

Edinburgh/RAL Preamplifier (RAL108) ¹	
Sensitivity:	10mV/MeV (37nV/e ⁻) into 100Ω
Noise ² :	~2.2keV FWHM (~255e ⁻ rms.)
Noise slope ² :	~72eV/pF FWHM (~8e ⁻ /pF rms.)
Input capacitance:	0–300pF
Dynamic range:	0–200MeV (±2V into 100Ω)
t _r (10%–90%):	~5ns (0pF), ~40ns (100pF)
τ _d (100%–37%):	(50±4)μs
Integral non-linearity:	<0.1%
Output impedance:	100Ω
Power supply ³ :	+13V(14mA), -13V(4.3mA)
Power output:	~230mW
Circuit:	1.3cm × 3.3cm thick-film hybrid SIL

1. Two versions of the preamplifier are available: version A for negative input, version B for positive input. The output of both versions is inverted with respect to the input.
2. Noise figures assume CR–(RC)² shaping (time constant $\tau = 0.5\mu\text{s}$), zero detector leakage current, 22MΩ detector bias resistor and component temperatures of 50°C.
3. Nominal values.