

# Digital Spectrometer APU101

MADE IN JAPAN

Spectroscopy within 1CH HV power supply and preamplifier power

UNIT

This product is all-in-one digital spectrometer which has high-voltage power supply, preamp power, and MCA (Multi Channel Analyzer) for the measurement by radiation detector. Preamp signal of the detector input directly and the digital signal processing is processed a high-speed ADC (100MHz 14-bit) and highly-integrated FPGA. The measurement data will be transferred to the PC via Ethernet.



Front



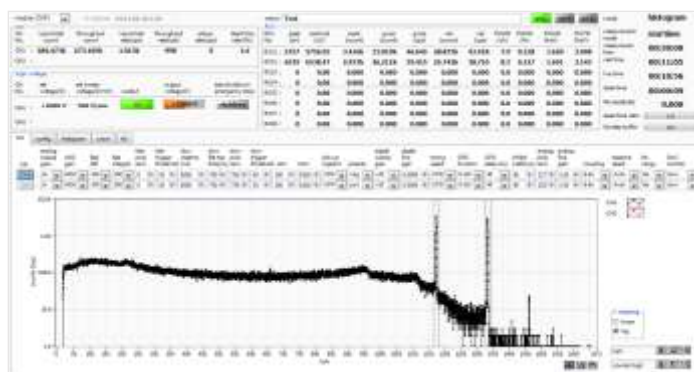
Back

## Specifications

Analog input	1CH, $\pm 1V$ range, Input-Impedance $1k\Omega$
Analog gain	Coarse Gain: x2, x4, x10, x20, Fine: x0.5 to x1.5
Sampling	100Mps, (Resolution: 14-bit)
ADC Gain	8K, 4K, 2K, 1K, 512, 256ch
Digital Processing	Trapezoidal Filter 0.1 to $16\mu s$ , Baseline Restorer, Pileup Rejecter, Coarse Gain, Fine Gain
HV power supply	0V to $\pm 4000V$ (Max.: 1.0mA), Ripple: 20mVp-p (typ.) *Customizable up to $\pm 5000V$ (Max.: 0.67mA) Bias shut down input terminal equipped
Pre-amp power	$\pm 12V$ , $\pm 24V$ (NIM-Standard)
Unit panel Switch Button Connector	<b>[FRONT]</b> HV power supply monitor LED Dead-time monitor LED Emergency Stop button, LAN Connector, POWER button <b>[BACK]</b> SHV connector for HV power supply D-sub9 pin-connector for pre-amp power BNC input connector for pre-amp output signal LEMO connector for output DAC MONITOR etc.
Interface	Ethernet TCP/IP
Dimension / Weight	210mm (W) x 45mm (H) x 275mm (D) Approx. 1,800g *without connector,
Operation system	Windows 7 (32/64-bit) or more, Display WXGA or more
Electricity consumption	+12V (Approx. 1.0A)

## Features

- Suitable Detector:  
**Semiconductor detector (Ge, CdTe, Si etc.)**  
**Scintillator (LaBr3(Ce), NaI (TI), CsI (TI) etc.)**
- Energy Resolution:  
**1.7keV@1.33MeV (HPGe detector)**  
**2.8 to 3.5% @662keV (LaBr3(Ce) scintillator)**
- Output: **500kcps or more**
- Measurement mode: **Histogram**
- Multi-function: **Spectroscopy amp**  
**Filter waveform output DAC**
- H.V. power:  **$\pm 4000V$  (1.0mA)**
- Interface: **Ethernet TCP/IP**
- Accessory: Application and User Manual



Histogram measurement

\* 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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