## **Digital Signal Processor for Gamma-ray**

### **APV8002C**

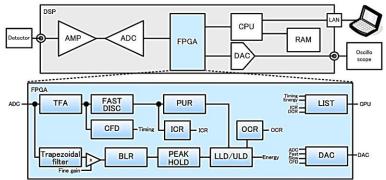
Gamma-ray spectrometer equipped with Digital Signal Processing (DSP) function. Output signal of HPGe detector preamp is processed by high speed ADC (100 MHz, 14-bit) and high-density FPGA. Analyzed data using histogram, event, and waveform applications is transferred to PC via Ethernet (TCP/IP or UDP). Application software is supplied as a standard accessory.

#### **Features**

| <ul> <li>Energy resolution</li> </ul> | 1.7 keV @ 1.33 MeV  |
|---------------------------------------|---|
| <ul> <li>Time resolution</li> </ul>   | 0.625 ns (minimum unit)   |
| <ul> <li>Output</li> </ul>            | 100 kcps and over   |
| <ul> <li>Measurement mode</li> </ul>  | Histogram, List, and Waveform   |
| <ul> <li>Functions</li> </ul>         | Spectroscopy Amp, Timing Filter Amp, CFD, and DAC for input & filtered output |
| <ul> <li>Communication I/F</li> </ul> | TCP/IP  |
| <ul> <li>Options</li> </ul>           | UDP Data Communication, Dual-CH Coincidence and Rise Time Measurement         |
|                                       | Application software (Windows)  |

Accessories Instruction manual (Hardware / Software)

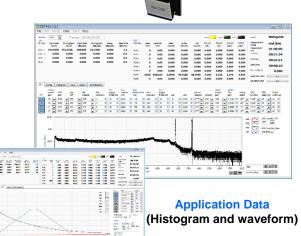
#### Block Diagram



#### **Specifications**

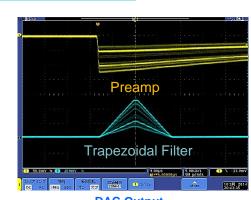
| •                            |  |
|------------------------------|--|
| Analog Input                 | 2 channels, LEMO connector                       |
| Coarse Gain                  | x 2, x 4, x 10, x 20                             |
| Fine Gain                    | x 0.5 to x 1.5                                   |
| ADC Input Signal             | ±1 V   |
| Input Impedance              | 1 k ohm  |
| Sampling Rate                | 100 Msps   |
| Resolution                   | 14-bit   |
| ADC GAIN                     | 8192, 4096, 2048, 1024, 512, 256 ch.             |
| Trapezoidal Filter           | 0.4 to 16 µs (0.01 steps)                        |
| Digital Signal<br>Processing | Baseline Restorer, Pileup Rejecter,<br>CFD, etc. |
| External dimensions          | Standard VME 6U                                  |
| (Unit: mm)                   | 20 (W) x 262 (H) x 187 (D)                       |
| Weight                       | About 0.40 kg                                    |

# 0 0



0

00 00



☑ info@techno-ap.com

**DAC Output** \*Images is for illustration purpose.

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

Manufacture of Radiation and Radioactivity measurement devices



2976-15 Mawatari, Hitachinaka-shi, Ibaraki, 312-0012, Japan

20240827

