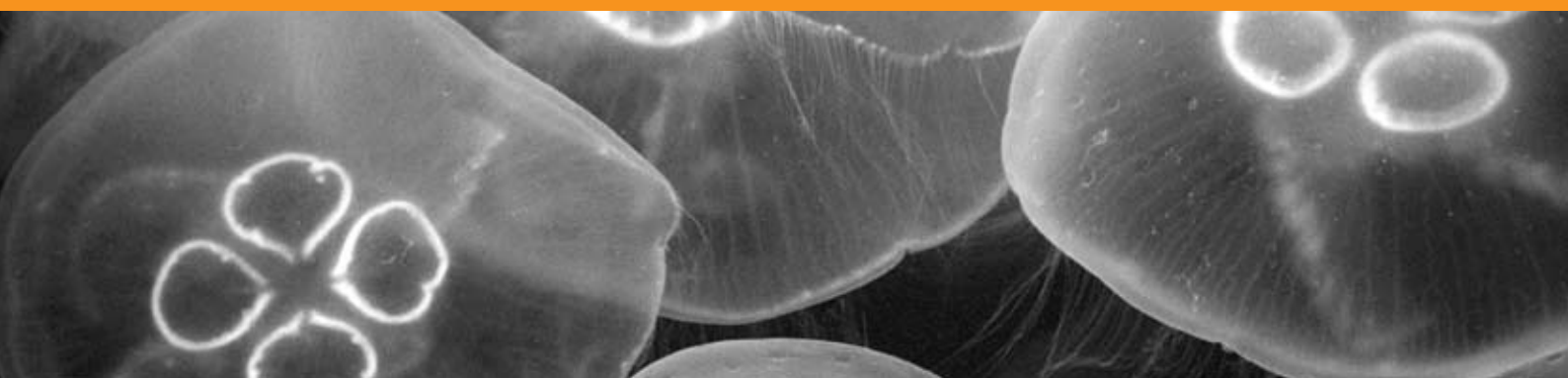


**Libera**  
**Spectra**

# Digital Pulse Processor for Spectroscopy Studies





## Many instruments. Many people. Working together.

Stability means knowing your machine has innovative solutions. For users, stability means a machine achieving its full potential, enabling them to do more science. For us, stability means synchronized, connected, dynamic state-of-the-art instrumentation, working together as one system.

Because we know that the machine is more than just the sum of its parts.

*Libera Spectra is designed for spectroscopy measurements with semiconductor detectors. It is suitable for the following radiation sources: x-ray, gamma-ray, charged particles.*

## Benefits

### Higher count rate

- reduces the duration of measurements

### Four-input channel unit

### Pile-up rejection

- cleaner spectrum

### Time-stamped list mode for measured pulses

- coincidence studies between channels are possible

### Stand alone device

- standard form factor 1U
- Ethernet interface for communication and data acquisition

### GUI software

- software for data acquisition included with the device

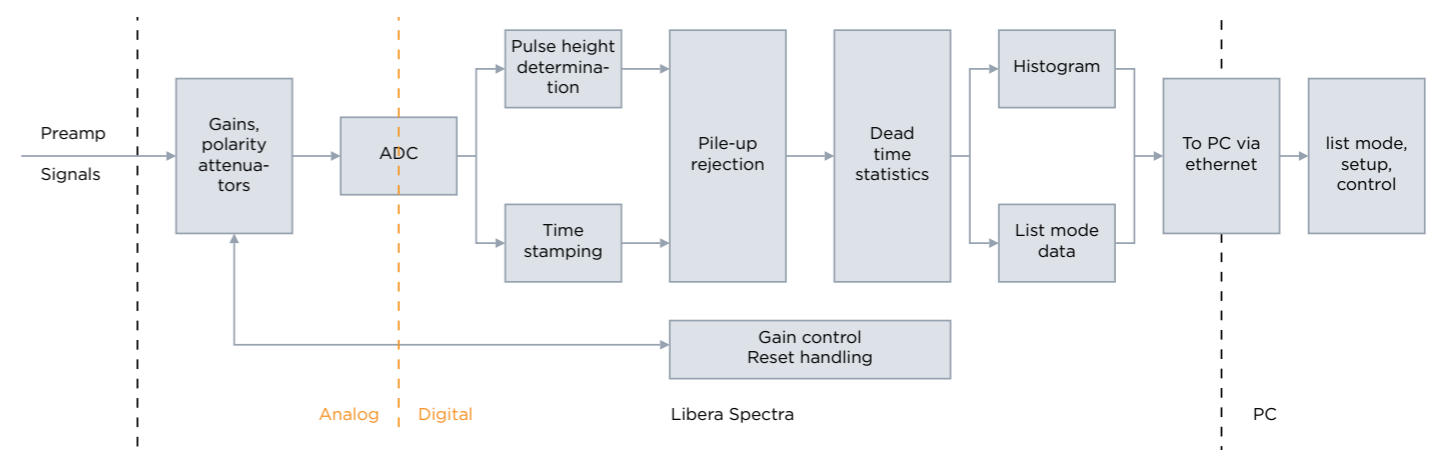


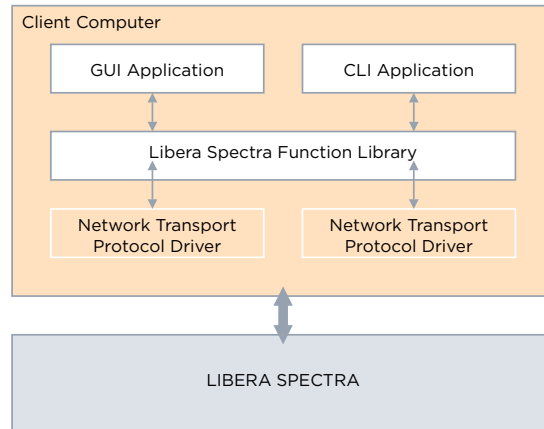
## How Does It Work?

Libera Spectra is directly connected to detector preamplifier. Analog part performs pulse shaping and amplification (50 dB) of input signal. Fast 16 bit ADCs sample all input channels at 100 MHz sampling rate. Digital signal processing following the ADCs performs:

- pulse height calculation
- time-stamping
- pile up rejection
- dead-time statistics

Processed data can be transferred to the end user as histogram or list mode data via Ethernet. Spectroscopy measurement data is visualized through provided graphical user interface (Linux or Windows version available).





## Software Architecture

Libera Spectra provides several software modules that can be used in both Linux and Windows operating systems:

- GUI application: intended for interactive usage of Libera Spectra. Graphical user interface allows users to set up the Libera instrument and acquire the measured spectra
- CLI (Command Line Interface) application: used for the batch-mode interface to the Libera Spectra
- Libera Spectra function library: a high-level C interface, which enables the user to develop applications to work with the instrument
- Network transport protocol driver: a module that implements different types of network traffic

## More at [www.i-tech.si](http://www.i-tech.si)

Visit our website to read more about Libera products, download conference papers on the use of Libera at different accelerators around the world, subscribe to the I-Tech Newsletter and learn about the next gathering of the community at the Libera Workshop.

## Technical Support

Prompt and reliable. You can ask for on-site support or we can assist you remotely. You are also welcome to join us at the Libera Workshop training sessions to get the most out of Libera products.



When your users demand stability.

**Instrumentation Technologies, d. d.**, Velika pot 22, SI-5250 Solkan, Slovenia, **P:** +386 5 335 26 00, **F:** +386 5 335 26 01, **E:** [info@i-tech.si](mailto:info@i-tech.si), [sales@i-tech.si](mailto:sales@i-tech.si), [support@i-tech.si](mailto:support@i-tech.si), **W:** <http://www.i-tech.si>