ORTEC®

AMETEK®

ASPEC-927
Dual MCB

At Last, an Economical Dual-Input Multichannel Analyzer System in a Single Width NIM Module.

- Dual fast (1.25-µs) ADC and memory in a single width NIM
- Dual 16k ADCs, compatible with MAESTRO for Windows MCA emulation program
- Live time corrections including ZDT
- PUR, BUSY, and GATE inputs
- Interfaces via USB-2.0
- True live display of data
- Synchronize this unit with your sample changer or process control
- On board memory allows fast downloads to your PC
- Two inputs in a single wide NIM



The ORTEC Model ASPEC-927 interfaces to a personal computer via the USB-2.0 interface and includes MAESTRO emulation software. Each ASPEC-927 is presented in a single width NIM chassis and includes two independent 16k ADCs, and 512 kb of memory. The successive-approximation 16384 channel ADCs with 1.25-µs conversion time has selectable conversion gain settings for 8192, 4096, 2048, 1024, or 512. Dead time corrections can be accomplished using the Gedcke-Hale Extended Live-Time method or the ZDT method.

A single computer subject to the USB-2.0 speed of data transfer can control multiple units using USB-2.0 hubs.

Specifications

PERFORMANCE

ADCs: Successive-Approximation type with sliding scale linearization.

MAX RESOLUTION: 16k: 16384 channels, software selectable as 16384, 8192, 4096, 2048, 1024, and 512.

DEAD TIME PER EVENT: 2 µs including memory transfer.

INTEGRAL NONLINEARITY: <+0.025% over the top 99% of the dynamic range.

DIFFERENTIAL NONLINEARITY: <±1% over the top 99% of the dynamic range.

GAIN INSTABILITY: <+50 ppm/°C.

DEAD-TIME CORRECTION: Software selectable for extended Live-Time correction according to the Gedcke-Hale method or ZDT Live-Time corrections which monitors the counting rate and adjusts the dead-time for fluctuating counting rates.

DATA MEMORY: 512 kb.

USB INTERFACE: Interfaces to a PC via USB 2.0. Data transfer speed is 480 Mbps maximum.

INPUTS AND OUTPUTS

INPUTS: Accepts positive unipolar, positive gated integrator, or positive leading bipolar analog pulses in the dynamic range from 0 to +10 V; +12 V maximum; semi-Gaussian-shaped time constants from 0.25 to 30 µs, gated-integrator-shaped time constants from 3 to 30 µs, or delay-line-shaped with widths >0.25 µs. Z_{in} = 1 kΩ, DC-coupled. No internal delay, BNC connector.

ADC GATE: Optional TTL input. Computer selectable Coincidence mode, Anti-coincidence mode, or Off. Signal must occur prior to and extend 0.5-µs beyond the peak of the pulse; BNC connector. Z_{in} = 1 kΩ.

PUR: Pile-up rejection input; accepts TTL signal; signal must occur prior to peak detect. Z_{in} = 1 kΩ. BNC connector.

BUSY: Busy input used by live-time correction circuits. Accepts TTL signal; signal must occur prior to peak detect. Z_{in} = 1 kΩ. BNC connector.

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SAMPLE CHANGE IN: 9-pin "D" connector. Z_{in} = 1 kΩ.
Input for ADC 1 is pin 1.
Input for ADC 2 is pin 5.
Ground is pin 9.

SAMPLE CHANGE OUT: 9-pin "D" connector. Z_{out} = 1 kΩ.
Output for ADC 1 is pin 3.
Output for ADC 2 is pin 7.
Ground is pin 9.

USB-2.0: Standard USB connection via a supplied 10-ft. cable.

INDICATORS

ADC1: Indicates activity for ADC-1.

ADC2: Indicates activity for ADC-2.

SOFTWARE CONTROLS

(Operates with included MAESTRO — see data sheet for details.)

ADC LLD: Computer controlled from 0 to 100% full scale.

ADC ULD: Computer controlled from 0 to 100% full scale.

PRESETS

REAL TIME/LIVE TIME: Multiples of 20-ms.

REGION OF INTEREST: Peak count/Integral count.

DATA OVERFLOW: Terminates data collection when any channel exceeds 2^{31}–1.

PEAK UNCERTAINTY: Stops acquisition when the statistical or counting uncertainty of a user-selected net peak reaches the specified value.

NUCLIDE MDA: Stops data collection when the value of the Minimum Detectable Activity (MDA) for a user-specified MDA reaches the specified value.

LIVE TIME CORRECTION: Gedcke-Hale, ZDT.

GATE: Coincidence, Anti-Coincidence, Off.

ELECTRICAL AND MECHANICAL

POWER REQUIRED: +6 V, 250 mA; +12 V, 165 mA; –12 V, 165 mA.

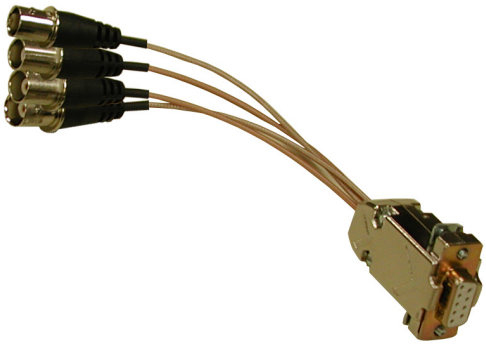
WEIGHT
Net 0.9 kg (2 lb).
Shipping 2.25 kg (5 lb).

DIMENSIONS NIM-standard single-wide 3.43 x 22.13 cm (1.35 x 8.714 in.) front panel per DOE/ER0457T.

Ordering Information

Model	Description
ASPEC-927	Dual 16k ADCs in a single wide NIM. Includes MAESTRO and 10-ft. USB interface cable.
927-OPT1	Female BNC adapter cable for Sample Change I/O. This option provides cable connections to the Sample Changer inputs and outputs.





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Specifications subject to change
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