

DSP APN502/APN504/APN508

MADE IN JAPAN

Digital Signal Processor for γ -ray Spectroscopy

NIM

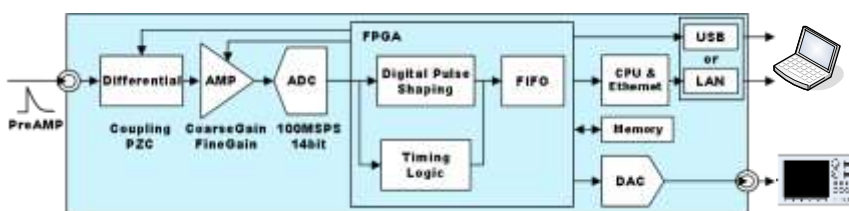
DSP (Digital Signal Processor) for Gamma-ray Spectroscopy featured with originally developed Circuit Design, Firmware, and Application Software

- **Number of Channels:** 2, 4, 8 ch (Simultaneous sampling)
- **Energy resolution:** 1.70 keV @ 1.33 MeV
- **Throughput:** 100kcps and over
- **Operation mode:** Histogram, List, and Waveform
- **Multi function:** Spectroscopy Amp, Timing Filter Amp, CFD, DAC for input & filtered output, Auto Pole-Zero Cancelation
- **Dimension:** NIM 1U
- **Communication I/F:** USB2.0 or TCP/IP
- **Options:** UDP Data Communication, Coincidence
- **Software:** Application Software with manual

Overview

Radiation spectrometer equipped with Digital Signal Processing (DSP) function for Gamma-ray spectroscopy.

Ge detector-preamp output signal can be processed without using traditional spectrometer by high speed ADC (100 MHz, 14 bit) and high density FPGA. Analyzed data with histogram, event, and waveform information are transferred to PC via USB or Ethernet (TCP/IP or UDP). Application software is supplied as standard accessory.



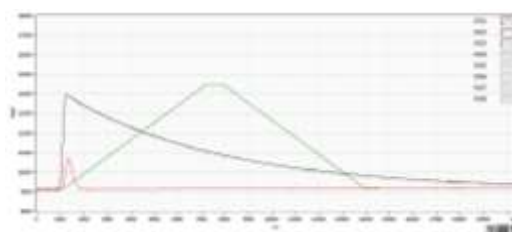
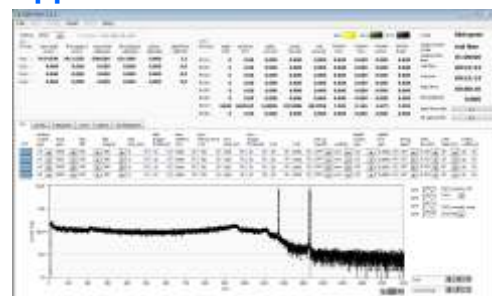
Specifications

Analog Input	$\pm 1V$, Input-Impedance:1k Ω APN502:2CH, APN504:4CH, APN508:8CH
Analog Gain	Coarse: x2, x4, x10, x20, Fine: x0.5~x1.5
Sampling Rate	100MSPS
Resolution	14bit
ADC GAIN	8K, 4K, 2K, 1K, 512, 256ch
Trapezoidal Filter	0.1~16 μ s
Digital Baseline Restorer	Yes
Digital Pileup Rejecter	Yes
Digital Coarse/Fine Gain	Yes
Digital CFD	Yes (0.625ns resolution)
Preamp Power	$\pm 12V, \pm 24V$ (NIM-standard)
Communication I/F	USB2.0 or Ethernet (TCP/IP or UDP)
Dimension (mm), Weight	NIM 1U 34(W) x 221(H) x 249(T), about900g
Power supply	+12V(about0.8A)
Operating Condition	Temperature 0~40 $^{\circ}C$, No dew condensation
PC requires	Windows 7, Display: WXGA and over
Accessory	USB cable, Application, Manual

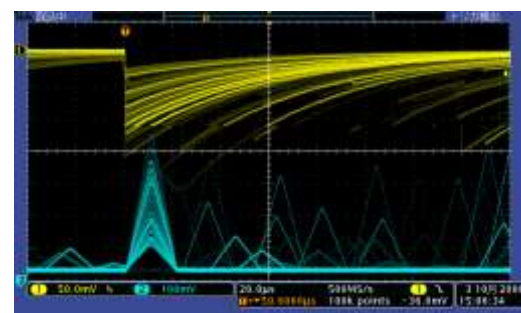


APN508 (Front) APN508 (Rear)

Application



Ge detector and using Co-60 radiation source (Upper: Histogram, Lower: Wave)



DAC Output (Upper: Preamp, Lower: Trapezoidal filter)

*Images is for illustration purpose.
*Please note that contents may change without prior notice.

TechnoAP

Design and fabrication of electronic circuit associated with measurement control and radiation measurement

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