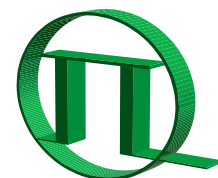


NanoHarp 250

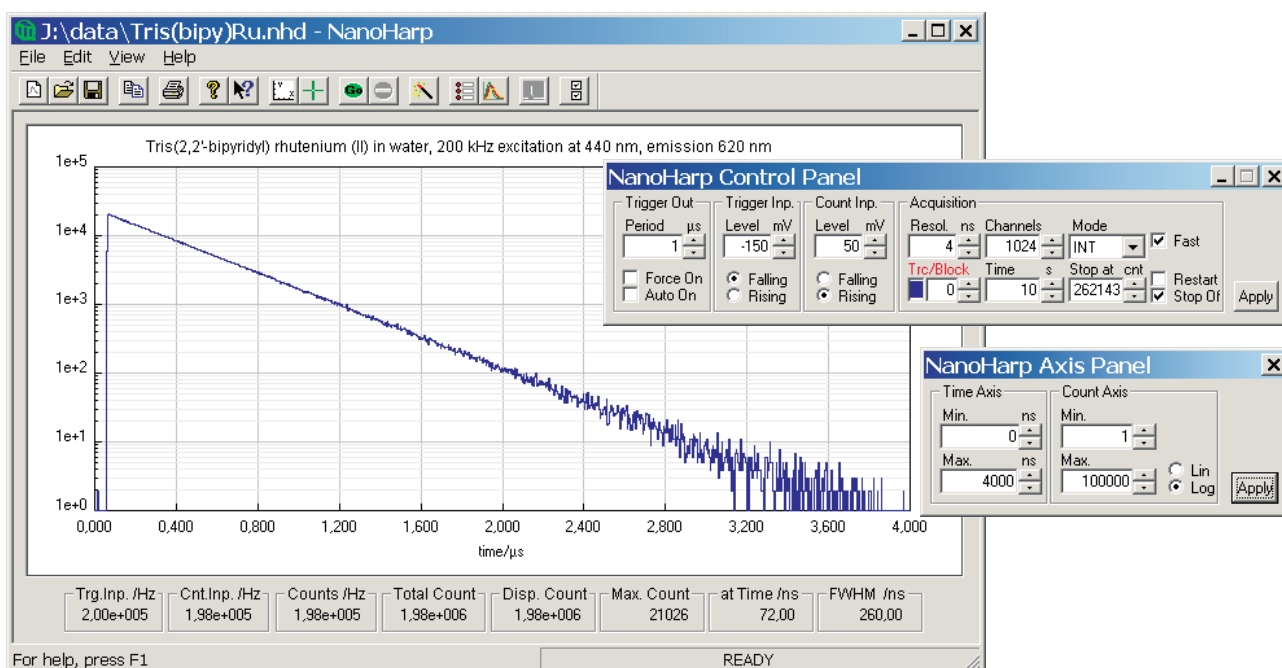


PICOQUANT

PCI-Board Multichannel Scaler / Photon Counter



- 4 ns or 32 ns minimum bin width
- Up to 262144 time channels
- Time span up to 2.15 s
- Count rate up to 50 million counts/sec
- Programmable trigger output
- Easy to use software for Windows™



Applications

- Time-resolved fluorescence and luminescence spectroscopy
- Time-Resolved Emission Spectra (TRES)
- Time-of-Flight (ToF) measurements
- Optical Time Domain Reflectometry (OTDR)
- Optical tomography

PCI-board Multichannel Scaler / Photon Counter

The NanoHarp 250 is a compact easy to use multichannel scaler/photon counter system on a single PCI-board. The NanoHarp is an ideal instrument for the acquisition of fluorescence or luminescence decays on the nanosecond to second time scale. Other applications include Optical Time Domain Reflectometry (OTDR), Time-of-Flight mass spectrometry and range finding.

The NanoHarp 250 design allows count rates of up to 50×10^6 counts/sec. The NanoHarp has two measurement modes with a minimum time bin resolution of 4 or 32 nanoseconds and up to 262144 bins. This results in a usable time span of 1.04 milliseconds respectively 2.15 seconds. The board's multi-stop capability allows efficient recording of long-lived fluorescence decays with correspondingly slow excitation rates. On-board histogram memory is 18-bits deep, allowing the collection of 262144 counts per bin without software intervention. A programmable trigger output is available to control excitation sources such as the PDL 800-B diode laser.

The NanoHarp software for Windows™ 2000/XP/Vista/7 provides functions such as the setting of measurement parameters, display of results, loading and saving of measurement parameters and measurement curves. Important measurement characteristics such as count rate, count maximum, position and peak width are displayed continuously. An automatic setup function is provided to adjust the system to an initial optimum display range setting for the histogram. A comprehensive help function shortens the user's learning curve. A driver library is available for custom programming, e.g. with LabVIEW™.

Operation Modes

Integration mode
Oscilloscope mode
Time-Resolved Emission Spectra (TRES)

Specifications

Photon Channel	constant level trigger, software adjustable
Input voltage range (pulse peak into 50 Ohms)	-2.5 V to +2.5 V
Input level adjust	-2 V to +2 V
Trigger pulse width	1 ns min.
Trigger Channel	constant level trigger, software adjustable
Input voltage range (pulse peak into 50 Ohms)	-2.5 V to +2.5 V
Trigger level adjust	-2 V to +2 V
Trigger pulse width	1 ns min.
Time to Digital Converter	digital counter based
Range (full scale)	1.04 ms or 2.15 s
Maximum number of time channels	262144
Minimum time per bin	4 ns or 32 ns
Count depth	18 bit
Differential non-linearity	< 1 % pp, < 0.1 % rms
Dead time	8 ns
Maximum count rate	50 MHz
Data Acquisition	
Maximum number of curves in memory	512
Number of time channels per curve	1024 to 262144
Collection time	1 ms to 10 hours
Trigger Output	
Pulse width	10 ns typ. (low going)
High level	0.5 V typ.
Period	programmable, 0.625 Hz to 10 MHz
Operation Environment	
Operating temperature	0 to 50°C
Computer system	1 GHz min. CPU clock, min. 512 MB memory, Windows™ 2000/XP/Vista/7

Further available are PC Modules for TCSPC (allround PCI-board for TCSPC, the TimeHarp 200 and the high-end Photon Counting Module with USB 2.0 Interface, the PicoHarp 300), Fluorescence Lifetime Spectrometer; Time-resolved Fluorescence Microscopes; Upgrade kits for Laser Scanning Microscopes; Picosecond / Nanosecond Pulsed, Modulated and Fast Switched Diode Lasers. To learn more about Time-Correlated Single Photon Counting please request our Technical Note on TCSPC. **Please check our website for updated information.**

All Information given here is reliable to our best knowledge. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications and external appearances are subject to change without notice. Trademarks or corporate names are used for explanation and identification, to the owner's benefit and without intent to infringe.

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