DigiDart-LF, a portable multichannel analyzer for sodium iodide (NaI:Tl), lanthanum bromide (LaBr₃:Ce), general lanthanum halides, and other scintillation detectors. The DigiDart-LF can be operated without a PC, perform a variety of measurements in the field or on site, and store a large number of spectra in an internal memory. The built-in backlit LCD and control keypad create a live display as data are acquired. The low-power design of the DigiDart-LF allows for digital stability, high data throughput, and up to 12 hours of operation per battery charge. A clear spectral display is provided, and a single keypad entry gives start/stop control. DigiDart-LF can perform nuclide ID and activity calculations using internally stored calibration information. *ORTEC, 801 South Illinois Avenue, Oak Ridge, TN 37831, <http://www.ortec-online.com>*

Pulse generator software utility

The model PB-5 NIM Pulser from Berkeley Nucleonics, a precise pulse generator offering 5-ppb stability over temperature changes, allows users to test the linearity and stability of demanding circuits. PB-5 WinControl, a new front-end utility, expands the pulse generator's functionality and test options. Up to eight pulse generators can be controlled simultaneously to synchronize outputs or test multiple

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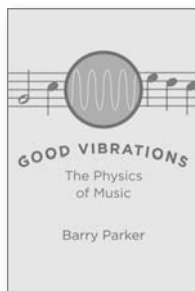
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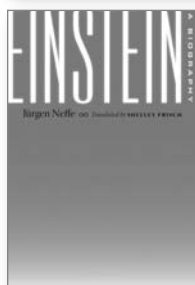
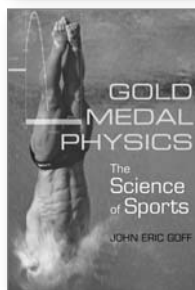
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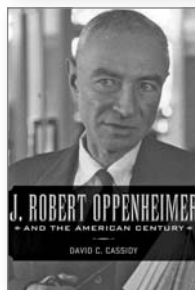
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systems. Nuclear circuits such as pulse-height and multichannel analyzers require a stable pulse generator to simulate a wide range of test conditions. However, the amplitude linearity specification is limited by the fluctuations of the pulse generator. The ability to store and recall numerous settings expedites the test process. The PB-5 WinControl is written with a simple graphical user interface to allow for a variety of commonly used numerical notations. *Berkeley Nucleonics Corp., 2955 Kerner Boulevard, San Rafael, CA 94901-5553, <http://www.berkeley-nucleonics.com>*

PC-controlled data acquisition system

Microstar Laboratories' new xDAP 7400, a high-performance data acquisition option for PC systems, features an embedded 1.8-GHz Intel processor and runs the Data Acquisition Processor (DAP) 3000. This type of distributed intelligence lets users run timing-critical



processes in real time. The local PC that controls xDAP 7400 connects to it through the front-panel USB 2.0 connector and can provide data acquisition services to other PCs over network connections. A semi-autonomous data acquisition system, xDAP 7400 can run independently from its host PC after programming. It includes a 16-bit analog-to-digital converter running at 1 Msample/s on each of 8 channels simultaneously for a throughput of 8 Msamples/s. One Gbyte of local memory provides space for data buffers that let xDAP 7400 sustain this throughput indefinitely, transferring samples to the PC with no loss of data. *Microstar Laboratories, 2265 116th Avenue NE, Bellevue, WA 98004, <http://www.mstarlabs.com>*

Graphing toolkit for switch/multimeter firmware

Keithley Instruments has added a Web-browser-based, multichannel graphing toolkit capability to its series 3700 System Switch/Multimeter family. This new data visualization capability, in-



cluded in the firmware for all new series 3700 mainframes, enables users to observe measurement data versus time quickly and easily, without the need for programming or data file manipulation, as channel measurements are made with the optional built-in digital multimeter. With this "early look" capability, users can observe the acquired data in either numerical or graphical form on up to 40 channels simultaneously. They can gauge the progress of long-duration tests and take quick corrective action if necessary. This new graphing toolkit should be of special interest to engineers and scientists working on device characterization. *Keithley Instruments Inc., 28775 Aurora Road, Cleveland, OH 44139, <http://www.Keithley.com>*

PCIe recorder

Conduant Corp's recently introduced NTX16 PCIe recorder provides more than 800 Mbytes/s of recording and playback performance. It supports high-volume data-streaming applications including high-speed data acquisition, high-resolution video, satellite data downloads, and digital signal processing. Direct peer-to-peer streaming across a PCIe cable interface is featured for applications that require high bandwidth data capture and reliable performance. The PCIe cabling provides maximum compatibility when interfacing with systems that support VPX, VXS, XMC, CompactPCI Express, and PXIe environments. The NTX16 can operate as a standalone system with network control or can be connected to a host computer via a PCIe 8-lane bus interface. External I/O options including serial front panel data port and low-voltage differential signaling are available. The 7.0-inch-high chassis accepts up to 16 drives for 32 Tbytes of storage capacity. *Conduant Corp., 1501 South Sunset Street, Suite C, Longmont, CO 80501, <http://www.conduant.com>*

Electromagnetic field simulation software

ANSYS has released its HFSS 12.0 software, a technology for 3D full-wave electromagnetic field simulation. The product, part of the company's Ansoft suite, is a tool to help design, simulate, and validate the behavior of complex high-performance RF, microwave, and millimeter-wave devices in wireless communication and defense systems. According to the company, a key high-performance computing enhancement, domain decomposition, allows users to simulate, design, and solve electromagnetic field problems of unprecedented size and scope. The software includes updates in mesh generation, solver technologies, and enhancements to the user interface, modeler, mixed element orders, curvilinear elements, and adjoint derivative computation. The improved user interface includes additional modeler capabilities such as sheet wrapping and imprinting. *ANSYS Inc, Southpointe, 275 Technology Drive, Canonsburg, PA 15317, <http://www.ansys.com>*

LED modeling optimization software

Optical Research Associates' latest illumination design and analysis software is available. LightTools 6.3 is an expanded, more powerful set of tools for optical system modeling and optimization. An alternate optimization engine supplementing the existing optimizer enables users to address a broader range of design problems. With either of its optimization engines, LightTools 6.3 permits user-defined variables, merit functions, and constraints to expand the classes of systems for which the software can solve efficiently. LightTools 6.3 adds new functionality for LED modeling and simulation. An expanded LED library contains mechanical models for hundreds of LEDs from all major manufacturers, including apodization files that allow accurate far-field modeling of source output, and ray data files for both near-field and far-field output. *Optical Research Associates, 3280 East Foothill Boulevard, Suite 300, Pasadena, CA 91107-3103, <http://www.opticalres.com>*

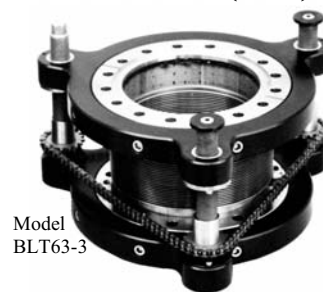
Software for noise frequency response analysis

National Instruments' NI Sound and Vibration Measurement Suite 2009 is a comprehensive collection of analysis and signal-processing tools for noise, vibration, and harshness; machine condition monitoring; and audio test applications. It features a continuous frequency-sweep virtual instrument (VI) that greatly reduces the time it takes to perform frequency response tests. The software suite also includes a new audio filter VI for the NI LabView graphical development environment and audio-testing frequency filters that take advantage of digital-to-analog conversion technology. The continuous frequency sweep VI can perform frequency response and total harmonic distortion tests in one-tenth the time of traditional swept-sine approaches. Users can shift easily between the time and frequency domains, which gives them the ability to move beyond using fast Fourier transform in signal analysis. *National Instruments Corporation, 11500 North Mopac Expressway, Austin, TX 78759-3504, <http://www.ni.com>*

Analog data Ethernet interfacing

Acromag has released another BusWorks Ethernet I/O module to simplify the task of interfacing data from virtually any analog sensor to a Modbus TCP/IP control and monitoring system. The new 958EN model has 16 analog input channels and a quick-connect DB25 port to capture isolated and amplified sensor signals directly from a full panel of industry-standard 8B signal conditioners. This module performs fast, 16-bit, high-resolution, analog-to-digital conversions to deliver temperature, frequency, strain gauge, and other sensor data to any control device via Ethernet communication. Typical applications involve processes requiring high voltage isolation or a mix of signal types such as power generation, glass or metals processing, test and laboratory measurements, and supervisory control and data acquisition systems. Industrial-grade models offer enhanced performance, -40 to 70 °C temperature operation, integration and totalization capability, and a sample averaging function. *Acromag Inc, 30765 South Wixom Road, P. O. Box 437, Wixom, MI 48393-7037, <http://www.acromag.com>* ■

Bellows-Sealed Linear Translator (BLT)



Operating Instructions:

1. 
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3. Repeat if necessary.

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