



The CSX processors are fully digital X-ray signal processors that combine the features of signal processor, ADC & MCA into a single cost effective package.

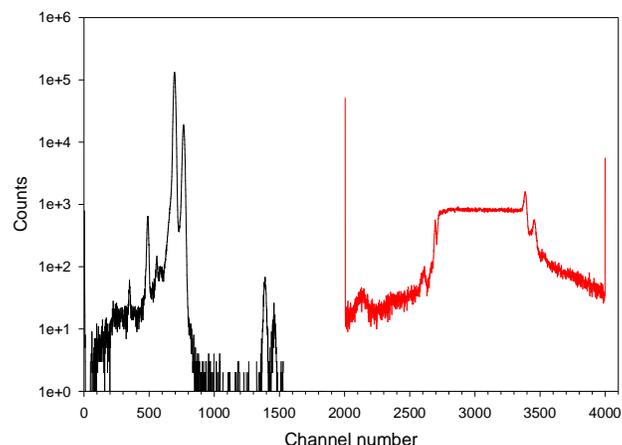
Performance

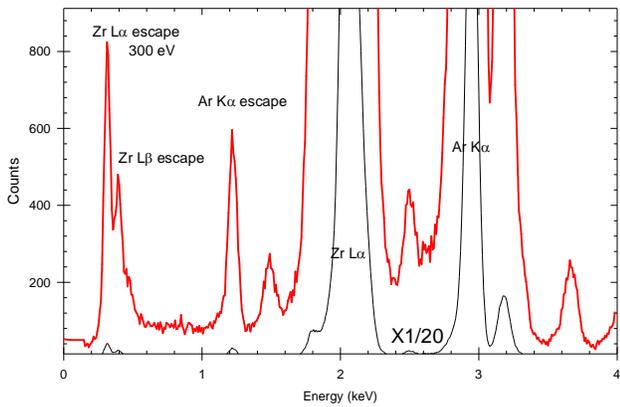
- **Sustained line shape quality** even at high input rates
- **Reduction of tailing** to the proper level
- **Absence of spurious peaks** and electronic artifacts
- **High signal throughput** without significant spectral degradation allowing shorter sampling times with the same statistical accuracy
- **Multilevel pile up recognition.** Improved pile-up suppression with no visible pile-up peak distortion (particularly critical at high throughput rates and for analysis of elemental x- ray lines in the pile-up region).
- **Excellent handling of other spectral interference** events such as electronic noise, microphonics, and nuclear background



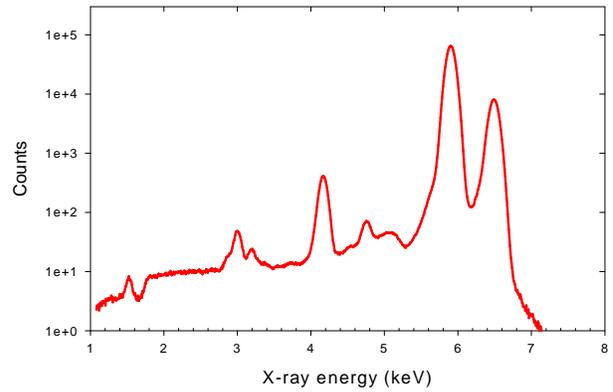
The **quality assurance** feature of CSX provides the true input rate, allows careful monitoring of the system stability, ensures that all events are accounted for and that in turn ensures high quality and repeatable analyses.

An ^{55}Fe spectrum measured with a Si(Li) detector and CSX4, presenting the rejected spectrum as well. The measurement is made in quality assurance (QA) mode. The rejected spectrum is mandatory to get the minimum necessary information for proper counting.

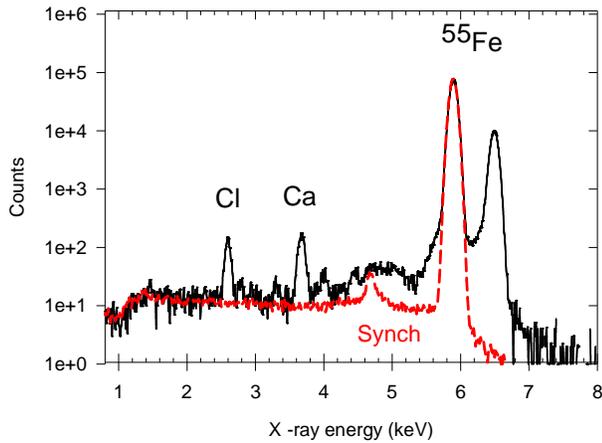




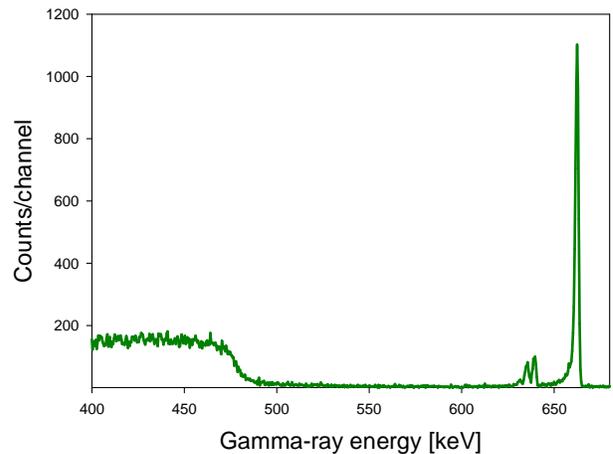
A Zr foil was irradiated with x-rays from an ^{55}Fe source, and the x-ray spectrum was measured with a Si(Li) detector. The figure demonstrates the low energy signal recognition capability.



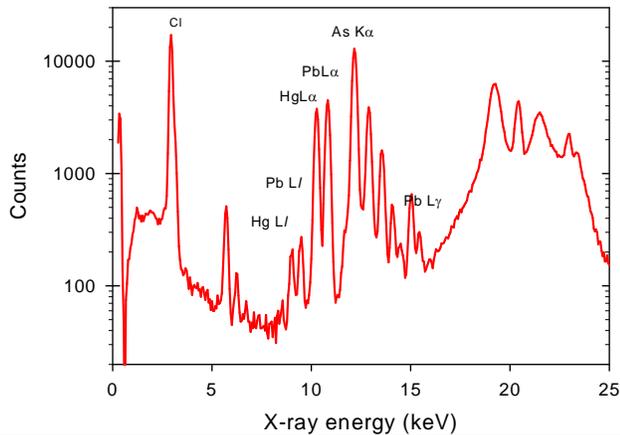
The response function of an SDD (Silicon drift detector), irradiated with an ^{55}Fe radioactive source. The electron escape plateau around 1.8 keV is quite visible and must be present in any good quality spectrum.



Response function of a HPGe detector for a monoenergetic x-ray radiation (dashed line) from a synchrotron monochromatized beam, and an ^{55}Fe source (full line) measured at the same position.



A spectrum of the 661.65 keV gamma line of ^{137}Cs , measured with a CdTe PIN diode. The well-resolved escape peaks demonstrate the resolution capability. The resolution was 1.9 keV for the 662 keV line.



An XRF spectrum of PVC standard measured with portable equipment for a 30 seconds measuring time, and 84,000 cps input rate. The standard had RoHS limit level contaminants (1000 ppm) of Cr, Hg, Pb and Cd. The spectrum demonstrates the excellent line shape and resolution even at high-count rates.