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

Signal Conditioning Modules

IOtech has introduced three new modules to its signal conditioning line: the DBK55, DBK65, and DBK85. All three are compatible with the company's DaqBoard/2000 series, which includes DaqBook, DaqLab, DaqScan, and LogBook products. The DBK55 is an eight-channel frequency-input module that converts the frequency to a voltage and accepts digital and low- and high-level analog signals. The frequency is programmable from 1 Hz to 950 kHz with a resolution of 0.25 mHz. The DBK65 offers eight channels of transducer inputs, suitable for 4- to 20-mA transducer outputs, 3-wire string pots, and 4-wire and 6-wire bridge-based transducers. Excitation voltages of 5, 10, 15, and 24 V are incorporated. The DBK85 provides 16 channels of differential-voltage input with a unity-gain input stage on all channels. *IOtech Inc, 25971 Cannon Road, Cleveland, OH 44146, http://www.iotech.com*

Circle number 131 on Reader Service Card

Frequency-to-Digital Converter

Sensors Web Portal has announced the UFDC-1, a programmable two-channel frequency-to-digital converter that can be used with any frequency, period, duty-cycle, time-interval, phase-shift, and pulse number signals. The converter is designed for use in frequency–time domain and digital sensor applications. It has a frequency range from 0.05 Hz up to 7.5 MHz without prescaling and 120 MHz with prescaling. The converter offers a programmable accuracy for frequency (period) conversion of 1% up to 0.001% for rectangular waveform input pulse signals. The UFDC-1 has a 500-kHz internal reference clock and an automated calibrator using an 8-MHz quartz crystal oscillator. It has 16 measuring modes with optional additional ones, plus mathematical operations for on-chip data and signal processing. *Sensors Web Portal Inc, 46 Thorny Vineway, Toronto, Ontario, Canada M2J 4J2, http://www.sensorsportal.com*

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Sequential Waveform Recording

Acqiris has added to its sustained sequential recording (SSR) firmware new capabilities that enhance the ability to acquire, store, and transfer sequential waveforms to a host PC at high sustained trigger rates and thereby increase measurement throughput. The new SSR firmware for the company's AP240 and AP235 dual-channel reconfigurable analyzer

platforms offers new data-gating functions that further maximize event-transfer rates and allow the setting of pre- and post-markers to predefined threshold gates. The AP240 can digitize and store waveforms at sampling rates of up to 2 gigasamples per second (1 GSa/s with the AP235). The SSR firmware features a "burst mode," with trigger rates within the burst of up to 500 kHz for sequences of 1-μs waveforms digitized at a 1-GSa/s rate. *Acqiris USA, P.O. Box 2203, 234 Cromwell Hill Road, Monroe, NY 10950-1430, http://www.acqiris.com*

Circle number 133 on Reader Service Card

Airborne Recording and Reproduction System

The model D7000 from Heim Data Systems is an avionics data-acquisition and recording platform that features adaptable signal interfacing and interchangeable media cartridges. The user can choose and load either rugged hard-drive or solid-state media at any time. With up to 256 Mbit/s total system data rate, the D7000 includes an integral IRIG (Inter Range Instrumentation Group) time-code generator. It can also synchronize to external IRIG and GPS time sources to provide sustained high-accuracy time tagging of recorded data; as an option, an integral GPS receiver can be fitted. The mainframe holds up to four signal interface cards, in any combination, that offer a wide selection of interfacing, including concurrent recording of video, pulse code modulation, and MIL-STD-1553 bus sources in a single unit. *Heim Data Systems Inc, P.O. Box N, Belmar, NJ 07719, http://www.heimdata.com*

Circle number 134 on Reader Service Card

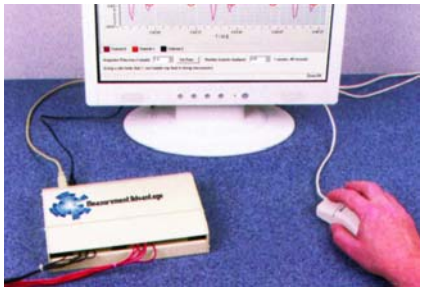
Digital I/O Card

United Electronic Industries has developed the PD2-DIO-128i, a PCI-bus card that supplies 64 digital inputs and 64 digital outputs. The I/Os are configured in fixed banks of 16 lines. All input ports are isolated from each other and the rest of the board, as are the output ports. The input lines on the card run at 10 kHz maximum and work from an external supply voltage of 12–32 V; each port has its own isolated ground reference and power-supply pins. Outputs also work with the 12–32 V levels, but operate at a maximum rate of 3 kHz per port. Users of the PD2-DIO-128i card can thus work with industrial voltage levels without the need to add separate signal-conditioning modules. Other features of the card include a glitch-free startup state for all output ports and the ability to generate an interrupt on any input line. *United Electronic Industries Inc, 611 Neponset Street, Canton, MA 02021, http://www.ueidaq.com*

Circle number 135 on Reader Service Card

Analog Input Interface

Measurement Computing has released the USB-1616FS, the first product in the company's Measurement Advantage brand interfaces. The new high-speed USB-based input interface has 16 simultaneously sampled 16-bit ana-



log inputs with sampling rates per channel as high as 50 kilosamples per second and a continuous module throughput of 150 kSa/s with 32-kSa bursts up to 300 kSa/s. The USB-1616FS also offers eight bits of digital I/O and a 32-bit counter, and provides a built-in USB expansion hub that allows the user to chain together up to seven USB-series interfaces without the need for additional hubs. All units include SoftWIRE for graphical programming and TracerDAQ, the company's powerful strip chart recorder, oscilloscope, and data logger software application. *Measurement Computing Corporation, 16 Commerce Boulevard, Middleton, MA 02346, http://www.measurementcomputing.com*

Circle number 136 on Reader Service Card

Serial Communication Modules

Acromag's PMC520 (octal 232) and PMC521 (octal 422/485) modules provide eight asynchronous serial communications ports from a single PMC carrier slot. Each serial port is equipped with large 64-byte transmit and receive first-in-first-out buffers that minimize CPU interactions for more efficient data processing. Users can quickly set baud rates, character sizes, stop bits, and parity; the baud rate is programmable up to 250 kbits/s. The data ports generate individually controlled transmit, receive, line status, data set, and flow control interrupts. A global interrupt source register provides interrupt status indication for all eight channels. For use with the PMC modules, Acromag has developed Win32 DLL drivers that are compatible with Microsoft Windows XP–embedded applications. *Acromag Incorporated, P.O. Box 437, 30765 South Wixom Road, Wixom, MI 48393-7037, http://www.acromag.com*

Circle number 137 on Reader Service Card

Image Acquisition Board

National Instruments has announced the PCIe-1429 image acquisition board for high-throughput vision applications. With the board's four-lane PCI Express configuration, users can acquire data at the full Camera Link bandwidth of 680 megabytes per second through a standard PCI bus. PCI Express technology, developed by Intel Corp, is a point-to-point serial interconnect that improves PCI by providing scalable bus bandwidth. The PCIe-1429 board supports Camera Link cameras and enables them to perform demanding image applications such as synchronized data and image acquisition, fault analysis, and advanced motion tracking. Each board includes one trigger line and two Camera Link connectors; additional I/O lines are available for advanced triggering, pulse-train outputs, and isolated digital I/O. *National Instruments Corporation, 11500 North Mopac Expressway, Building B, Austin, TX 78759-3504, http://www.ni.com*

Circle number 138 on Reader Service Card

Temperature Data Logger

The EL-USB-1 from Saelig Co is a thumb-sized USB temperature data logger with a measurement range of –25 to +80°C. The device can store up to 16 382 readings and its long-life replaceable lithium battery lets it log data continually for at least one year (depending on logging rate and temperature). The status of the unit's logging is indicated by flashing red,

green, and orange LEDs. The configuration software for the EL-USB-1 is included free and allows the setting of logging rate, measurement units, high and low alarms, and start-time. The data stored in the logger is downloaded to any USB1.1 port on a PC. Once downloaded, the data can be graphed, printed, or exported to other applications. The logger's configuration software is compatible with Microsoft Windows 98, 2000, and XP. *Saelig Company Inc, 1160-D2 Pittsford-Victor Road, Pittsford, NY 14534, http://www.saelig.com*

Circle number 139 on Reader Service Card

Portable Vibration Analysis Module

Vibration analysis software has been added by Analog & Digital Peripherals to its DATAQ-CF2 Compact Flash card for handheld PCs and compact flash-adapted tablets and laptops. The card incorporates four 24-bit analog inputs, two 12-bit analog outputs, four bidirectional digital lines, and a 32-kilobyte data buffer. It has been designed to be easily programmable for use with the Microsoft Windows CE operating system. With the DATAQ-CF2's vibration analysis software, a pocket PC can display rms velocity, rms and peak acceleration, high-resolution (up to 8192 points) time domain graphs, and frequency domain plots (up to 2048 FFT points). It also offers seamless transfer of all data to Microsoft Word and Excel. The portable PC includes an ICP accelerometer interface and a 2-Hz to 10-kHz bandwidth. *Analog & Digital Peripherals Inc, P.O. Box 499, Troy, OH 45373, http://www.adpi.com*

Circle number 140 on Reader Service Card

On the Web

CyberResearch has organized a new website that includes a specification search tool to allow detailed side-by-side comparisons of the company's products. Also available on the site is *Live Help* that enables online communication with an applications engineer. *CyberResearch Inc, 25 Business Park Drive, Branford, CT 06405, http://www.cyberresearch.com*

Circle number 141 on Reader Service Card

Sensor Synergy offers the Network-Enabled Equipment Monitor (NEEM) model 12 that generates live web views of data from common analog sensors and provides electronic data sheets and web log information to supplement the raw data. One NEEM can support up to 10 external sensors. *Sensor Synergy Incorporated, 1110 West Lake Cook Road, Suite 340, Buffalo Grove, NY 60089, http://www.sensorsynergy.com*

Circle number 142 on Reader Service Card

New Literature

A 240-page catalog from Dataforth provides details on its industrial communications products and its Instrument Class industrial signal conditioning modules and data acquisition products. The company's line of SCM5B and SCM7B isolated I/O modules now includes more than 850 models. *Dataforth Corporation, 3331 East Hemisphere Loop, Tucson, AZ 85706, http://www.dataforth.com* ■

Circle number 143 on Reader Service Card

Relay Multiplexer

Kinetic Systems has announced the P580 relay multiplexer in the company's family of test and measurement modules for the PXI platform. The new unit is a double-width 3U module that offers 34 differential-input channels multiplexed onto two independent analog paths. Up to four external instruments can be connected via each one of the front panel's four connectors. Switching sequences can be executed by individual calls to the module's plug-and-play drivers or the scanner memory, which can hold 1024 switching steps. The P580 is a follow-up to the company's V580 relay multiplexer module for the VXI platform and is suitable for data acquisition systems, laboratory automation, voltage monitoring, industrial process control, calibration systems, and ATE systems. *Kinetic Systems Co LLC, 900 North State Street, Lockport, IL 60441, http://www.kscorp.com*

Circle number 144 on Reader Service Card

Portable Data Monitor

The model DD-400 Data Dolphin from Scientific Technologies' Automation Products Group is a 22-channel, battery-operated data monitor, encapsulated in a waterproof case, that offers reliable operation at temperatures ranging from –40 to +75°C. The DD-400 has 2 megabytes of nonvolatile flash memory and a 24-bit A/D section that provides eight single-ended or four differential bipolar inputs (or a combination of both) with a resolution down to 90 nV. Four additional inputs enable the selection of pulse, status, and 10-bit analog capability. Data Dolphin software allows the user to set up the program, view the data, generate graphs, and export the data to other software for more detailed analysis and presentations. *Scientific Technologies Inc, Automation Products Group, 1025 West, 1700 North, Logan, UT 84321, http://www.stiapg.com*

Circle number 145 on Reader Service Card

Clock Generators

Aeroflex Colorado Springs has released its RadClock family of phase-locked-loop–based clock generators designed for satellite applications. The model UT7R995 is a quad-bank, eight-output, 6- to 200-MHz clock generator that features output phase adjustability to help ensure clock-network timing integrity. The model UTR9951 derivative is a single-bank, dual-output unit covering the same frequency range; those output frequencies exhibit less than 100 ps of cycle-to-cycle jitter. RadClock products withstand ionizing irradiation from 100 krads to 1 Mrads and are latchup-immune to heavy ion energies in excess of 100 MeVcm^2/mg. The devices provide frequency multiplication and division options for each output clock bank. *Aeroflex Colorado Springs, 4350 Centennial Boulevard, Colorado Springs, CO 80907, http://www.aeroflex.com*

Circle number 146 on Reader Service Card

Interface Adapter

Keithley Instruments has introduced the model KUSB-488, a USB-to-GPIB interface adapter. The new device transforms any computer with a USB port into a full-function, IEEE 488.2 controller that can control up to 14 programmable GPIB instruments. The KUSB-488 works with Microsoft Windows 98 or later computers with a USB port, is USB 2.0 compatible, and has an IEEE data transfer rate of 880 kilobytes/s. The adapter is a plug-and-play interface that the operating system automatically recognizes and configures as soon as it is attached; it eliminates the need to open the computer to install a plug-in interface. The KUSB-488 includes external USB Configure and USAB Active indicators, and power is supplied from the USB connection. *Keithley*

Instruments Inc, 28775 Aurora Road, Cleveland, OH 44139-1891, http://www.keithley.com

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