

Hybrid chips

Hybrid chips board systems



Electronics

EURORAD offers today **the world largest choice** of charge sensitive preamplifiers, spectrometry amplifiers, energy discriminator and rise time discriminator due to the **40 years of experience** in this area.

Different types of detectors can be processed by the EURORAD electronics, especially **CdTe, CZT, Si, GeHP** and scintillators coupled to a **Si photodiode**.

This electronics is available as **SMD** chips or mounted in a **housing**.

A description of the application is necessary to choose the **most suitable** electronic components.

ELECTRONICS

MAIN CHARACTERISTICS

PREAMPLIFIER MODEL	POWER SUPPLY	NOISE ⁽¹⁾	RISE ⁽²⁾ TIME	SENSITIVITY ⁽³⁾	DIMENSIONS ⁽⁴⁾	COMMENTS
PR304	+/- 12V	1,5keV	40ns	2V/pC	20x15mm	Standard low cost preamplifier
PR16	+/- 12V	1,5keV	20ns	6,6V/pC	38x30mm	Fast preamplifier. Includes test setup & bias filtering
PR355	+/- 5V	1,6keV	100ns	1V/pC	16x15mm	Low voltage & consumption
AMPLIFIER	POWER SUPPLY	TSHAPE ⁽⁵⁾	GAIN	FILTER TYPE	DIMENSIONS	COMMENTS
SH1	+/- 12V	300ns-12µs	50-2K	Gaussian unipolar or bipolar	38x23mm	
ENERGY DISCRIMINATOR	POWER SUPPLY	CONSUMPTION	OUTPUT WIDTH	DISCRI. MODE	DIMENSIONS	COMMENTS
D11	+5V	2,5mA	100ns to 10µs	Threshold or Windows	38x28mm	
RISE TIME DISCRIMINATOR	POWER SUPPLY	CONSUMPTION	OUTPUT WIDTH	RISE TIME ADJUSTMENT	DIMENSIONS	COMMENTS
TD1	+5V	<5mA	10µs	750ns-4µs	23x20mm	Connected to the MCA gate input

(1) : Noise is given for a Silicon detector and AC coupling at 1µs Tshape gaussian amplifier

(2) : Rise time measured for a 0pF input capacitance

(3) : The sensitivity is $V_{out}/(C_{test} \times V_{test})$

C_{test} =test capacitance in pF

V_{test} = voltage test value in V

(4) : The dimensions are given without connectors

(5) : Other Tshape on request

EURO-SPECTRUM ENHANCER



The **Euro-Spectrum Enhancer** is a spectrometric system to improve the energy resolution of the detector, specifically adapted to detectors, probes and preamplifiers developed by EuroRad.

The **Euro-Spectrum Enhancer** system can be used together with CdTe and CdZnTe (CZT) detectors for high energy spectrometry applications (137 Cs).

By selecting fast rise time pulses, the system permits an **enhancement** of the spectra obtained with CdTe and CZT detectors.

Since it incorporates a time discriminator, the resolution FWHM and the P/V (Peak-to-Valley) ratio are both improved with **minimum loss** in counting rate.

The Euro-Spectrum Enhancer system includes both bias generator and power supply, allowing full **practical efficiency** with minimum external connections.

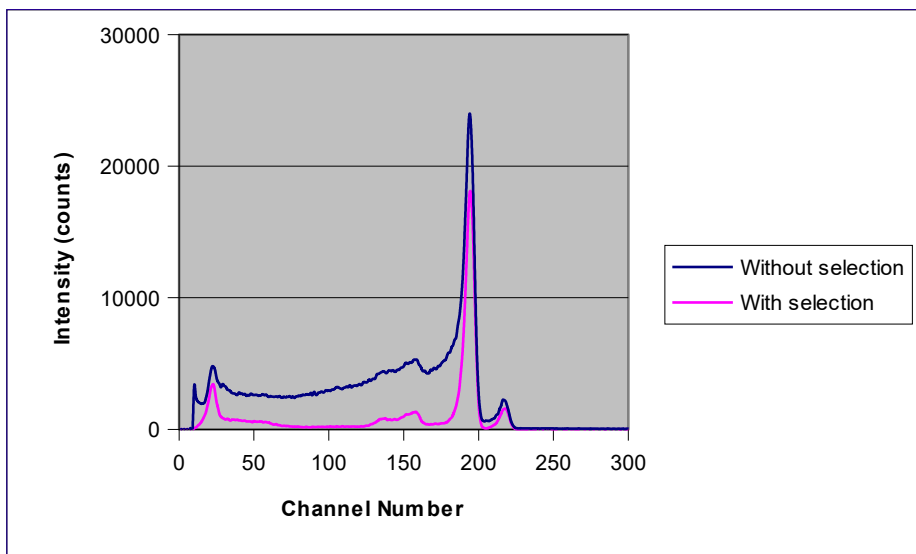
The **Euro-Spectrum Enhancer** set contains:

- a spectroscopic amplifier with shaping time adjusting
- a fast spectrometric amplifier
- a time discriminator
- a bias generator (optional)
- the power supply

EURO-SPECTRUM ENHANCER

EXAMPLES OF SPECTRA

CdTe ^{57}Co spectrum with different risetimes selections



CdTe ^{137}Cs spectrum

