

NEW PRODUCTS

Focus on test, measurement, and analytical equipment

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 its description. Please send all new product submissions to ptpub@aip.org.

Andreas Mandelis



High-performance network analyzers

Keysight Technologies has enhanced its PNA and PNA-X network analyzers to deliver greater flexibility and accuracy while simplifying and speeding complex measurements. The analyzers contain a proprietary low-spurious direct digital synthesis (DDS) source that lets users take accurate measurements with simpler setups and less phase noise interference. With the clean source signals, users can perform two-tone intermodulation distortion measurements with close tone spacing previously only possible with high-performance analog signal generators. The new DDS source also enhances the performance of a wide range of software applications, including modulation distortion and in-phase and quadrature converter measurements, for faster mixer and frequency converter characterization. **Keysight Technologies Inc**, 1400 Fountaingrove Pkwy, Santa Rosa, CA 95403-1738, www.keysight.com

Fast PCIe digitizer input option

Spectrum Instrumentation has announced a new digital input option—the M4i.44xx-DigSMA—that lets its high-speed, high-resolution PCIe digitizers acquire analog and digital signals simultaneously. The option is available for all digitizer models of the company's "44" series with up to 500 MS/s and two or four analog inputs. All models have either two or four analog channels; those with sampling rates of 180 or 250 MS/s have 16-bit resolution, and those with higher speeds of 400 or 500 MS/s have 14-bit resolution. The optional digital input module sits beside the existing digitizer card to provide eight additional digital input lines. It shares a common clock and trigger with the base card, so both the digital and analog inputs are synchronized. That makes the combination suitable for a wide variety of mixed-signal testing applications. **Spectrum Instrumentation Corp**, 401 Hackensack Ave, 4th Fl, Hackensack, NJ 07601, <https://spectrum-instrumentation.com>



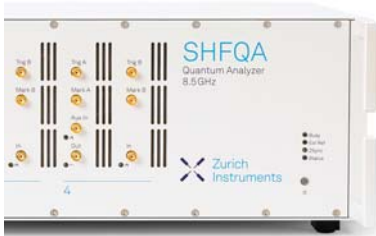
Arbitrary waveform transceiver

According to Tabor Electronics, its Proteus system is the world's first arbitrary waveform transceiver. Proteus combines a high-speed arbitrary waveform generator (AWG), a high-speed digitizer, and a field-programmable gate array (FPGA) in a single compact instrument. Based on a PXIe platform, the modular, flexible, and economical system offers high performance, various configuration options, and a user-customizable FPGA for application-specific solutions. Advanced options include real-time data streaming and a fast feedback loop for environment-dependent waveform generation. Proteus is offered in several AWG configurations: with two or four channels and sampling rates up to 1.25 GS/s and 2.5 GS/s or with two channels and sampling rates up to 9 GS/s. A 5.4 GS/s, 8 GHz bandwidth, 12-bit digitizer option offers a complete arbitrary waveform transceiver system. **Tabor Electronics**, 9 Hatasia St, 3688809 Nesher, Israel, www.taborelec.com

Tip scanning AFM head for large samples

Park Systems has developed an automated tip scanning head (TSH) suitable for the analysis of next-generation LCD, organic LED, and photonic flat-panel displays larger than 300 mm. The Park NX-TSH's gantry-style tip scanner system moves by means of air-bearing stage technology. Attached to the gantry, the TSH uses the x , y , and z scanners to move to the desired point on a sample, which is fixed on a flexible chuck capable of handling large and heavy objects. Scanning up to $100\ \mu\text{m} \times 100\ \mu\text{m}$ in the x - y direction and $15\ \mu\text{m}$ in the z direction, the tip produces high-resolution images of the sample's roughness, step height, critical dimensions, and sidewall structure. Paired with an optional integrated microprobe station, which contacts the sample surface and provides current into small devices or chips, the Park NX-TSH uses conductive atomic force microscopy to perform electric-defect analysis. **Park Systems Inc**, 3040 Olcott St, Santa Clara, CA 95054, <https://parksystems.com>





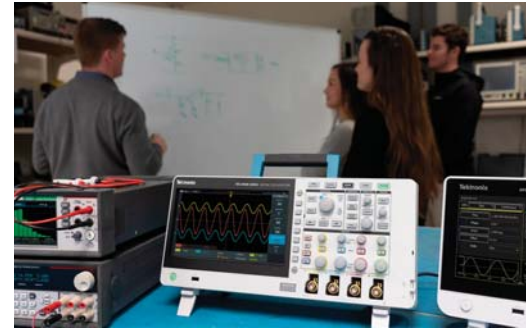
Quantum analyzer with full qubit readout

The Zurich Instruments SHFQA quantum analyzer integrates real-time readout for up to 64 frequency-multiplexed superconducting or spin qubits in one instrument. It is the first quantum

analyzer to incorporate a full qubit readout setup, according to the company. The SHFQA addresses readout frequencies up to 8.5 GHz with a clean, wideband spectrum and without the need for mixer calibration. The compact instrument comes with two or four readout channels. Each channel analyzes up to 16 qubits with the highest speed and fidelity by means of the advanced sequencer and the low-latency analysis chain with matched filters, multistate discrimination, and result correlation. The SHFQA is controlled by application programming interfaces or by the company's quantum computing software. A single SHFQA helps to reduce the complexity of small qubit setups; a few synchronized instruments make it possible to scale up to systems of 100 qubits and more. **Zurich Instruments AG**, Technoparkstrasse 1, 8005 Zürich, Switzerland, www.zhinst.com

Optical wavelength meter

The latest addition to Bristol Instruments' 338 optical wavelength meter series combines high measurement accuracy and speed to help optimize optical transceiver testing. The low-cost model 338A uses Michelson interferometer-based technology with FFT analysis to measure the wavelength of CW and modulated signals to an accuracy of ± 0.3 pm. It offers a fast measurement rate of 25 Hz, which reduces testing times and improves production throughput. Continuous calibration with a built-in wavelength standard ensures reliable test results. A convenient touch-screen display controls the system and shows the wavelength and power measurements in various formats. The data can also be sent to a PC. **Bristol Instruments Inc**, 770 Canning Pkwy, Victor, NY 14564, www.bristol-inst.com

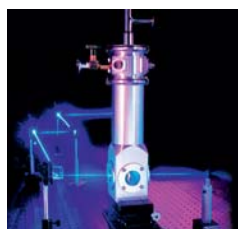


Digital storage oscilloscopes

Tektronix has introduced its TBS2000B series of digital storage oscilloscopes, which extend the performance of its TBS2000 product series to 200 MHz with a 2 GS/s maximum sample rate. Those features combined with a 5-M-point record length allow the TBS2000B to capture and display more signal so users can debug and validate designs faster. The series offers easy-to-use controls, automated measurements, and built-in instructions that make it suitable for university and training environments. A large 9-inch-wide video graphics array display and 15 horizontal divisions—the most in its class, according to the company—provide 50% more signal visibility. A new lower-noise front-end design offers better signal integrity and more accurate measurements. **Tektronix Inc**, 14150 SW Karl Braun Dr, PO Box 500, Beaverton, OR 97077, www.tek.com

High-sensitivity Raman spectrometer

The QE Pro-Raman+ 785 nm spectrometer from Ocean Insight provides low limits of detection for trace-level materials identification. According to the company, its users can detect weak, elusive Raman signatures faster than with other comparable instruments. The spectrometer delivers clean, sharp, stable Raman signatures from 150 cm^{-1} to 3000 cm^{-1} . A cooled, back-thinned detector features long integration times and reduced background fluorescence. Its ability to distinguish sharp peaks from weak Raman spectral signatures makes the QE Pro-Raman+ suitable for analyzing chemicals, pharmaceuticals, illegal drugs, pesticides, and organic materials. The spectrometer can be combined with other components—such as Raman lasers, probes, surface-enhanced Raman scattering substrates, and sample holders—to create a modular system. **Ocean Insight Inc**, 8060 Bryan Dairy Rd, Largo, FL 33777, www.oceaninsight.com **PT**



JANIS

sales@janis.com
www.janis.com/Cryogenics.aspx

Does your research require low temperatures? Contact Janis today. Our engineers will assist you in choosing the best system for your applications.