New Spectrum digitizers deliver precision measurements for up to 48 channels

Fully synchronized for multi-channel applications covering DC to 60 MHz

Grosshansdorf, Germany - 25. July 2018. Spectrum Instrumentation has added twelve new products to its family of LXI-based digitizerNETBOX data acquisition instruments. Designed specifically for situations where multiple signals need to be acquired, stored and analyzed, users can select from models that provide 24, 32, 40 or even 48 fully synchronized channels. The new DN6.59x series digitizers are all based on the latest high-resolution 16-bit ADC technology and come with a choice of maximum sampling rates (20, 40 and 125 MS/s) and bandwidths (10, 20 and 60 MHz) to best match applications found in a wide variety of industries. It's a combination that makes these new instruments ideal for use in multi-channel applications where signals, in the DC to 60 MHz frequency range, need to be acquired and analyzed with the highest precision and accuracy.

Importantly, each channel of a digitizerNETBOX has its own ADC and signal conditioning circuitry. The ADC's all share a common clock so that the acquisitions made on all the channels are fully synchronous and have zero phase error. The design of the clocking system ensures that cross channel timing measurements are made with the highest possible precision while the independent signal conditioning enables the units to be used with signals that have a wide range of amplitudes. Each channel has its own programmable input amplifier, with ranges between ±200 mV and ±10 V, input offset for unipolar measurements, termination of 50 Ω and 1 MΩ and an integrated calibration circuit. The inputs also feature single-ended and true differential channel modes.

Delivering Dynamic Measurement Performance

The signal conditioning circuitry is further complemented by the high-resolution 16-bit ADCs which offer signal-to-noise ratio (SNR) up to 81 dB, spurious free dynamic range (SFDR) up to 103 dB and total harmonic distortion (THD) as low as -86 dB.

Oliver Rovini, CTO at Spectrum, says: "These new digitizerNETBOX systems offer an easy-to-use solution for anyone who needs to make accurate multi-channel measurements. They should be of interest to everybody working with multiple signals, such as those produced by arrays of sensors, receivers, detectors or antennas, and also to users who need to test signals from multiple electronic components or test points. As such, we believe the instruments will find wide application in areas such as Ultrasound, Laser, Communications, Lidar, Radar, Power, Physics, Automotive, Medical and Materials Science, as well as general electronic Test and Measurement."

Easy Remote Control

Controlling and accessing the data collected by the digitizerNETBOX is done by simply connecting it with GBit Ethernet to a host computer (e.g. laptop or workstation) or anywhere on the corporate network. The platform is fully LXI compliant (following Core 2011 Specifications) and offers an IVI compatible interface for

Headquarters

Spectrum Instrumentation GmbH, Germany
Phone: +49 4102-6956-0
Email: Info@spec.de

US Office

Spectrum Instrumentation Corp., USA
Phone: (201) 562-1999
Email: Sales@spectrum-instrumentation.com

https://www.spectrum-instrumentation.com

the IVI Scope and IVI Digitizer classes. Users can write their own control program using almost any popular language including C++, LabVIEW, MATLAB, VB.NET, C#, J#, Delphi, Java and Python code. Alternatively, users can simply run Spectrum's own software, SBench 6 Professional.

SBench 6 Professional comes as standard with the digitizerNETBOX. It lets users control all the modes and settings of the hardware via a simple, easy-to-use, interface. The software is designed to support multi-channel acquisitions and has a host of built-in features for waveform display, data analysis and documentation. These include FFT analysis, XY display, a function interpreter, parameter measurements, export into ASCII, Wave, MATLAB, signal and display comment functions as well as a powerful report generator.

System Flexibility

To match nearly every application requirement, the units come with a variety of signal triggering techniques, large on-board memories and a number of intelligent acquisition modes. All the channel inputs, as well as the external trigger inputs, can be used as a valid trigger source. These can even be combined with logical AND/OR functionality to allow pattern specific triggering. Acquisitions can be made in single-shot mode (for transient recording) or in other modes such as multiple recording, gated sampling or ABA (the combination of fast and slow continuous acquisitions) that allow the most efficient use of the on-board memory.
For synchronization with other external equipment, front-panel clock and trigger inputs and outputs are standard. Further flexibility is provided via three individually programmable front panel connectors that offer Asynchronous Digital-In, Synchronous Digital-In and a Timestamp Reference Clock.

All digitizerNETBOX units are shipped factory tested and include SBench 6 Professional software, the complete SDK for Windows and Linux, and a full 5-year warranty. "The DN6.59x series products represent the latest in technology for users needing multi-channel signal acquisition and measurement," stated CEO Gisela Hassler. "Furthermore, they're backed up with our industry leading warranty which includes software and firmware updates free of charge for the lifetime of the product. Support is done directly by our skilled in-house team of engineers – normally within a couple of hours after receiving the request."

About Spectrum Instrumentation

Founded in 1989 as Spectrum Systementwicklung Microelectronic GmbH and renamed to Spectrum Instrumentation GmbH in 2017, the company is a pioneer in using modular design to create over 500 digitizer and generator products in the most popular industry standards; PCIe, LXI and PXIe. These high-performance PC-based test and measurement designs are used for electronic signal capture, generation and analysis. The company is headquartered in Grosshansdorf, Germany and sells its products worldwide via an extensive sales network offering outstanding support directly from the design engineers. More information about Spectrum can be found at https://spectrum-instrumentation.com

Headquarters

Spectrum Instrumentation GmbH, Germany
Phone: +49 4102-6956-0
Email: Info@spec.de

US Office

Spectrum Instrumentation Corp., USA
Phone: (201) 562-1999
Email: Sales@spectrum-instrumentation.com

https://www.spectrum-instrumentation.com