



General description:

Ciprian low noise pre-amplifiers are designed to operate in high-sensitivity applications. They provide a clean conversion of extremely weak signals of the order of μV into levels suitable for analog to digital conversion or any other processing. The LNA family offers two models intended for high (5kHz-20MHz) and low (DC-800kHz) frequencies. Their gain is fixed at a value chosen between 20dB ($\times 10$), 40dB ($\times 10^2$), 60dB ($\times 10^3$) or 80dB ($\times 10^4$).

Main features:

- Ultra-low noise.
- High voltage gain.
- Powered by standard USB connector.
- Compact and lightweight.
- Input protection available.
- Output protection against overload and short-circuit.

Specifications:




Input

Parameter	LNA-LF	LNA-HF
Input coupling	DC	AC
Maximum input voltage	±5V	±5V
Input impedance ⁽¹⁾	50Ω	50Ω
Additional input protection ⁽²⁾	Up to ±50V	Up to ±50V
Input connector	BNC	BNC



Output

Parameter	LNA-LF	LNA-HF
Bandwidth	DC-800kHz	2.5kHz-20MHz
Voltage gain	x10, x100	x10, x100, x10 ³ , x10 ⁴
Output connector	BNC	BNC
Maximum output voltage	±12V	±12V
Maximum output current	15mA	100mA
Output impedance ⁽¹⁾	50Ω	50Ω
Total harmonic distortion	-35dB (@100kHz, 200mV _{pp})	-30.6dB (@1MHz, 200mV _{pp})
Input spectral noise density	0.99nV/√Hz (@100kHz)	0.96nV/√Hz (@1MHz)
Input referred voltage noise	2.6μV _{RMS}	4.25μV _{RMS}
Output protection	Overload and short-circuit	Overload and short circuit
Input referred offset	300mV typ.	-



Electrical and mechanical

Parameter	LNA-LF	LNA-HF
Dimensions	11cm x 4.5 cm x 8cm	11cm x 4.5 cm x 8cm
Weight	300g	275g
Power supply	4.5-9V DC	
Power consumption	700mW	700mW
Operating conditions	10°C to 40°C, 30-80% RH non-condensing	

Note 1: Contact us for different values of input/output impedance.

Note 2: Input protection is not included by default. If included, the input noise increases $13nV/\sqrt{Hz}$.



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