

Product Release Note

New Software for NanoHarp 250 Multichannel Scaler/Photon Counter

A new software version is now available for the NanoHarp 250 data acquisition board for multichannel scaling/photon counting. The NanoHarp 250 is a short PCI slot card with integrated discriminators. It is an ideal instrument for the acquisition of fluorescence/luminescence decays on the nanosecond to millisecond time scale. Other applications include: Optical Time Domain Reflectometry (OTDR), Time-of-Flight Mass Spectrometry and Range Finding. The new software version 2.0 now extends the capabilities of the board by making available a programmable trigger output for excitation sources such as the PDL 800-B diode laser family. Furthermore, by means of reconfiguration of the boards programmable logic, the new software provides an entirely new measurement mode. This extends the usable time span of the decay or OTDR measurement to over two seconds. In the new measurement mode the smallest time bin is 32 ns. For high resolution measurements the former time bin resolution of 4 ns is still selectable ("Fast Mode"). In both modes up to 262,144 time bins are available. The board's Multi-Stop capability allows efficient recording of the long-lived fluorescence decays with correspondingly slow excitation rates. On-board histogram memory is 18-bits deep, allowing the collection of 262,144 counts per bin without software intervention. Software adjustable discriminators and on-board polarity switches allow the NanoHarp 250 to be interfaced to a wide range of signal and trigger sources, including all common single photon detectors such as Pho-

tomultiplier Tubes (PMT) and Single Photon Avalanche Photodiodes (SPAD). Count rates up to 50 MHz can be processed. Histogram data is transferred efficiently by means of bus-mastering DMA. The NanoHarp 250 system software runs on all recent Windows platforms including Windows 98SE, ME, 2000, and XP. Data can be collected and visualized on-line. An intuitive and clean graphical user interface with comprehensive online help guarantees a short learning curve. The software also supports control for several types of monochromators, permitting the automated recording of Time-Resolved Emission Spectra (TRES). Fluorescence decay analysis is facilitated by direct transfer to the popular FluoFit software. A new driver library, including a rich set of example programs will be separately available to support the development of custom software and to aid integration with existing automated instruments. A Linux driver is also under development. The board's powerful programmable logic is software reconfigurable and can be updated for new measurement modes and OEM applications.

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