PHOTOCOR-FC - FLEX-LOGIC CORRELATOR

The key part of the dynamic light scattering instrument is a digital real-time correlator, which defines the basic features of the dynamic light scattering instrument. The operation algorithm of Photocor correlators exactly corresponds to the mathematical definition of the time-dependent correlation function. It enables one to reach the highest efficiency of the signal analysis and high precision of particle sizing. State-of-the-art design of the single-board Photocor correlators is based on the latest flex-logic integrated circuits and the fast digital signal processors. The Photocor correlators are completely self-sufficient hardware devices, which accumulate data by itself without interfering with PC program operations. The correlators are optimized for light scattering applications, but they can be used as a powerful instrument of signal analysis in many others fields including velocimetry, acoustics, astronomy, etc.

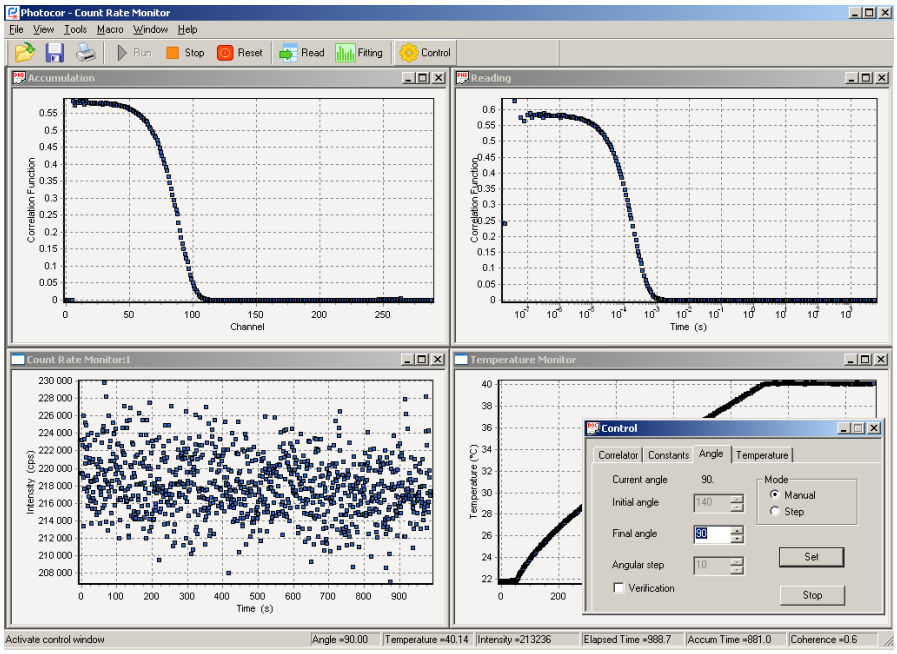
The correlator Photocor-FC is a multipurpose real-time device for auto- and cross-correlation measurements built on the software-configurable flex-logic integrated circuits. A capability of further software upgrade of hardware functions is the unique feature of the Photocor-FC correlator. Currently, the software for multiple-tau and linear time-scale regimes are available. A number of real-time configurations will be developed in the nearest future (two/four correlators, analyzer of probability distribution, spectrum analyzer). Customer programs (algorithm of the device operation) will be available as well. This is the first correlator with such features. The Photocor-FC is a single-board correlator for PCI bus.

Specifications

Photocor-FC	
Processing	32 bits
Input frequency	80 MHz
Capacity of each channel (hardware)	48 bits
Minimum sample time	25 ns
Minimum sample time in real-time mode	25 ns
Maximum sample time	1 h
Number of channels	288
Multiple-tau mode	35 sections x 8 channels, factor 2
Number of monitor channels	72
Operation modes	autocorrelation; cross-correlation
Prescaling	not required
Processing algorithm	hardware
Living monitor of probability distribution	hardware
Dimensions	125 x 110 mm
Power requirements	5V x 0.5A

Photocor-FC software

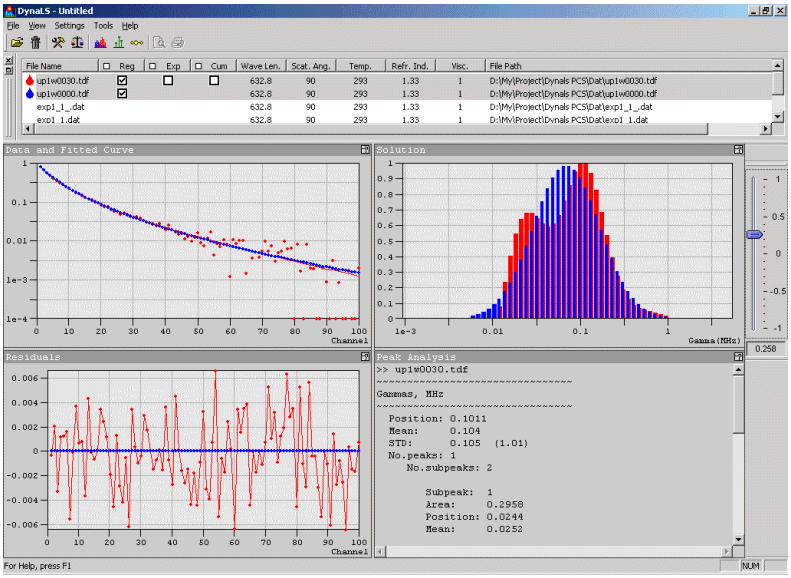
The Photocor instruments come standard with the original user-friendly software package. The Photocor-FC software includes an easy-to-use set of programs to control a measurement process and to perform data fitting and analysis. This software package provides support to various experimental procedures - from elementary to most sophisticated. If one needs to develop his/her own environment to control measurements and perform data analysis, the code of the library containing all low-level correlator control functions and procedures is also available.



To simplify measurement control and data analysis, the Photocor-FC software has its own built-in command Interpreter to develop and use various sets of commands that together accomplish an assigned task. The Interpreter includes all possible commands that may be accessed via menu or dialog windows. It can be used fruitfully as a part of a larger arrangement due to the possibility of dynamic data exchange with other applications. A user can install his/her own routines of raw data interpretation directly to the Interpreter. A complete on-line context-sensitive help that can be used without interrupting the work in the Interpreter is provided. The help on the keyboard as well as on selected commands, open dialog windows, or messages is available, or can be browsed through as a general reference.

Alango Dynals software

Dynals v2.0 is a new generation of Dynals – a well-proved and popular software for data analysis in Photon Correlation Spectroscopy. Dynals v2.0 combines unprecedented speed and ease of use with multiple methods of data analysis. Dynals v2.0 utilizes proprietary computational algorithms providing fast and reliable automatic solution of the associated ill-posed mathematical problem. Its unique user interface allows multiple data sets to be processed with the results presented simultaneously. Extended output capabilities allow easy integration of results into different third party presentation software and well as direct export into documents, presentation and image handling software.



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