

FalconX8

The World's Most
Advanced Digital
Pulse Processor

POWERED BY



The FalconX8 multichannel digital pulse processor by XIA, Powered by SITORO® Accelerated Analysis, delivers radically faster analysis than conventional pulse processors.

Combining a cutting-edge hardware platform with patented SITORO® signal processing technology, the FalconX8 unites unprecedented technical performance with an innovative 'plug & play' design.

Infinitely expandable

XIA's new FalconX multichannel model offers up to 8 channels of processing in a single compact unit. For larger systems, multiple FalconX8 units are easily combined on a fast network, with the option of clean rack mounting.

For smaller systems, the FalconX8 may be purchased with fewer channels activated to match the application.

Unique design

XIA designed the FalconX8 with simplicity and flexibility in mind. The FalconX8 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 both simple and customizable.

Advanced analysis

Many of today's digital pulse processors suffer debilitating pulse pile-up even at low count rates. The FalconX8 uses powerful SITORO® algorithms to accurately process almost all detected radiation events even at high count rates, recovering data discarded by other pulse processors and delivering superior spectral quality.

High throughput & exceptional resolution

The FalconX8 delivers analysis dramatically faster than conventional pulse processors, with minimal resolution degradation from low to high count rates.

The FalconX8 provides exceptional throughput with output count rates approaching 4 million counts per second, and excellent pulse pair resolution of less than 30 nanoseconds.

The FalconX8 eliminates the need to adjust shaping times across count rates, and offers flexibility to optimise analysis for highest resolution, highest throughput or a combination of both.



The FalconX8 is available with
1-8 channels activated.

SITORO® Accelerated Analysis Revolutionizing Digital Pulse Processing

Southern Innovation's patented SITORO® digital pulse processing technology implements advanced non-linear signal processing 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.

For more information go to
www.southerninnovation.com



Instruments That Advance The Art

FalconX8

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Unparalleled Performance

- Extremely high throughput: Output Count Rates > 4 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
- Web status monitoring and instrument management

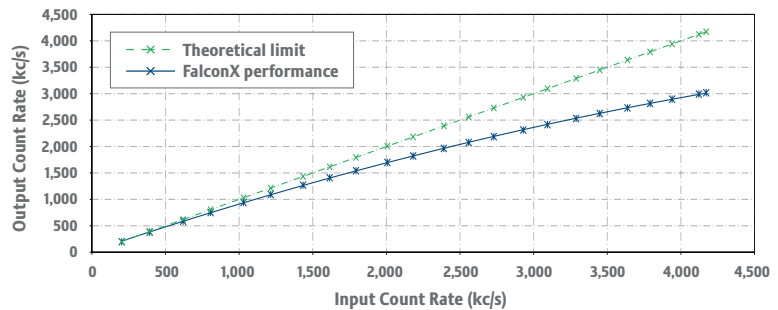
Ultimate Flexibility

- 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

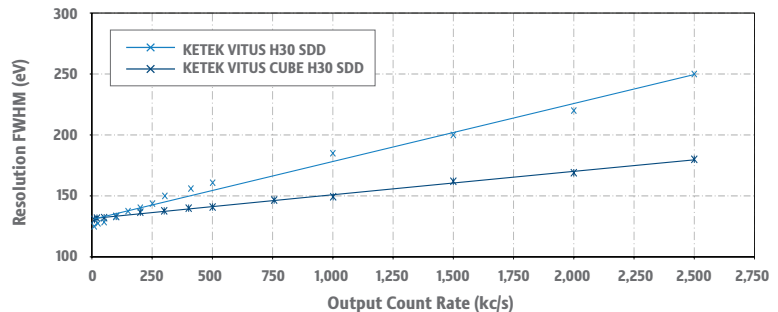
Specifications

- All selections computer controlled
- Input impedance: 1 kOhm
- Input voltage range: $\pm 3V$, $\pm 6V$, $\pm 12V$ for input atten. x0.1/x0.5/x0.25
- 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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Instrumentation That Advance The Art

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