newproducts

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Robert Goldberg

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UltraFast 12-bit A/D Digitizer Cards Sample Up to Eight Channels Simultaneously

Strategic Test Corp. has released three new digitizer cards using multiple 12-bit analog-to-digital converters (ADCs) with a sampling rate of 25 MS/s. Based on the new UF2 series PCI-X (66 MHz/32-bit PCI) carrier card, the three models are available in two- four- or eight-input channel configurations. Standard memory is 64 MByte but it can be expanded to 4 GBytes, allowing long recordings at the high sample rates. The cards are supplied with drivers for Microsoft Windows and Linux, with free downloads of future OS version drivers such as Windows Vista. Drivers for MAT-LAB, LabVIEW, VEE, DASYLab, and LabWindows/CVI are optionally available.

Each input channel has its own ADC and amplifier. This ensures true simultaneous recording on all channels and allows the user to program the input voltage range and offset to best match each sensor. Up to 16 cards can be configured as a synchronous system of up to 128 channels, sharing a common internal or external clock. It is possible to set trigger conditions on multiple cards combined with and/or, a feature often used in production test processes. In addition to the standard external trigger each channel can be programmed with edge, window, slope, and pulsewidth triggers.

The ultrafast cards allow the user to use a fine resolution sampling rate. The user simply programs the sampling rate required and the driver adjusts the onboard PLL and hardware driver to deliver the closest frequency possible. The UF2 series employs a new design that has even finer resolution.

For further information please visit www.strategic-test.com.

Ethernet I/O Processes 96 I/O Channels

Acromag introduces EtherStax I/O featuring 96 discrete I/O channels with a copper or fiber-optic interface supporting Modbus TCP/IP and peer-to-peer communication in a ruggedized aluminum enclosure. The ES2113 model processes 96 channels of discrete I/O output signals with Modbus TCP/UDP/IP communication to a host controller.

Acromag's i2o technology enables peer-to-peer communication between I/O units. Dual network ports support 10/100Base-TX copper and 100Base-FX fiber-optic connections and provide a redundant communication path for critical applications. An embedded Web page provides configuration menus accessible with any Web browser to eliminate programming. The compact, stackable aluminum enclosure resists shock and vibration, making it ideal for mounting on machinery. Nearly 300 I/O stack in an $8 \times 7''$ footprint.

The ES2113 interfaces with any mix of up to 96 discrete input and/or output signals. Inputs and outputs are connected in tandem with each other for easy "loop-back" monitoring of the output to increase system reliability. Selectable internal or external excitation on each 16-channel port simplifies wiring and increases flexibility for five–28 Vdc logic.

EtherStax I/O are designed for high-reliability operation. Units feature 1,500 Vrms isolation with surge protection to increase performance and minimize downtime. The isolation separates power, relay, I/O, and individual Ethernet ports.

No software or programming is required. Easy Web-browser configuration includes a quick copy function to speed setup of other EtherStax units. A self-test button lets you check I/O channel operation from your browser without wiring up the terminals.

More information may be found at www.acromag.com.

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56   *IEEE Instrumentation & Measurement Magazine*   December 2006

2W & 5W
DC to 18 GHz ATTENUATORS

IN STOCK

5W TYPE-N

5W SMA

2W SMA

from **$29⁹⁵** ea. (1-49)

Rugged Stainless Steel Construction, High Repeatability, Miniature Size, Low Cost, and Off-The-Shelf Availability are some of the features that make Mini-Circuits "BW" family of precision fixed attenuators stand above the crowd! This extremely broad band DC to 18GHz series is available in 5 watt Type-N and 2&5 watt SMA coaxial designs, each containing 15 models with nominal attenuation values from 1 to 40dB. Built tough to handle 125 watts maximum peak power, these high performance attenuators exhibit excellent temperature stability, 1.15:1 VSWR typical, and cover a wealth of applications. So contact Mini-Circuits today, and capture this next generation of performance and value! *Mini-Circuits…we're redefining what VALUE is all about!*

MODELS (Add Prefix BW-)

2W SMA	5W SMA	5W Type-N	Attenuation (dB)	
$29.95	$44.95	$54.95	Nominal	Accuracy*
S1W2	S1W5	N1W5	1	±0.40
S2W2	S2W5	N2W5	2	±0.40
S3W2	S3W5	N3W5	3	±0.40
S4W2	S4W5	N4W5	4	±0.40
S5W2	S5W5	N5W5	5	±0.40
S6W2	S6W5	N6W5	6	±0.40
S7W2	S7W5	N7W5	7	-0.4, +0.9
S8W2	S8W5	N8W5	8	±0.60
S9W2	S9W5	N9W5	9	-0.4, +0.8
S10W2	S10W5	N10W5	10	±0.60
S12W2	S12W5	N12W5	12	±0.60
S15W2	S15W5	N15W5	15	±0.60
S20W2	S20W5	N20W5	20	-0.5, +0.8
S30W2	S30W5	N30W5	30	±0.85
S40W2	S40W5	N40W5	40	-0.5, +1.5

*At 25°C includes frequency and power variations.

Now Available! **Adapters** (Prices: qty. 1-49)

Type-N to SMA **DC-18GHz**
$22⁹⁵ ea.

SMA to SMA **DC-18GHz**
from $4⁹⁵ ea.

SMA to BNC **DC-2GHz**
$3⁹⁵ ea.

Type-N to Type-N **DC-6GHz**
$9⁹⁵ ea.

Detailed Performance Specs and Shopping Online
(Attenuators): **www.minicircuits.com/attenuat.shtml**
(Adapters): **www.minicircuits.com/adapter_cat.shtml**

Mini-Circuits®

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Digital Flight Recorders Support New Irig106 Telemetry Standard

Heim Data Systems announces that its D200f system now supports the IRIG106 Chapter 10 standard. With modular signal interfacing and interchangeable media cartridges, the D200f provides highly flexible, modular solutions that can easily adapt to changing mission requirements in airborne and mobile applications. The new interface standard will lead to a revolution in the way that airborne telemetry data is captured, recorded, analyzed, and distributed by standardizing the digital data recording directory and data format for solid state media.

The IRIG 106 Chapter 10 interface standard provides a well-defined control and download interface. The interface supports requirements for intervendor playback of data for software-based decommutation systems and hardware-based telemetry systems. For users of analysis applications integrated with hardware based data collection systems, the standard supports complete analog reconstruction of the original signal types while preserving accurate time coherency between channels. The standard supports reconstruction of a wide range of signal types, including video, MIL-STD-1553, PCM, analog, and discrete data.
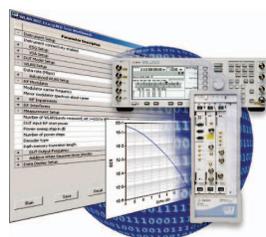
The IRIG 106 Chapter 10 standard represents the culmination of several years' effort by the Range Commanders Council, manufacturers, and users to formulate a new standard for solid-state flight recorders.

Introduction of the IRIG 106 Chapter 10 compliant D200f airborne and ground mobile recorders provide users with vital solutions to facilitate much needed data format and interface commonality for efficient data acquisition, distribution, and analysis.

For more information please visit www.heimdata.com.

RF Hardware Measurement Solution for Wireless Networking, Cellular Communications Products

Agilent Technologies announces a new test platform that enables easy and thorough system-level testing for wireless networking and cellular communications systems. The Connected Solutions Workbench makes RF hardware measurements such as swept error vector magnitude, complementary cumulative density function, and bit error rate analysis possible for prototype hardware.

Connected Solutions Workbench encapsulates tests into easy-to-use preconfigured setups without the need for extensive familiarity with the wireless system under test, EDA software knowledge, or programming skills.

Agilent's Connected Solutions Workbench includes preconfigured test setups that support wireless standards such as mobile WiMax and wireless local area network 802.11a/b/g, ultrawideband, and third-generation partnership program (3GPP). For custom tests using communications standards that are not supported, R&D engineers can create custom test setups in ADS, export them to Connected Solutions Workbench, and share them with test engineers, making the tests available in the general lab environment to verify the prototype's performance prior to entering the manufacturing phase.

Connected Solutions Workbench runs independently in the PC environment and provides the high-level functions to automate the test and to perform signal creation, parameter sweeps, signal recovery, signal measurement, and data handling, eliminating the need for programming languages or outmoded instrument control commands.

Additional information about Connected Solutions Workbench is available at www.agilent.com/find/eesof.

LabVIEW Toolkit for LEGO MINDSTORMS NXT

National Instruments has announced the NI LabVIEW Toolkit for LEGO MINDSTORMS NXT. With the new tool kit, LabVIEW users can create and download VIs to operate and control the MINDSTORMS NXT robotics platform. Third-party software and hardware developers also can use the tool kit to create native blocks for MINDSTORMS NXT software. MINDSTORMS NXT, the next generation of the popular LEGO robotics invention system, includes a new programming environment, custom developed by NI and powered by LabVIEW.

The LEGO Group and National Instruments worked together to develop the new MINDSTORMS NXT software that includes a simple drag-and-drop graphical interface optimized for the target MINDSTORMS NXT consumer—children 10–14 years old. With the new LabVIEW tool kit, more advanced MINDSTORMS NXT users now can program the NXT using advanced graphical programming tools available in LabVIEW.

With the tool kit, users also can interact with the NXT robot while a program is running. By dropping a LabVIEW control, the tool kit can send data to the robot and influence the currently executing program. By dropping an indicator, the value at that point in the program is sent back to the PC and viewed in a regular LabVIEW front panel.

Developers of third-party sensors and other hardware add-ons for MINDSTORMS NXT can use LabVIEW to create native blocks that program and control their hardware for use in MINDSTORMS NXT software. For example, HiTechnic Products developed the Digital Compass Sensor for MINDSTORMS NXT and is currently using the new LabVIEW tool kit to create blocks for this and other sensors.

LabVIEW 7.1 and 8.20 customers can download the beta version of the tool kit from ni.com beginning this fall. For more information, visit www.ni.com/mindstorms.

Complete Measurement Solution for WiMAX

The vector signal generator R&S SMJ100A in combination with the compact spectrum analyzer R&S FSL is a cost-efficient production measurement solution for WiMAX applications offered by Rohde & Schwarz. Internal options allow you to perform tests in accordance with the IEEE 802.16-2004 and IEEE 802.16e-2005 standards.

By using the digital standard WiMAX R&S SMJ-K49 option, you can generate signals on the physical layer for both mobile and stationary applications.

WiMAX is a technology for broadband mobile radio applications and simultaneously a wireless alternative to DSL. The objective is to provide reliable access to high-speed Internet applications. To ensure stable function, manufacturers of WiMAX instruments require a reliable measurement solution for production.

For the development of WiMAX, Rohde & Schwarz already has the successful high-end vector signal generator R&S SMU200A and the high-quality signal analyzer R&S FSQ on the market. The WiMAX package consisting of the R&S SMJ100A and R&S FSL now provides a version that covers all requirements in production. The version for development as well as the one for production can both be remote controlled and have the same user interface.

By using the internal R&S SMJ-K49 option, you can generate signals for mobile and stationary applications for the IEEE 802.16-2004 standard as well as for the current IEEE 802.16e-2005 standard. The new functionalities can be remote-controlled via LAN or GPIB. The R&S SMJ also offers standard-compliant signals for receiver tests and high signal quality when performing amplifier tests.

For more information please visit www.rohde-schwarz.com.

Subminiature SMT Accelerometers Perform Up to 60,000 g

Endevco Corporation announces its new model 71 series surface mount accelerometer, a new subminiature addition to their existing line of high shock sensors for the most extreme aerospace and test and measurement applications.

The Endevco model 71 series of subminiature SMT piezoresistive accelerometers features a rugged, undamped design for shock measurements from 6,000–60,000 g and sensitivities from 3–30 uV/g. The internal sensing system is micromachined from a single piece of silicon and includes the inertial mass and strain gages arranged in an active, four-arm, Wheatstone bridge circuit complete with an innovative on-chip zero balance network. The low mass, extremely small size, and unique construction of the sensing element blends an exceptionally high resonant frequency with characteristics such as low output impedance, high over-range, and zero damping for no phase shift.

The high-resonant frequency of these sensors permits their survival in the presence of the high-frequency components in a shock pulse that would shatter the seismic system of lower quality accelerometers. With resonant frequencies from 180–700 kHz and zero damping, the 71 series responds accurately to the fast-rise-time, short-duration shock events typical of munitions fusing, kinetic impact testing, and high shock component test applications.

With a frequency response extending down to dc, these transducers are ideal for measurement of long duration transients. And they permit integration of the acceleration data to obtain velocity and displacement measurements.

For further information visit www.endevco.com.

Electrostatic Voltmeter

TREK, Inc. introduces model 325 electrostatic voltmeter, an ultra-sensitive instrument which is ideal for noncontacting electrostatic voltage measurement and monitoring.

This instrument was specifically designed to be used in applications which require highly accurate, low noise, noncontacting measurement of electrostatic voltages from millivolts to ±40 V over a wide range of probe-to-surface distances.

Features of model 325 include sensitivity of 1 mV, speed of response less than 3 ms, and accuracy better than 0.05% of full scale. TREK's patented low-impedance probe sensor assures measurement accuracy which is essentially independent of probe-to-test-surface spacing while eliminating the external environ-

through encoders selectable for fine or course adjustment and four digit LED *v* and current meters. Adjustable OVP, UVL, and current foldback provide further flexibility.

Also included in this family are several important new features and options. Up to four like units may be connected in parallel and user configured for the master to program, monitor and display the total current of the group. Thus, four units can appear as a single power supply up to 13.2 kW, increasing flexibility for system designers.

For more information please visit http://www.lambda-hp.com/mkt/04/gen_family.htm.

LVDT for High Speed Data Analysis

Kurt Manufacturing's new KurtUSB MLX (multifunctional LVDT eXtra) linear variable differential transformer modular building block processes input from various electrical signals with high speed and accuracy and can provide programmable responses for automatic operation. It is ideally suited for stepper motor, gaging systems, automation, and programmable logic controller (PLC) applications.

The MLX module is the most versatile of the KurtUSB modules. At its core is a powerful CPU that processes electrical signals with speed and accuracy. Because of this processing power, signals from different types of sensors can be processed by software allowing the MLX to easily be configured to work with several different types of devices including LVDT probes, air to electric transducers, temperature sensors, eddy current sensors, and custom software that may be available for unique applications.

With an internal, the MLX can be programmed, with industry standard ladder logic, to respond to inputs and can control complex automated equipment through discrete outputs, stepper motors, analog outputs, or remote DeviceNet devices (future firmware revision).

Utilizing USB 2.0 communications enables high-speed data transfers between MLX modules and a PC. MLX to PC update speed or data rates up to 40,000 times per second are possible.

Find more information at www.kurtelectronics.com.

Magnetic Field Transducers

SENIS 3-Axis magnetic field transducers (analog Teslameters) are the first commercially available magnetic measurement instruments with a fully integrated 3-axis Hall probe. The novel three-dimensional Hall probe enables measurement of all three components of a magnetic field vector

at the same spot, without cross talk between the three measured signals.

The Hall probe chip incorporates horizontal and vertical Hall elements, analog electronics, and a synchronization circuit. Current spinning in the Hall devices cancels offset, 1/f noise, and the planar Hall voltage. The external analogue electronic module of the transducer cancels the residual offset and compensates the temperature dependence and non-linearity of the Hall voltages.

An optional digital module provides A/D conversion and communication to a computer. Applications include mapping of magnetic fields, characterization, and testing of magnets, and monitoring of electrical machines.

Visit www.senis.ch for more information.

Sensor for Distance Measurement

A single point confocal displacement sensor that combines confocal microscopy with high speed scanning for a wide range of measurements in various industries has been jointly introduced by Metrology Resource Company of Detroit, and Siemens Optical Solutions of Munich.

The new Siemens SISCAN Model SC high-speed distance measurement sensor makes an industry high 8,000 scans per second with a resolution of 0.1–0.4 microns regardless of surface conditions at ultra-high accuracy.

Easy to integrate, the sensor also has a flexible measurement range of up to 1.6 mm, high ratio to depth measurement, and a large numerical aperture.

Measurements made vary from height data from sharp peaks as well as depth date from small holes. Typical applications include height profiles, distance measurement, hole depth, flatness, waviness, roughness, and thickness of transparent layers in a variety of industries.

With the confocal measurement principal, the sensor projects a 1.0 or 2.0-micron spot onto the surface. The reflected light is read by the sensor and analyzed by the electronics. Working distance for the item to be measured is 6.0 or 12.0 mm, depending on the model selected.

The PC software provides a graphical user interface for set up on the sensor and the application interface. Both height and intensity are graphically profiled for quality control.

Besides the single point confocal displacement sensor, Metrology Resource Company also markets a Siemens SISCAN Model MC64 confocal displacement sensor with 64 channels.

For more information please visit www.metrologyresource.com.