

NEW PRODUCTS

The descriptions of the new products listed in this section are based on information supplied to us by the manufacturers. 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.

LAWRENCE G. RUBIN

FOCUS ON DATA ACQUISITION

Analog Output Source Boards

Keithley Instruments has announced the KPCI-3130 series universal analog output source boards for the PCI bus. The boards use high-resolution D/A converters incorporating a single ± 10 V range to ensure glitch-free range operation for smoother voltage transitions. The boards can be wired in a two-wire or a four-wire mode, offer local and remote sensing, source or sink up to 20 mA of current for 4–20 mA current loop applications without the need for an external excitation source, and provide industrial digital I/O for solid-state relay control without the need for external buffering. Each board is bundled with the company's "Up & Running" software. The KPCI-3130 offers eight analog output channels with 32 high-current digital I/O lines, while the KPCI-3132 provides two analog output channels. *Keithley Instruments Inc, 28775 Aurora Road, Cleveland, Ohio 44139-1891*

►Circle number 181 on Reader Service Card

Data Acquisition Processor Boards

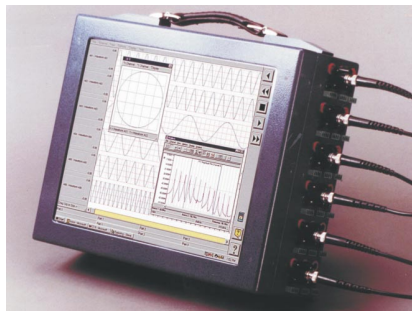
Microstar Laboratories has extended the range of its Data Acquisition Processor (DAP) boards with two new models, the DAP 5200a/626 (800 kilosamples/s [kS/s], 14-bit resolution) and the DAP 5216a/626 (333 kS/s, 16-bit resolution). Each model contains a 400-MHz processor and runs the company's DAPL 2000, a 32-bit multitasking real-time operating system that makes it possible to configure a DAP board under Windows or Linux. The operating system supports more than 100 commands optimized for data acquisition and control. Command categories include DSP (digital signal processor) filtering;

DSP spectral analysis; sensor conditioning; software triggering; and process control. As an example of applications that require extensive real-time computation, each can perform a 16-kilopoint FFT at a sustained rate of 1.4 MS/s, faster than either board can sample. *Microstar Laboratories Inc, 2265 116th Avenue N.E., Bellevue, Washington 98004*

►Circle number 182 on Reader Service Card

Portable Data Acquisition System

The Dash 18, a new 18-channel portable data acquisition system from Astro-Med, is equipped with a 15.4-inch diagonal monitor for touch screen control and real-time data viewing and analysis. With a data sample rate of 100 kHz per channel, data can stream directly to the hard drive. The 18 universal inputs accept isolated single-ended and differential voltages and eliminate the need for any signal conditioning. The color monitor has a 1280×1024 resolution; a split screen display allows historical data to be viewed without interrupting real-time acquisition. The Dash 18 can perform interchannel mathematical calculations such as addition, subtraction, multiplication, and division of different signals in real time, and is equipped for connection to a PC for recorder setup and data upload and review. *Astro-Med*



Inc, Astro-Med Industrial Park, West Warwick, Rhode Island 02893

►Circle number 183 on Reader Service Card

Temperature Transmitters

Acromag has introduced four models of the 600T series two-wire, loop-powered temperature transmitters. Each features a 16-bit Sigma-Delta A/D converter, a signal linearizer, push-button calibration, and a proportional 4–20 mA output. The 656T device has selectable thermocouple and millivolt signal inputs, while the 658T accepts inputs from resistance temperature detectors (RTDs) or resistance input signals. For either of these dual-channel models, a loss of power or failure on one channel has no effect on the other. The 655T and 657T are for single-channel applications with thermocouple and RTD inputs, respectively. The thermocouple transmitters also provide high-voltage input isolation. *Acromag Inc, 30765 South Wixom Road, P.O. Box 437, Wixom, Michigan 48393-7037*

►Circle number 184 on Reader Service Card

Multichannel Cards

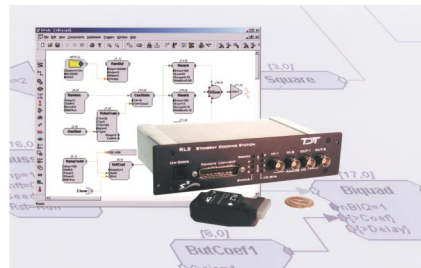
United Electronic Industries has announced a family of 2.2 megasamples/s (MS/s), 14-bit data acquisition cards. The PD2-MF-64-2M/12H features 64 analog inputs; also available is a 16-channel version. A programmable-gain instrumentation amplifier provides gains for each input at 1, 2, 4, or 8. The card includes a standard 4 kS A/D FIFO (first in, first out) but FIFO upgrades are available for 16, 32, or 64 kS. The company has adapted the high-speed design to its MFS series of simultaneous sampling cards, which offer 4- and 8-channel versions (at the 2.2 MS/s speed). Each

card, regardless of the analog-input configuration chosen, comes with two 12-bit analog outputs, three 16-bit counter timers, and 32 digital I/Os. *United Electronic Industries, 10 Dexter Avenue, Watertown, Massachusetts 02472-4107*

►Circle number 185 on Reader Service Card

Battery-Powered Processor

The Tucker-Davis Technologies (TDT) RL2 Stingray Pocket Processor, a two-ounce battery-operated data logger the size of a credit card, is based on the 25-MHz Sharc 21065 DSP (digital signal processor). The rechargeable lithium-ion battery can provide up to 24 hours of continuous operation. The Stingray supports more than 120 DSP functions, has stereo 16-bit A/D and D/A converters with sample rates to 50 kHz, has two digital inputs and two digital outputs, and 16 or 64 megabytes of RAM. The Sharc DSP is programmed with



the company's RP2 Visual Design Studio, a graphical drag-and-drop environment. TDT's docking station allows programming and data transfer to a PC through a USB interface. *Tucker-Davis Technologies, 4637 Northwest 6th Street, Gainesville, Florida 32609*

►Circle number 186 on Reader Service Card

Web Browser Data Acquisition System

Capital Equipment has introduced the webDAQ/100, a data acquisition appliance with a built-in Web server. It can be connected directly to an Ethernet card in a PC for benchtop use, used over a LAN (local-area network), or configured with up to 32 MB of memory for storage of results until connected and downloaded. From the computer screen, operations can be started and stopped, acquisition parameters configured, and data report formats selected. The webDAQ/100 can e-mail any report to an address of choice. The system has 500 kHz-throughput at 12-bit resolu-

tion on 32 single-ended or 16 differential input channels, eight 10-bit analog output channels, a digital I/O with 4 output bits and 4 input bits and samples at up to four different rates simultaneously. *Capital Equipment Corp, 900 Middlesex Turnpike, Building 2, Billerica, Massachusetts 01821*

►Circle number 187 on Reader Service Card

Multichannel Scaler

ORTEC has announced the MCS-pci, a PCI-bus plug-in card (for PCs that do not offer ISA [industry standard architecture]-bus slots) that converts a PC into a multichannel scaler or a multiple-stop time spectrometer. The device features 65 536 time bins (channels), input counting rates up to 150 MHz, and dwell times that are selectable from 100 ns to 1300 s per channel, and allows up to 1.072 billion counts per channel (30 bits) in single or multiple passes. The company's MCS-32 operating, display, and analysis software provides computer control for all functions and an SCA (single-channel analyzer) Sweep mode for recording pulse height spectra and selecting accurate SCA windows. Typical applications include time-resolved single-photon counting, phosphorescence lifetime and time-of-flight spectrometry, laser-induced chemical reactions, and atmospheric and satellite lidar (light detection and ranging). *Perkin Elmer Instruments, ORTEC Products, 801 South Illinois Avenue, Oak Ridge, Tennessee 37830*

►Circle number 188 on Reader Service Card

Image Acquisition Board

With its new PCI-1428 image acquisition board and NI-IMAQ scalable driver software, National Instruments has applied the Channel Link high-speed serial data technology



**Check out our 4.2K
Displex Options**

(developed by National Semiconductor) to image acquisition, calling it Camera Link. Users can link digital cameras with PCs, surpassing the acquisition rates of IEEE-1394 cameras, while reportedly rewriting less code. In addition, the high-speed data transfers involve a simple connector and a cable that are much smaller than their counterparts on the RS-644 and RS-422 parallel interfaces; 5, rather than 48, pairs of wires are required. The National Instruments NI-IMAQ offers an interface for image acquisition that integrates with the company's data acquisition devices and includes the company's Measurement & Automation Explorer, a tool for configuring cameras. *National Instruments Corp, 11500 North Mopac Expressway, Austin, Texas 78759-3504*
►Circle number 189 on Reader Service Card

PXI Digitizers

LeCroy has introduced the PXD series, eight digitizers in PXI format and based on the PCI bus. They combine a high-speed A/D converter and long acquisition memory in a single hybrid. With bandwidths ranging from 150 MHz to 1 GHz (reportedly double the previously available bandwidth) and a 256 k per channel memory, the PXD series features fast single-shot sampling rates—either 1 or 2 gigasamples/s (GS/s)—and a 50-GS/s repetitive sampling rate. By providing both single-shot and repetitive modes, the PXI products can emulate a high-performance digital oscilloscope. Of the eight PXD models, three have four channels, four have two channels, and one is a single-channel model. High channel density enables an eight-channel PXI digitizer system to be configured in a single 3U, eight-slot PXI chassis. The digitizers include several software tools to allow users to develop test software in LabVIEW, Visual Basic, and CVI. *LeCroy Corp, 700 Chestnut Ridge Road, Chestnut Ridge, New York 10977-6499*
►Circle number 190 on Reader Service Card

Compact PCI Enclosures

Acqiris's new 6U Compact PCI card enclosures, the CC100 Crate series, house the company's range of multi-channel digitizer cards. Available in three-, five-, and eight-slot versions, the crates can be free-standing on the bench or mounted in standard 19-inch instrumentation racks. Because the digitizer modules are mounted horizontally and the cooling airflow is directed from one side of the crate to

the other, the CC100 series provides even temperature gradients and allows the system components to operate at a stable, uniform internal temperature. The company's 8-bit digitizers include the DC 240 that provides 2 gigasamples/s (GS/s) sampling rate simultaneously on dual channels and a 500-MHz bandwidth. Four-channel versions include the DC270 (1 GS/s sampling rate and 250-MHz bandwidth) and the DC265 (500 MS/s sampling rate and 150-MHz bandwidth). *Acqiris USA, P.O. Box 2203, 234 Cromwell Hill Road,*

Monroe, New York 10950

►Circle number 191 on Reader Service Card

On the Web

LabVelocity has launched an online resource (www.labvelocity.com) to provide life science users with parametric product search tools, comparison tables, experimental protocols, reference materials, detailed maps of DNA vectors, and software tools. *LabVelocity Inc, 50 Francisco Street, Suite 210, San Francisco, California 94133* ■

►Circle number 192 on Reader Service Card