

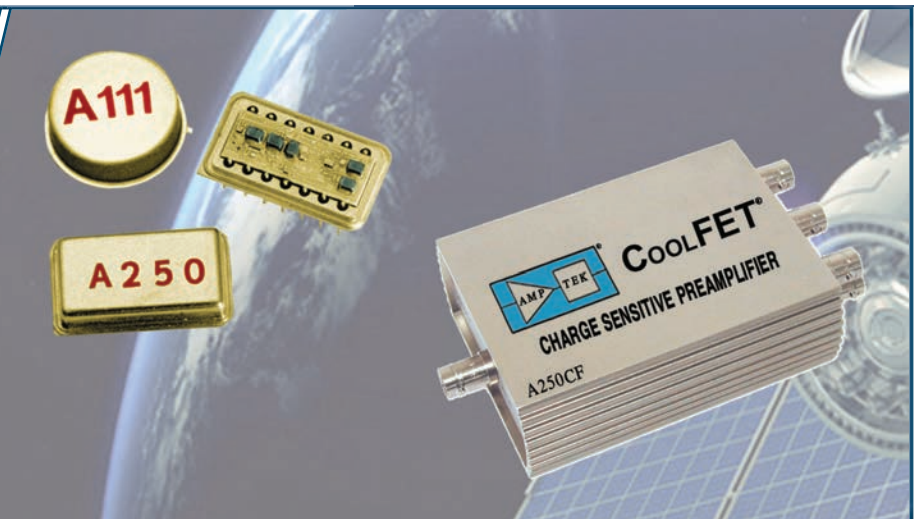
X-Ray Solutions



Gamma Ray Detectors



Charge Sensitive Preamplifiers and Front-End Electronics Space Applications



OEM's #1 Choice

Products for *Your Imagination*
www.amptek.com

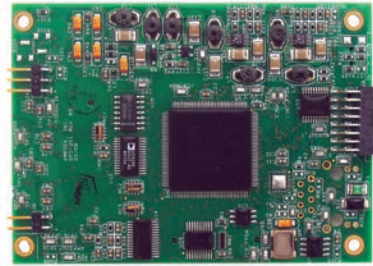
DIGITAL PULSE PROCESSORS



Digital Pulse Processor
Shaping Amplifier
MCA
Power Supplies

Features of the PX5:

- Compatible with all Amptek detectors & detectors from other manufacturers
- 80 MHz ADC
- Trapezoidal and CUSP shaping
- Reduced ballistic deficit
- High count rate capability & stability
- High throughput & pile-up rejection
- MCA with 8 k channels
- USB, RS232 & Ethernet interface
- Free software for instrument control, data acquisition, and analysis
- Free Software Developer's Kit (SDK)
- Oscilloscope mode



Size: 3.5 in. x 2.5 in.

Features of the DP5:

- 80 MHz ADC
- Replaces both shaping amplifier and MCA
- Supports both reset and feedback preamplifiers of either polarity
- 16 SCAs
- Configurable for use with PMTs
- For OEM or custom laboratory use
- Highly configurable

GAMMA RAY DETECTION SYSTEM

Scintillation Detector (NaI) & Digital Pulse Processor



•Homeland Security •Nuclear Plant Monitor

Features of the GAMMA-RAD5:

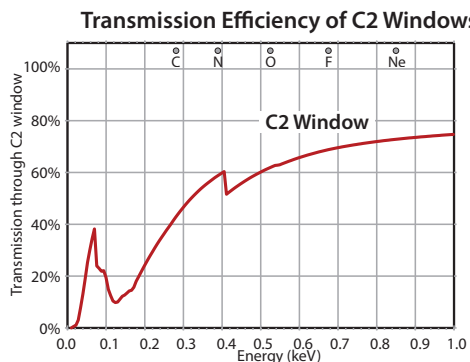
- Ruggedized scintillator and PMT
- Gain stabilized in software
- Ethernet, RS232 & USB interfaces for robust communications
- USB powers entire system
- Flexible architecture for tailoring interface
- For OEMs and custom users

FAST SDD® WITH C2 WINDOW

For EDS (SEM) Applications

Features of the C2 Windows:

- High intrinsic efficiency
- Low energy response
- Measure elements down to Carbon
- Low cost



PMT DIGITAL TUBE BASE

Use with *Your* Scintillation Spectrometer



Includes:

- Digital pulse processor with charge sensitive preamplifier & MCA
- All power supplies (low voltage and high voltage)
- Interface hardware and PC software
- 14 pin photomultiplier tube base

X-RAY TUBE



Includes:

- X-ray tube
- Power supply
- Control electronics
- USB communication

Features of the Mini-X:

- 50 kV/80 μ A
- Silver (Ag), Gold (Au), Rhodium (Rh) or Tungsten (W) target
- USB controlled
- Stable output
- Fast - Low power - Small size
- Self-contained system

Applications

- X-Ray Fluorescence analysis
- Portable systems
- OEM
- Process control
- Research and teaching

visit www.amptek.com for complete specifications

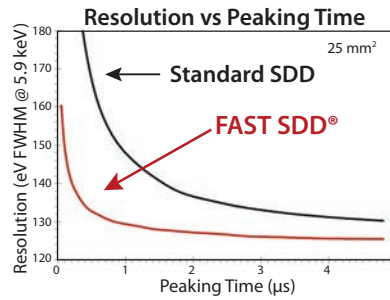
X-RAY AND GAMMA RAY DETECTORS

•Solid State Design •Easy to Use •Low Cost

OEM's #1 Choice
For XRF

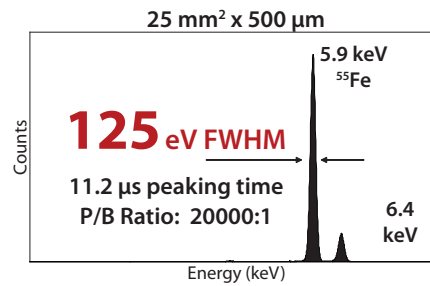
FAST SDD®

- Ultimate Performance
- >1,000,000 CPS



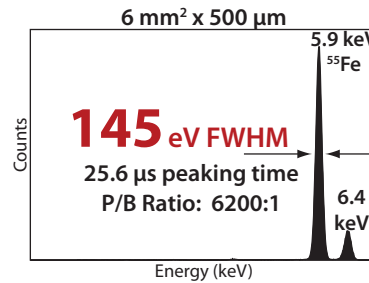
SDD

- High Performance



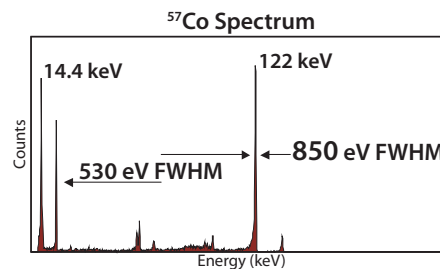
Si-PIN

- Best Value



CdTe

- X-Ray & Gamma Ray



Ask about our XRF Experimenter's Kit educational discount.

visit www.amptek.com for complete specifications

DIGITAL MULTICHANNEL ANALYZER

Features of the MCA8000D:

- For use with traditional analog pulse shaping
- High speed ADC (100 MHz, 16 bit) with digital pulse height measurement
- 8k data channels
- Minimum pulse peaking time 500 ns
- Conversion time 10 ns
- Sliding-scale linearization
- Differential nonlinearity $\leq \pm 0.6\%$
- Integral nonlinearity $\leq \pm 0.02\%$
- Two peak detection modes: first peak after the threshold (nuclear spectroscopy) or absolute peak after the threshold (particle counter calibration in clean rooms)
- Two TTL compatible gates for coincidence and anticoincidence
- Supports USB, RS-232, and Ethernet communication interfaces
- USB powered
- Free Display Acquisition Software supports ROI, energy calibration, peak information, MCA configuration, and file management
- Free Software Developer's Kit (SDK)

FITS IN A SHIRT POCKET

The MCA8000D is a full featured, low power digital multichannel analyzer intended to be used with a wide variety of detector systems.

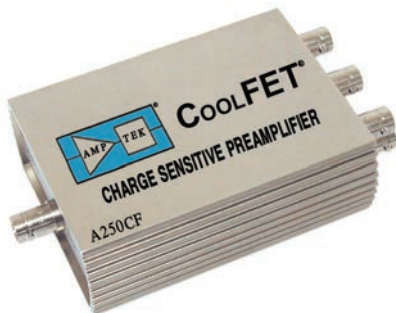


Dimensions: 5 x 2.8 x 0.8 in
125 x 71 x 20 mm
Weight: <165 g

CHARGE SENSITIVE PREAMPLIFIERS

Your complete source for high performance preamplifiers and amplifiers

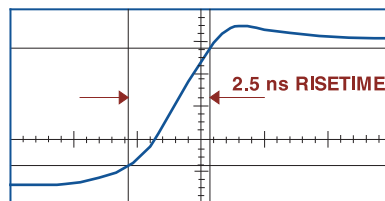
See <http://www.amptek.com/hybrids.html> for Selection Guide



Noise @ 0 pF: 670 eV FWHM (Si)
~76 electrons RMS
Noise Slope: 13 eV/pF with Low C_{ISS} FET
11.5 eV/pF with high C_{ISS} FET
Fast Rise Time: 2.5 ns

Features of the COOLFET:

- Thermoelectrically Cooled FET
- 3 internal FETs to match detector
- Lowest Noise and Noise Slope
- AC or DC coupling to the detector
- Both Energy and Timing outputs
- Optional input protection
- Easy to use



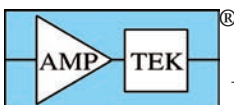
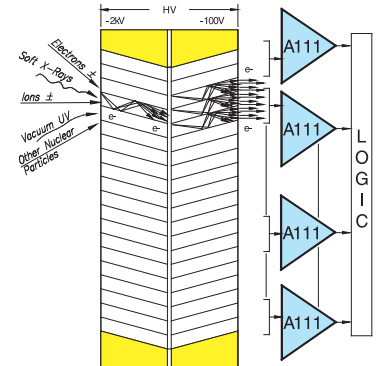
Horizontal = 2 ns/div. Vertical = 500 mV/div.

Features of the A250:

External FET
FET can be cooled
Noise: <100 e⁻ RMS (Room Temp.)
<20 e⁻ RMS (Cooled FET)
Gain-Bandwidth $f_T > 1.5$ GHz
Power: 19 mW typical
Slew rate: >475 V/ μ s



A Microchannel Plate (MCP) Array Connected to Multiple A111s



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MATERIALS ANALYSIS DIVISION