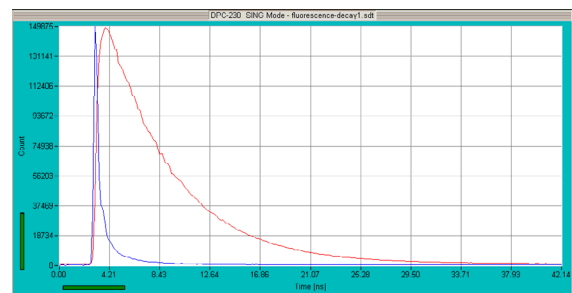
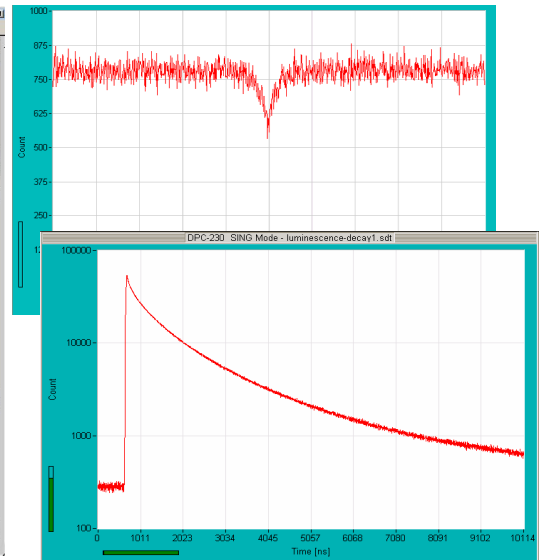
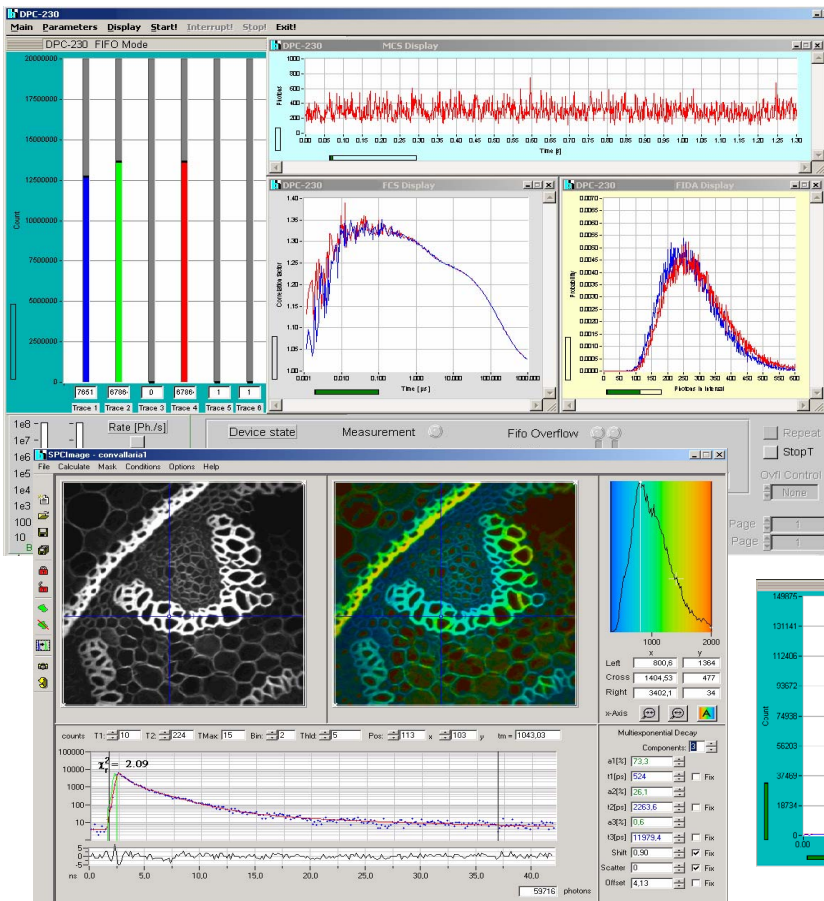
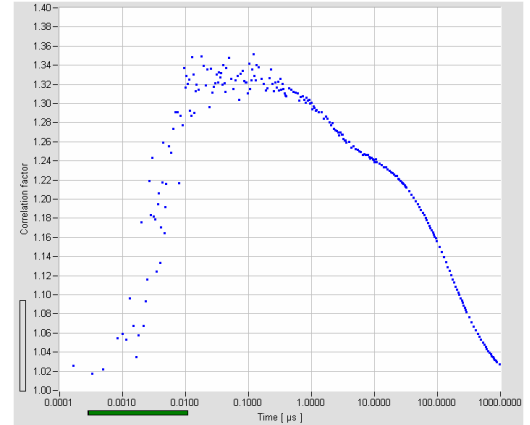


# DPC-230 16 Channel Photon Correlator

## Photon correlation down to the ps range

- 16 fully parallel time-resolved photon-counting channels
- 16 LVTTTL inputs for SPADs or 4 CFD inputs for PMTs
- Recording of absolute photon times
- Autocorrelation within 16 LVTTTL or 4 CFD channels
- Cross-correlation between any pairs of LVTTTL or CFD channels
- Full correlation down to the picosecond range
- FCS and anti-bunching from one experiment
- 3-channel TCSPC mode with 165 ps time channel width
- Multiscaler operation of 15 LVTTTL or 3 CFD channels
- Imaging capability in TCSPC and multiscaler modes
- Time-tag data available in all modes
- Available as PCI cards or laptop-based Simple-Tau DPC systems



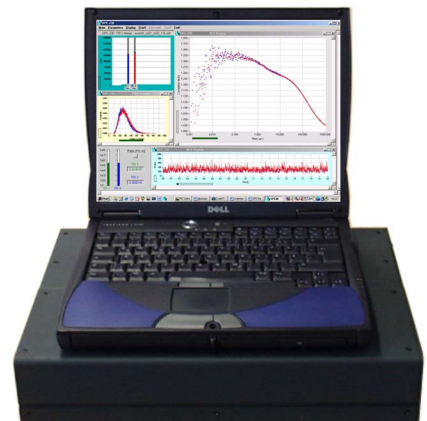
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# DPC-230

# 16 Channel Photon Correlator

## LVTTTL Inputs

No. of channels	16
Input Voltage	LVTTTL
Threshold	1.4 V
Min. Input Pulse Width	2 ns
Min. Pulse Distance	5.5 ns
Connectors	MCX, on board

## CFD Inputs

No of channels	4
Threshold	- 20 mV to - 500 mV
Zero Cross Adjust	- 100 mV to + 100 mV
Connectors	SMA, front panel

## Experiment Trigger Input

Input Voltage	LVTTTL
Threshold	1.4 V

## Data Acquisition, Absolute Time Mode

Method	Time-tag recording, absolute photon times
Correlation of photons	Multi tau or linear tau algorithm, online or offline
Autocorrelation	all channels
Cross-correlation	any pairs of channels
Time increment	164.61 ps
Dead Time	< 10 ns
No of parallel channels	16 LVTTTL or 4 CFD channels
On-board FIFO Buffer size	4·10 <sup>6</sup> photons
Readout	continuous readout during measurement
Sustained readout rate (typ., depends on computer, w/o online calculation)	7·10 <sup>6</sup> photons
Online calculation	FCS, FCS fit, MCS, PCH

## Data Acquisition, TCSPC Mode

Method	Time-tag recording, reversed start-stop
Correlation of photons	Start-stop histogram, online or offline
Start (photon) channels	3 CFD inputs
Dead Time	< 10 ns
Stop channel	1 CFD input
Stop input rate	max 150 MHz
Stop frequency divider	1 - 2 - 4
Time channel width	164.61 ps
On-board FIFO Buffer size	4·10 <sup>6</sup> photons
Readout	continuous readout during measurement
Sustained readout rate (typ., depends on computer)	7·10 <sup>6</sup> photons
Online calculation	Decay, FCS, FCS fit, MCS, PCH, Image

## Data Acquisition, Multiscaler Mode

Method	Time-tag recording, direct start-multistop
Correlation of photons	Start-stop histogram, online or offline
Start (reference) channel	1 CFD input or 1 LVTTTL input
Stop (photon) channels	3 CFD inputs or 15 LVTTTL inputs
Dead Time	< 10 ns
Time channel width	164.61 ps
On-board FIFO Buffer size	4·10 <sup>6</sup> photons
Readout	continuous readout during measurement
Sustained readout rate (typ., depends on computer)	7·10 <sup>6</sup> photons
Online calculation	Decay, FCS, FCS fit, Anti-bunching, MCS, PCH, Image

## Imaging Operation

Available for	TCSPC and Multiscaler Modes
Acquisition principle	Scanning, recording of pixel, line, and frame clock pulses
Max. pixel rate	2 MHz

## Operation Environment, DPC-230 card

Computer System	Pentium PC, dual / multi-core
Recommended configuration	>1024 Mb RAM, >100 Gb HD
Bus Connector	PCI
Power Consumption	approx. 12 W from +5V
Dimensions	312 mm x 124 mm x 20 mm

## Simple-Tau DPC systems

Principle	DPC-230 card in bus extension box
Interface to Computer	Bus extension, PCI Express interface card
Computer	Laptop, 2GHz, dual-core

## Handbook

The handbook of the DPC-230 is available on [www.becker-hickl.com](http://www.becker-hickl.com). See bottom of start page.

## Related Products

SPC-830, SPC-630, SPC-134, SPC-144, SPC-154 TCSPC modules, MSA-1000 and MSA-300 multiscalers, DCC-100 Detector controller, BDL-SMC picosecond / CW diode lasers, id-100 SPAD modules, PMT detector modules, detector / shutter assemblies. Please see "The bh TCSPC Handbook", available on [www.becker-hickl.com](http://www.becker-hickl.com).



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