

# Digital Pulse Processor APV8104-14

MADE IN JAPAN

VME

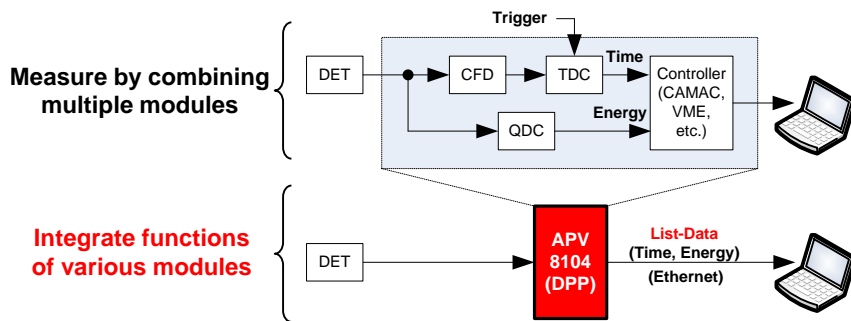
1GHz 14-bit ADC Digital waveform analysis, high time resolution, high throughput

20180711



APV 8104-14 is a waveform analysis board with four high-speed, high-resolution ADC (1 GHz, 14 bit) channels. In addition to 1 GHz real-time analysis by FPGA, high-speed processing with no dead time due to signal processing is realized with high time resolution and high throughput by adopting Gigabit Ethernet communication. All ADCs operate synchronously at 1 GHz clock and can also be used for signal analysis from multiple high-speed scintillation detectors. It also supports synchronous processing between multiple boards, and it is easy to extend it to multi-channel analysis.

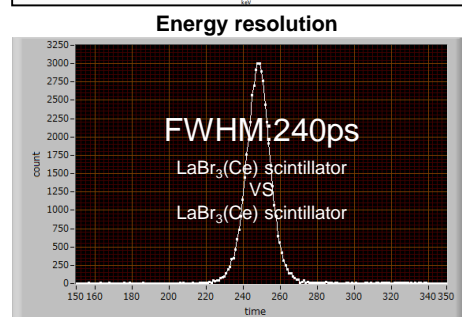
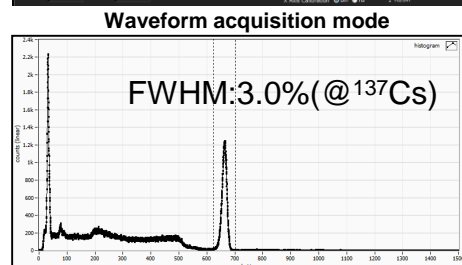
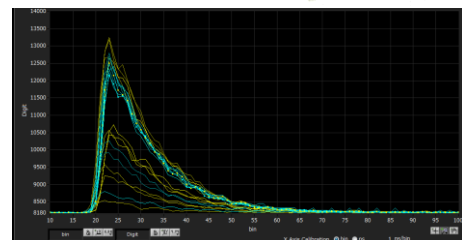
- ◆ ADC 4 channels, 1 Gbps, 14-bit resolution, Synchronous sampling
- ◆ Time resolution **Coarse: 1 ns | Fine: 3.9 ps**
- ◆ Output 1 Mcps and more / channel
- ◆ Analysis mode List (TDC+QDC etc.) Waveform acquisition etc.
- ◆ Functions (digital)CFD, TDC, DC, PSA\*, Coincidence\*, Wave-list\*, Wave-pileup-list\*
- ◆ Communication I / F 100BASE-TX (100 k event and more), 1000BASE-T\* (1 M event and more)



## Example of List-data (1 event: 80-bit)



Analog signal input type	Anode signal of PMT, Fast-NIM signal etc.
Analog input range	±1 V (input impedance: 50 ohm) (LEMO connector x 4) * Customizable up to ± 4 V
Analog offset adjustment	±2V (12-bit) * Customizable from ±20 mV up to ±4V
Analog gain switch	×1 / ×3 * Customizable up to × 10 within the input range limit
Analog signal risetime	1 ns or less (gain: ×1)
External terminal of input and output (TTL level)	CLK input, CLK output, GATE input, VETO input, CLR input, OR output, (LEMO connector x 6) * I / O signal customizable
Communication Interface	Ethernet (TCP / IP) 100BASE-TX, 1000BASE-T*
Dimensions Weight	20mm (W) × 262mm (H) × 187mm (D), VME 6U Approx. 430g
Operating condition	Operating temperature 5 to 25 degrees
Power consumption	+5 V (approx. 2.9A), +12 V (approx. 0.7A), -12V (approx. 0.3A)



\*Option: Gigabit Ethernet, digital PSA, digital coincidence

\*Images is for illustration purpose.

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

Website



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