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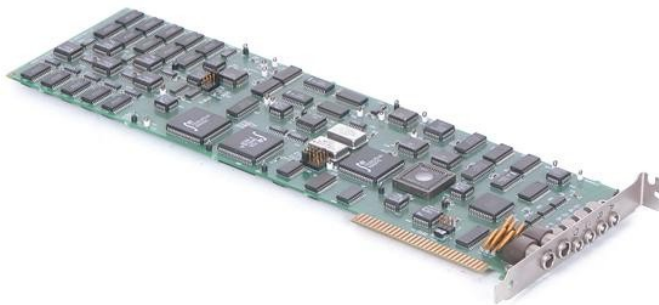
Data Sheet

August 15, 2026

BROOKHAVEN

Brookhaven BI-9000AT Correlator Board (ISA)

The Brookhaven BI-9000AT is a correlator board designed for ISA bus systems. It is used for dynamic light scattering (DLS) and other correlation measurements. This board enables high-speed data acquisition and processing for particle size analysis and diffusion studies.



MODEL

Brookhaven BI-9000AT

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

BI-9000AT

LISTING

<https://aumictechlabs.com/products/bi-9000at-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Brookhaven BI-9000AT Correlator Board is a full-length ISA bus card designed for high-speed photon counting and correlation analysis in dynamic and static light scattering experiments. It delivers real-time data acquisition and processing with 100% efficiency across delay times spanning over 10 decades, enabling precise measurement of particle size, molecular weight, and diffusion coefficients in laboratory research. Technical Specifications Correlation Modes: Auto- and cross-correlation with photon counting for static light scattering (SLS). Delay Time Range: 25 ns to 1,310 seconds, adjustable across 10+ decades with 100% real-time efficiency. Channel Configuration: Up to 522 channels standard, with optional high-speed channels at 25, 50, 75, 125, 150, 175, 225, 250, 275, 325, 350, and 375 ns. Middle and low-speed circuits operate independently as simultaneous correlators. Sampling Times: 25 ns to 40 ms, including standard intervals of 1.6 ms, 2.4 ms, and 20 ms. Maximum Count Rate: 40 Mcounts/s (4×10^7 counts/second). Input Specifications: TTL levels, 50 Ω impedance, 5 ns minimum pulse width.

Optional external converters support alternative input levels. On-board Processor: Integrated microprocessor for circuit control and correlation function collection. No prescaling required. Power Consumption: 22 W nominal; 12 W with Power Saver feature enabled. Power Saver automatically removes power from unused high-speed channels. Operation Modes: Automatic and manual with user-definable macro commands for sequence control. Key Features Full AT-compatible ISA bus card, 33.5 cm length, ~100 grams Four coaxial Lemo input connectors for middle and low-speed correlators Two 4-pin Lemo connectors for low-voltage detector power I/O port occupancy: 300H–313H (conflict-free configuration required) Operating temperature: 10 °C to 75 °C Humidity rating: 0% to 95%, non-condensing Typical Applications Dynamic light scattering (DLS) and static light scattering (SLS) measurements in particle characterization, macromolecular analysis, and materials science research. Compatibility & Integration ISA bus-compatible personal computers with available I/O port space 300H–313H. Verify no address conflicts with existing expansion cards before installation.

BI9000AT Characteristics / Specifications

PARAMETER	VALUE
Model	BI-9000AT
Instrument Type	Digital autocorrelator / cross-correlator board
Family	Brookhaven BI-9000AT
Max Channels	522
Delay Range	25 ns to 1310 s
Dynamic Range	more than 10 decades
Sampling Times	25 ns to 40 ms
Max Count Rate	4e7 per second
Dead Time	25 ns (BI-ISTW correction)
Efficiency	100 percent real-time over the full delay range
Modes	auto-correlation and cross-correlation
Prescaling	none required
Dual Circuits	middle and low speed circuits as independent correlators
Host Cards	up to eight correlator cards in one computer
Onboard Cpu	microprocessor controls circuits and collects functions
Form Factor	single AT-format ISA card (queue ISA listing)
Inputs	TTL-compatible digital photon pulses (input A; inputBfor reference/cross)
Goniometer	pairs with BI-200SM research goniometer
Software	BI-9000AT correlator software and BI-ISTW alignment
Count History	count rate history supported
Manufacturer	Brookhaven Instruments Corporation
Literature	Brookhaven BI-9000AT correlator description, Artisan specification table, BI-ISTW manual dead-time 25 ns
Application Class	photon correlation spectroscopy / DLS particle sizing
Correction	$I_t = I_m / (1 - t_d I_m)$ with $t_d = 25$ ns

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

specifications: up to 522 channels, delay 25 ns to 1310 s (more than 10 decades), sampling 25 ns to 40 ms, max count rate 4e7 per second, 100 percent efficient real-time auto- and cross-correlation, no prescaling, on-board microprocessor, up to eight cards in one host, middle and low-speed circuits as independent correlators for two-angle or two-position work. BI-ISTW manual states BI-9000AT dead time 25 ns for count-rate correction $I_t = I_m / (1 - t_d I_m)$. Used with BI-200SM goniometer for photon correlation spectroscopy / DLS.

Applications
Dynamic light scattering, photon correlation spectroscopy, and simultaneous two-angle or two-position correlation.

Key Features
Real-time digital correlator, 25 ns to 1310 s
Up to 522 channels, no prescaling
Auto- and cross-correlation, 100 percent efficient
4e7 counts/s, 25 ns dead time
ISA AT-format card with on-board microprocessor

Technical Specifications

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Notes

From Brookhaven BI-9000AT published correlator specifications and the BI-ISTW 25 ns dead-time statement. PCI versus ISA isahost-bus variant of the same correlator architecture.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.