

eV-550 Preamplifier Box

eV-550 Preamplifier Box Ultra low noise charge sensitive preamplifier box

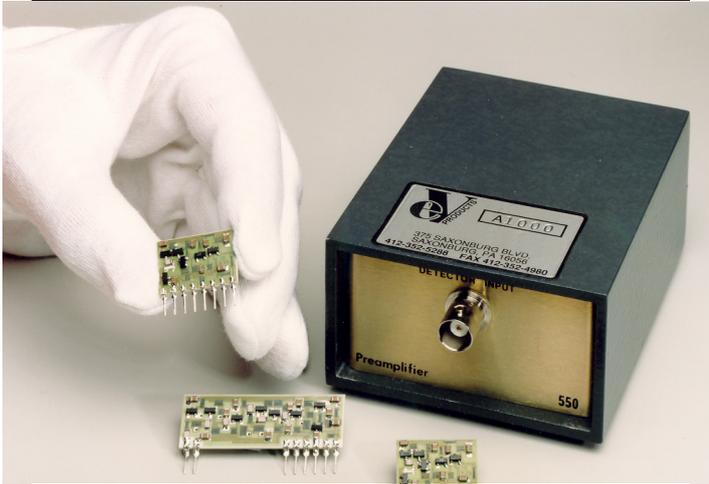
The eV-550 preamplifier is essentially a charge-to-voltage converter. Charge carriers from a detector on the input, generated by ionizing radiation, provide a proportional voltage at the output.

The eV-550 is designed for maximum flexibility in a wide range of applications. This is made possible by the use of a creative electronic design and the fact that the front-end electronics are located on a hybrid circuit (8-pin DIP).

The hybrid circuit (eV-509x) can be easily removed and replaced with any of three other standard circuits that are available at present or with a custom circuit. This versatile configuration also allows for fast, low cost repair of damaged circuitry by plugging in a new hybrid.

eV Products has designed and manufactured the best front-end electronics and has developed a proprietary mother-board/chassis design for superior noise reduction.

The eV-550 interfaces with any of the four (4) standard eV Products: eV-5091, eV-5092, eV-5093 and eV-5094 hybrid preamplifiers (see separate data sheets) and incorporates a BNC connector for the input.



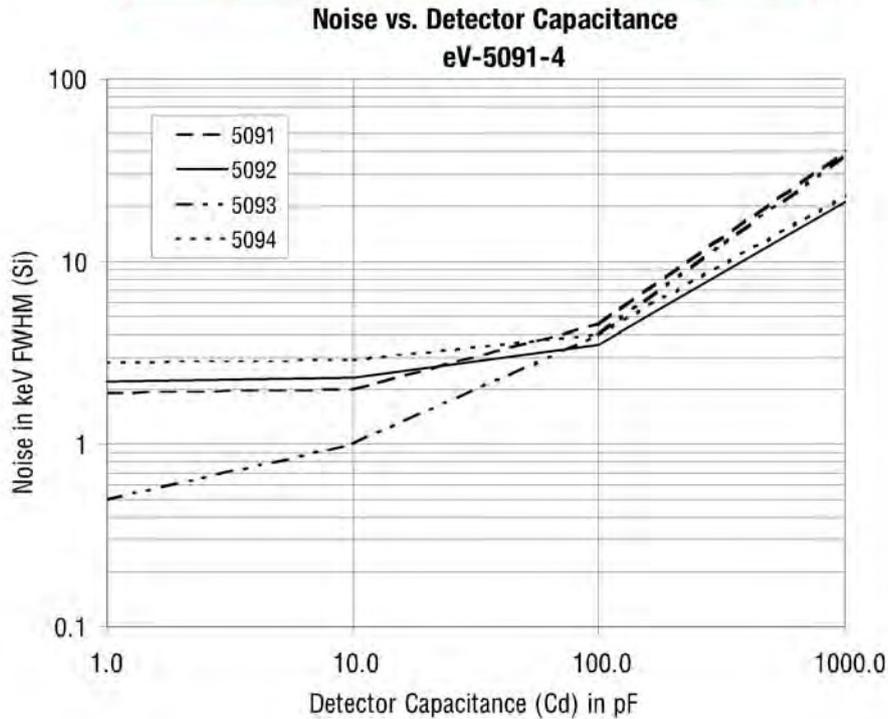
Applications

- Semiconductor detectors
 - CZT
 - Si
 - Ge
 - HgI₂
- Channel Electron Multiplier Arrays (CEMA)
- Resistive Anode Readouts
- Photodiode Detectors
- Proportional Gas Detectors for Charged Particles or Neutrons

Features

- Easy to Connect Multiple Different Detectors

Single Channel Hybrid Noise vs. C_d Chart



Specifications:

Input	
Detector input:	Charge pulse from detector (input FET diode protected, allows ± 5 kV bias)
Test input:	From pulse generator for calibration
Operating voltage:	± 12 VDC (cable provided)**
Output	
Energy:	Inverted tail pulse (for energy)
Impedance:	50 Ω
	Do not load with 50 Ω Termination Resistance
Performance	
Charge sensitivity:	0.2 - 3.6 mV/fc, Si 5 - 158 mV/MeV, Si
Risetime:	20ns @ $C_{source} = 2$ pF (nom) (other values available)
Falltime:	25 μ s (other values available)
Connectors	
Power:	9 pin sub-D
Detector input:	BNC
(Energy) output:	BNC
Bias:	SHV (100M Ω bias resistor)

** HV and Signal cables not provided

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