The new **TurboCorr** digital correlator is the successor to the **BI-9010AT**. The new correlator card is designed using a cutting edge digital signal processor (DSP) which allows all the circuits to be embedded in a single, high density chip. The benefits of this design include full, in-system reprogrammability, significantly reduced power consumption as compared to the **BI-9000AT**, and a compact design. The **TurboCorr** now uses USB communications for enhanced portability and compatibility.

The **TurboCorr** is an advanced and extremely versatile digital photon correlator and counter designed for use in dynamic (DLS) and static (SLS) light scattering.

The **TurboCorr** has an adjustable delay range capable of producing a contiguous correlation function from 25 ns to 1,310 s representing a time axis that spans more than 10 decades. The middle and low speed circuits can be operated as independent correlators, simultaneously processing different input signals. This can be used, for example, to correlate two light scattering signals from different detector angles simultaneously. An on-board microprocessor on each correlator card controls the circuits and collects the correlation function(s). This relieves the CPU of the host computer of many tasks. Unlike other correlators, the **TurboCorr** never requires prescaling.

**Applications**
- Particle sizing
- Molecular weights
- Gels
- Glass transitions
- Concentrated colloidal suspensions
- Polymer solutions

**Features at a Glance**
- USB communications
- Compact size, low power requirements, less than 300 mW
- Auto- & cross-correlation modes
- Up to 522 hardware channels
- Sampling time 25 ns to 40 ms
- Delay range 25 ns to 1,310 s
- 100% efficient, real-time operation over the full delay time range
- Supplied with control software for use with Windows™
Specifications

**Maximum Number of Channels**: $240 + 256 + 14 + 12 = 522$

**Delay Time Axis**: User selectable (except fixed channels) from linear, constant ratio, or as individual time points recalled from user files by name.

**Dynamic Range**: Over 10 decades (25 ns to 1,310 seconds).

**Operation Modes**: Automatic and Manual. User definable macro commands to write, save, and recall unlimited number of sequences for single key-stroke implementation.

**Maximum Count Rate**: 4 x 107 counts per second.

**Standard Input Levels**: TTL, 50 ohm input impedance, 5 ns minimum pulse width. Other levels via, optional, external converter.

**Dimensions**: 27(H) x 89(W) x 70(D) in millimeters.

**Weight**: 85 g

**Power Requirements**: 300 mW per card

*A policy of continual improvement may lead to specification changes*