Description

The PhotoniQ Model IQSP480 is designed to offer scientists, engineers, and developers an off-the-shelf solution for their multi-channel electro-optic sensor needs. Implemented as a stand-alone laboratory instrument with a PC interface, the PhotoniQ is used for charge integration and data acquisition from photomultiplier tubes, avalanche photodiodes, silicon photomultipliers, and other multi-element charge-based sensors. It is a precision, high speed, 32 channel parallel system capable of providing real-time DSP-based signal processing on input events. Flexible, intelligent triggering and acquisition modes allow the unit to reliably capture event or image data using sophisticated data acquisition techniques. Through the PC, the PhotoniQ is fully configurable via its USB 2.0 port using an included graphical user interface. Continuous high speed data transfers to the PC are handled through this interface, or for custom applications through the provided Windows DLL set.

Applications

- Bioaerosol Detection and Discrimination
- PET and SPECT
- Confocal Microscopy
- Flow Cytometry
- Fluorescence Spectroscopy
- Spatial Radiation Detection
- Analytical Chemistry
- Particle Physics
- Piezoelectric Sensor Array Readout
- High Speed Spectroscopy
- Silicon Photomultipliers (SPM)

Features

- 32 gated integrator/data acquisition channels
- 96 dB dynamic range (16-bit resolution)
- Particle analysis with 6.0 usec event pair resolution, image acquisition at rates up to 150,000 pixels/sec
- 65,000 events per second sustained average event rate (SAER)
- Single photon sensitivity when used with typical multi-anode PMTs and SPMs
- Intelligent triggering supports edge, internal, level, and boxcar modes
- Advanced triggering capability supports pre-triggering, event based, and cross bank
- Flexible control of integration parameters such as delay, period, or external boxcar
- Two data acquisition modes optimized for particle analysis and scanned imaging applications
- Optional 500,000 or 1,000,000 pixel image buffer available for high speed imaging applications
- Real-time data discrimination, channel gain normalization, and background subtraction
- Programmable filtering for real time detection of predefined energy levels or spectrums
- General purpose output linked to filter function
- Compatible with commonly available multi-anode PMTs, silicon photomultipliers, and avalanche photodiode arrays
- Available with optional negative 1000V or 1500V high voltage bias supply for PMTs, or negative 100V bias supply for SPMs or APDs

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