

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. For more information about a particular product, visit the website at the end of the product description.

Lawrence G. Rubin

Focus on data acquisition

I/O expansion solution

Acromag's new AcPC4610 carrier cards offer a simple way to implement I/O and other functions from PCI mezzanine card models in 3U CompactPCI computer systems. Each card acts as an adapter to route PCI bus signals to and from the PMC module through the CompactPCI card slot edge connector. Two models—air-cooled and conduction-cooled—are available; both offer a heat frame and thermo bars for use in applications in which ambient or forced air can't provide adequate cooling. Front- and rear-panel access is included to field I/O signals. The air-cooled card has a front-panel cutout for access to a PMC module's front I/O connector. Alternatively, all I/O signals can be routed through the carrier card's rear J2 connector. All the company's PMC modules and those from other vendors are compatible; 3.3-V and 5-V signaling are supported. *Acromag Incorporated, 30765 South Wixom Road, P. O. Box 437, Wixom, MI 48393-7037, <http://www.acromag.com>*
See www.pt.ims.ca/16307-131

Storage controller

Conduant Corp has introduced the StreamStor Amazon Express storage controller that provides more than seven hours of recording and playback capacity at more than 600 MB/s. It incorporates a highly flexible data interface system for the PCI Express bus based on the company's unique modular mezzanine architecture. The new controller uses direct card-to-card transfers over the PCI Express bus or direct data input from available external digital interfaces. The StreamStor Amazon Express offers simultaneous

streaming (read/write), data forking, and wrap-mode recording. It has been specifically designed to support high-speed data streaming applications, including digital signal processing, radar and sonar, medical imaging, satellite download, high-resolution video, and waveform generation. *Conduant Corporation, 1501 South Sunset Street, Suite C, Longmont, CO 80501, <http://www.conduant.com>*

See www.pt.ims.ca/16307-132

Data acquisition and transient recorder system

LDS Test and Measurement has announced the Genesis 5i, a data acquisition system and transient recorder under the Nicolet brand. It supports a maximum of 40 channels, can handle a sustained streaming rate of 50 MB/s to its hard disks, and offers a maximum sample rate in transient mode of 100 megasamples/s per channel, each of which has a 1.6-GB memory. Physical signal conditioners are available for voltage and strain, other sensors such as accelerometers, and high-speed differential and fiber-optic-isolated input modules. The company's 64-bit Perception Enterprise data acquisition software provides hardware control, acquisition, and time and frequency domain analysis through to report generation. A removable hard drive is optional. *LDS Test and Measurement, 8551 Research Way, M/S 140, Middleton, WI 53562, <http://www.lds-group.com>*
See www.pt.ims.ca/16307-133



Digital I/O boards

The PCIe-DIO24 and PCIe-DIO96H from Measurement Computing Corp are PCI Express bus-compatible digital I/O boards. The DIO24 has 24 channels with selectable 3.3-V or 5-V logic levels. Its 24 bits function as an 8-bit port A, an 8-bit port B, and an 8-bit port C; port C can be further divided into two 4-bit ports. The digital I/O lines are accessed through a 37-pin D-type connector. The DIO96H offers 96-bidirectional high-current output channels, in four independent port groups; the outputs are high-drive TTL that can source 15 mA

and sink 64 mA and are accessed through a 100-pin connector. Both PCIe board models are plug-and-play, have software-selectable pull-up and pull-down resistor configurations, emulate 82C55 mode zero, and are compatible with the company's PCI-based and ISA-based boards. *Measurement Computing Corporation, 10 Commerce Way, Norton, MA 02766, <http://www.measurementcomputing.com>*
See www.pt.ims.ca/16307-134

SCADA software

Dataforth Corp has developed ReDAQ software to provide a supervisory control and data acquisition solution for factory automation, process monitoring and control, and various test and measurement applications. Designed to complement the company's isoLynx SLX200 data acquisition hardware system, the ReDAQ service sets up the central server, which can connect to many SLX200 units via one or more networks. Incorporated in the software is the ReDAQ Server, which generates data tables and Excel spreadsheets; provides dynamic calculations, including mean, median, maximum, minimum, variance, and standard deviation; and features a built-in real-time, lossless historian. The ReDAQ Designer generates real-time and history graphics, including live tables, graphs, histograms, pie charts, and mimics. *Dataforth Corporation, 3331 East Hemisphere Loop, Tucson, AZ 85706-5011, <http://www.dataforth.com>*
See www.pt.ims.ca/16307-135

PXI embedded controller

National Instruments is offering the PXI-8108, a fast embedded controller, which features an Intel Core 2 Duo T9400 processor designed for high-performance PXI and CompactPCI systems. With its 2.53-GHz dual-core processor and 800-MHz DDR2 memory, the new controller provides enhanced performance compared with its predecessors. With the company's LabVIEW 8.6 software, users can take advantage of the PXI-8108 and other multicore controllers, by simplifying multi-threaded application development and achieving increased performance without requiring major changes in existing



LabVIEW code. The PXI-8108 can be upgraded to include new PXI accessories, a 32-GB solid-state hard drive, and the PXI-8250 system monitoring module. *National Instruments Corporation, 11500 North Mopac Expressway, Austin, TX 78759-3504, <http://www.ni.com>*

See www.pt.ims.ca/16307-136

Isolated inputs and outputs

Microstar Laboratories has released the MSXB 085 isolated analog expansion and termination board for applications in which signal isolation is needed to protect against both ground loops and noise. Each board provides 16 isolated analog inputs and 2 isolated analog outputs. All inputs are differential with 16-bit data conversion on the board itself to minimize exposure to noise from elsewhere in the system. The MSXB 085 can sample signal inputs at 333 kilo-samples/s and can provide 500 kilo-updates/s. A back plane connector on each board mates to a digital back plane factory-fitted into an industrial enclosure. An interface board plugged into the back plane sends digitized waveforms to the company's DAPserver, which contains one or more DAP (data acquisition processor) boards to form a networked, isolated instrument. *Microstar Laboratories Inc, 2265 116th Avenue NE, Bellevue, WA 98004, <http://www.mstarlabs.com>*

See www.pt.ims.ca/16307-137

PXI switch module

Pickering Interfaces' 40-261 is a PXI-based programmable resistor module that features high-resistance-setting resolution and excellent resistance stability and accuracy. It achieves those goals through the use of innovative switching networks and software correction techniques. Each module provides two identical resistor channels that can be set to values of between 1.5 Ω and 2.9 k Ω or 10 Ω and 36 k Ω with a precision of 2 m Ω or 15 m Ω , depending on the range. Each channel is isolated from the chassis ground and from each other, which allows the resistor chains to be used in floating systems. Errors caused by thermoelectric emfs are reduced to a minimum. A calibration channel supports four-terminal measurements. The 40-261 occupies only one 3U PXI slot and can be supplied with customized resistance ranges. *Pickering Interfaces Inc, 2900 NW*

*Vine Street, Suite D, Grants Pass, OR 97526, <http://www.pickeringtest.com>
See www.pt.ims.ca/16307-138*

Controller for hybrid PXI-based test systems

Adlink Technology has introduced the PXI-3950, a new PXI-embedded controller designed for hybrid PXI-based testing systems that are typically composed of a PXI platform and stand-alone instruments. It incorporates the



Intel Core 2 Duo T7500 2.2-GHz processor, which provides two computing engines that can simultaneously execute two independent tasks in a multitasking environment. The PXI-3950 also includes an integrated 120-GB, 7200-rpm, SATA hard drive and on-board 4-GB, 667-MHz DDR2 memory. The module provides GPIB, USB, and COM ports; it also has dual Gigabit Ethernet ports, one to connect a LAN connection and the other to connect next-generation LXI instruments. A trigger I/O is included for advanced PXI trigger functions. *Ampro Adlink Technology Inc, 5215 Hellyer Avenue, No. 110, San Jose, CA 95138, <http://www.adlinktech.com>*

See www.pt.ims.ca/16307-139

RTD interface for SCADA systems

CSE-Semaphore has announced a resistance temperature detector interface for the company's T-BOX line of supervisory control and data acquisition (SCADA) products. The MS-6RTD module accommodates a broad range of two-wire and three-wire RTDs. It is compatible with the T-BOX MS modular system, which is especially suitable for applications in energy and infrastructure management, power generation, and utilities; direct connection of RTDs to T-BOX MS simplifies installation. T-BOX is claimed to be the first Internet Protocol-based telemetry

www.lakeshore.com

Model 475 DSP Gaussmeter



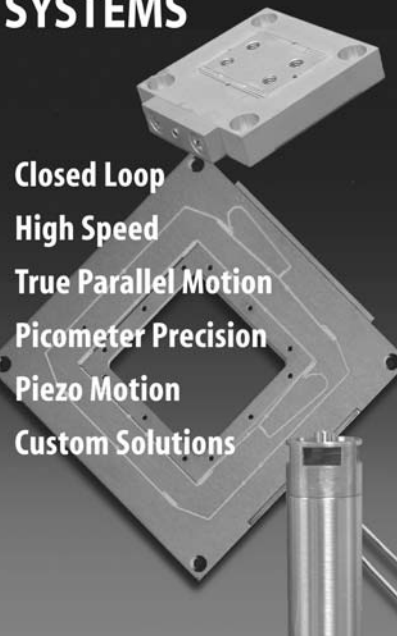
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solution that enables the complete integration of SCADA functionality into one package. In addition to process control, T-BOX performs alarm management and data logging and serves live and historical information on the internet or an intranet via an integral web server. *CSE-Semaphore, 15B Charron Avenue, Nashua, NH 03063, <http://www.cse-semaphore.com>*

See www.pt.ims.ca/16307-140

PXI Express peripheral module

The SMT702 from Sundance Multiprocessor Technology is a PXI Express peripheral module that incorporates two fast A/D converters, a clock circuitry, two banks of DDR2 memory, and a Xilinx Virtex5 field programmable gated array (FPGA) in the 3U format. The module integrates PCI Express signaling into the PXI standard and also enhances PXI timing and synchronization features. Both identical A/D converter chips can produce 3 gigasamples/s with an 8-bit resolution. The on-board phase-locked-loop plus voltage-controlled oscillator chip ensures a stable, fixed sampling frequency. The Virtex5 FPGA is responsible for controlling all interfaces and routing samples. The two memory banks are accessible by the FPGA in order to store data on the fly. *Sundance Multiprocessor Technology Ltd, Chiltern House, Waterside, Chesham, Buckinghamshire HP5 1PS, UK, <http://www.sundance.com>*

See www.pt.ims.ca/16307-141

Interface converter

Electro Standards Laboratories has developed the model 4165, a desktop, high-speed, ruggedized, fiber-to-USB interface converter. With its integrated rate buffering, the unit converts USB 2.0-compliant data from a standard PC to a serial data interface over optical fiber with a user-selectable baud rate as high as 3 MB/s. Other features include selectable fiber polarity and asynchronous data format. The 4165 is ideal for PC applications that require high-speed, secure communications and optical isolation. It provides electrostatic discharge protection circuitry on the USB I/O connector; the power input is protected from transients with 3-kVDC isolation. The board-only model 4166 converter has front-mounting threaded brackets. *Electro Standards Laboratories, 36 Western Industrial Drive, Cranston, RI 02921, <http://www.electrostandards.com>*

See www.pt.ims.ca/16307-142

Digital waveform I/O modules

ACCES I/O Products is offering model USB-DIO-16H, which features 16 high-speed buffered digital inputs or digital outputs at continuous, sustained streaming speeds up to 16 MB/s for fast, unlimited waveform length. The module is capable of 80 MB/s bursts with handshaking signals for synchronizing communications; it also has an additional 18 bits of general purpose digital I/O. The USB-DIO-16H is a port-powered USB 2.0 device that offers hot-swapping functionality for quick connect/disconnect when additional I/O is needed on a USB port. All outputs are buffered with 24-mA sink/source functions. Four models are available: input only, output only, input and output, and expanded first in, first out. An OEM version (board only) has PC/104 module size. *ACCES I/O Products Inc, 10623 Roselle Street, San Diego, CA 92121, <http://www.accesio.com>*

See www.pt.ims.ca/16307-143

RTD temperature data logger

Omega Engineering's model OM-CP-RTDTEMP2000 is a battery-powered, resistance temperature detector temperature recorder, with a large, backlit LCD display. Using a 100- Ω platinum RTD as the input sensor in a 2-, 3-, or 4-wire configuration, the instrument covers the temperature range -200 to 850 °C. On-screen data include mini-



mum, maximum, and average statistics; status of recording rate, start, and stop; unit and text-size display options; and calibration and recalibration dates. With its large memory capacity, the recorder can accumulate more than 174 000 readings; the nonvolatile memory will retain recorded data, even if power is lost. Data can be downloaded to a PC via the instrument's interface cable. *Omega Engineering Inc, One Omega Drive, Stamford, CT 06907-0047, <http://www.omega.com>*

See www.pt.ims.ca/16307-144

Filter signal conditioner

Endevco Corp has released model 4999, a 16-channel, low-pass filter signal conditioner that supplies excitation current for appropriate sensors. With individual input ground isolation to eliminate ground loops, the new instrument offers an ultralow-noise design in a four- or six-pole filter. Measurements of the noise showed less than 15 μ V RMS, thus providing high accuracy for low-level vibration signals using a data acquisition system. The device is ideal for use with the company's model 2771C low-noise remote charge converter and a piezoelectric sensor. The 4999 has seven front-panel-selectable low-pass cutoff frequencies with standard frequency corners ranging from 400 to 25 600 Hz; gain is adjustable to either 1 or 10. *Endevco Corporation, 30700 Rancho Viejo Road, San Juan Capistrano, CA 92675, <http://www.endevco.com>*

See www.pt.ims.ca/16307-145

New literature

Newport Corp has published *Newport Resource 2008/2009*. The catalog has more than 500 new products, including lasers, light sources, light test and measurement, optics, crystals, optomechanics, mounts, positioning hardware, spectroscopy instruments, and vibration control. *Newport Corporation, 1791 Deere Avenue, Irvine, CA 92606, <http://www.newport.com>*

See www.pt.ims.ca/16307-146

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