

## APN101G / APN101S

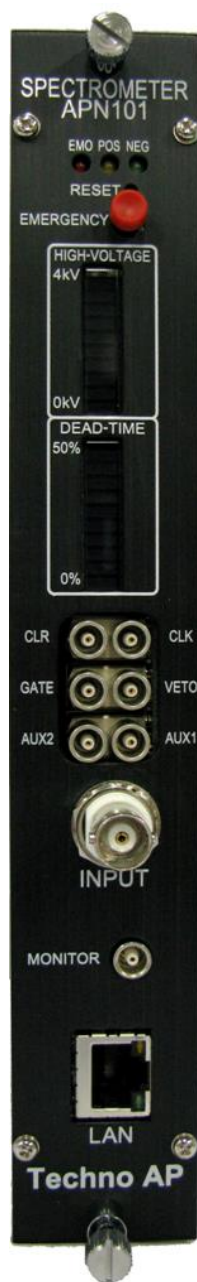
This digital spectrometer, designed in NIM format, integrates a digital MCA, high voltage power supply, and preamplifier power supply into a single unit. It directly processes the detector preamplifier signal, digitizes it using a high-speed ADC (100Msps, 16bit), employs FPGA-based trapezoidal filtering to determine pulse peak values, and generates spectra. Measurement data is transmitted to a PC via Gigabit Ethernet. The high voltage power supply is rated up to  $\pm 5000V$  (0.67mA) for G type or  $\pm 4000V$  (1mA) for S type. Additionally, it includes new spectrum analysis software that supports real-time updates as a standard feature.

### Features

Suitable Detectors	Semiconductor Detector such as Ge, CdTe, Si etc. Scintillator detector such as LaBr3(Ce), NaI(Tl) etc.
Energy Resolution	1.6~2.2keV@1.33MeV, Ge Semiconductor Detector
Throughput	> 200kcps
Integral Non-linearity	< $\pm 0.025\%$ (typ.)
Differential Non-linearity	< $\pm 1.0\%$ (typ.)
Mode	Histogram, List, Wave
Spectrum Analysis Software	Gauss Fit Analysis, Peak Search Analysis, Dead Time Adjustment, Energy Correction, Half Width Correction

### Specifications

Analog input	1 channel by BNC connector, Range: $\pm 1V$ , Input Impedance: 1 k $\Omega$
Analog gain	Coarse Gain: x1, x2, x5, x10 Fine Gain: x0.5~x1.5
ADC	100Msps, 16bit
ADC Gain	16k, 8k, 4k, 2k, 1k, 512, 256 ch.
Digital Processing	Trapezoidal Filter Rise Time 0.1~0.120 $\mu s$ (0.01 $\mu s$ step) Flat-top Time 0.05~2 $\mu s$ (0.01 $\mu s$ step) Timing Filter, Baseline Restorer, Pileup Rejecter, Auto-pole zero, Auto-threshold etc.
Digital Gain	Coarse Gain x1, x2, x4, x8, x16, x32, x64, x128 Fine Gain x0.3333~x1.0000
HV power supply	G-type 0V~ $\pm 5000V$ (max 0.67mA) S-type 0V~ $\pm 4000V$ (max 1mA) Ripple Noise 5mVp-p, SHV connector
Preamplifier power supply	$\pm 12V$ , $\pm 24V$ , D-sub9 pin connector
External Control	GATE Input, VETO Input, LEMO Connector
Communication I/F	Gigabit Ethernet, TCP/IP, UDP
Power consumption	12V (0.8A), AC power adapter
Dimension Weight	34(W)x221(H)x249(D) mm *attachment excluded, approximate 900g
Application	Data Measurement Control, Spectrum Analysis Software

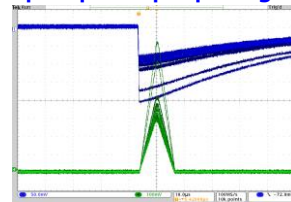


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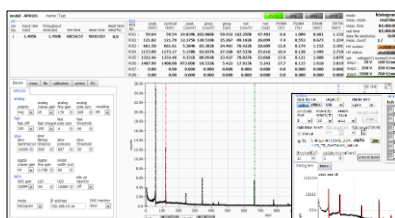


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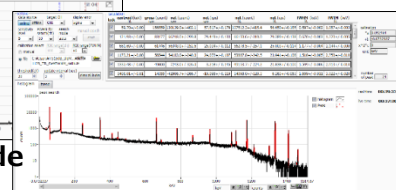
Input: preamp input signal



Output: trapezoid filter



Histogram Mode



Peak Search Analysis

\*Images is for illustration purpose.

\*Please note that contents may change without prior notice.

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