XIA’s FalconX range of digital pulse processors, Powered by SITORO® Accelerated Analysis, deliver radically faster analysis than conventional digital pulse processors. Combining a cutting-edge hardware platform with patented SITORO® signal processing technology, the FalconX series unites unprecedented technical performance with an innovative ‘plug & play’ design.

Infinitely expandable
XIA’s new FalconX series offers the FalconX1 for single-channel systems, and the FalconX4 and FalconX8 for detector arrays. For even larger systems, multiple FalconX8 units are easily networked with the option of clean rack mounting.

User-friendly design
XIA designed the FalconX series with simplicity and flexibility in mind. The FalconX is compact, highly portable, compatible out of the box with virtually all detectors, and requires minimal setup. The intuitive GUI and flexible data readout formats make analysis simple and customisable.

High throughput & exceptional resolution
The FalconX delivers analysis dramatically faster than conventional digital pulse processors, with minimal resolution degradation from low to high count rates. Exceptional throughput is realised with output count rates greater than 3 million counts per second with dead-time of less than 20%, and excellent pulse pair resolution of less than 30ns.

The FalconX eliminates the need to adjust shaping times across count rates, and offers flexibility to optimise resolution, throughput or a combination of both.

SITORO® Accelerated Analysis
Many of today’s digital pulse processors suffer debilitating pulse pile-up even at low count rates. Southern Innovation’s patented SITORO® digital pulse processing technology implements advanced non-linear algorithms to decode pulse pile-up in real-time.

By decoding rather than discarding pile-up events, very little data is rejected, resulting in a dramatic increase in measurement efficiency. SITORO® accurately processes almost all detected radiation events even at high count rates, delivering superior spectral quality in a fraction of the time usually required.

For more information go to www.southerninnovation.com
Unparalleled Performance
• Extremely high throughput: Output Count Rates > 3 Mcps
• Advanced SITORO® algorithm provides efficient real-time pulse recovery to overcome pile up
• Very low dead time
• Pulse-pair resolution < 30 ns for fast detectors
• Excellent timing resolution: events time-stamped with resolution < 1 ns
• Accurate input counting rate and live-time reporting for precise dead-time correction and count rate linearity

Plug & Play Design
• Compatible with virtually any detector
• Light, compact & highly portable – ideal for use with a facility detector pool
• Intuitive graphic user interface
• Simple setup and auto-calibration
• Operates from a single 12V power supply
• Front panel LED indicators provide real-time view of processor status

Ultimate Flexibility
• Up to 8 channels of simultaneous processing
• Combine multiple units on a fast network – optional clean rack mounting
• Supports advanced digitiser mode – the FalconX works as a digital oscilloscope
• List mode operation – detected events and times are passed to PC for further processing
• Synchronised spectra – create time-binned spectra based upon synchronised input signal
• Operates with virtually any X-ray detector containing a reset or resistive feedback preamplifier, also operates with a range of gamma-ray detectors

Specifications
• All selections computer controlled
• Input impedance: 50 ohms or 1kohm
• Input voltage range: ±8V, or ±16V with x0.5 attenuation selected
• Variable gain: fine gain control over a x16 (24 dB) range, controlled by a 12-bit DAC; digital scaling offers precise calibration control
• For reset detector, the signal is AC coupled, with several user selectable decay times
• For resistive feedback detectors, the signal is DC-coupled
• Offset control: 12-bit DAC used to cover full ADC range
• GATE and SYNC logic inputs for externally timed data collection
• External CLOCK input allows for accurate timing in large-scale systems
• Flexible Gigabit Ethernet data interface
• Spectrum: Up to 4K channels, 32-bits deep. MCA bin width controllable over a wide range
• 32 auxiliary hard-wired digital I/O connections available to support custom applications; ROI outputs are supported

Cutting Edge Throughput – OCR vs ICR

Exceptional Resolution at Phenomenal Throughput

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