

Data sheet / instructions for use



LNA AIS / Item no.:1013-NF



Product description

The LNA AIS is a robust, selective and low-noise reception preamplifier for the 162 MHz band. This amplifier is characterized by a high gain and very good large-signal behavior. The input and output networks of the amplifier are dimensioned so that both connections have an exact 50 ohm impedance with very low imaginary components. This ensures that the antenna system is loaded with real 50 ohms. This amplifier is built with a GaAs MMIC of the latest technology on a high quality microwave substrate in SMD technology. The input circuit of the amplifier is built with HQ components in a cell design and optimized for the best noise properties. The band pass with HQ elements at the output of the amplifier ensures good band selection. This effectively suppresses signals that lie outside the useful band and relieves the downstream receiver. The LNA AIS preamplifier is ideally suited for receiving AIS signals in the 162 MHz band.

Technical specifications

Frequency range:	161,0 - 163,0	MHz
Noise figure @ 20°C NF:	0,6	dB
Gain S21, typ.:	23	dB
Return loss input S11:	21	dB
Return loss output S22:	23	dB
OIP3:	31	dBm
IIP3:	11	dBm
Max. input level:	20	dBm
Operating voltage:	814	V
Power consumption:	110	mA
Housing dimensions:	74 x 51 x 30	mm
Weight:	140	g
Connection standard:	N-female	

Connection instructions

The voltage supply of the preamplifier can be fed via the coaxial output line with the help of a remote feeder (e.g. DCC 5000 pro), which is connected upstream of the receiver input. For receivers that send the LNA power supply to the antenna input, the coaxial output line of the preamplifier is connected directly to the antenna input of the receiver. This preamplifier can also be locally supplied with voltage from a power supply unit via the +12 V DC connection. The shortest possible low-loss coaxial cable, e.g. Ecoflex 15 or Ecoflex 10, should be used for the antenna connection. The output line can be implemented with a thinner coaxial cable, e.g. Aircell 7. The coaxial

cables used should not have transforming lengths. The lengths are calculated using the following formula:

$$\text{Lambda} / 2 \times N \times V.$$

Lambda - wavelength

N - natural number 1 2 3 4 5

V - Velocity factor of the coaxial cable used.

Attention!

The LNA 200 has **no transmitter/receiver switching**. Too high signal levels at the input or output of the amplifier can damage the device.

Notes on environmental protection



Electrical and electronic devices may not be disposed of with household waste. This must be handed in separately at collecting points or returned to the point of sale. Packaging materials must be separated and disposed of through the municipal waste by material type.

Maintenance

Do not open the unit. It does not contain any parts needing maintenance. If you need help regarding technical matters, please contact support@ssb-electronic.com.

Safety, Warranty

Not suitable for children! The packaging material and the device may contain small parts which may be swallowed. Repairs may only be performed by qualified personnel. Opening the device or improper use will void any warranty claims. No guarantee will be given. The device applies to the General Product Safety Regulation (EU) 2023/988 and also 2014/30/EU, 2012/19/EU, 2011/83/EU.

Declaration of Conformity



This document declares that the above product complies with all regulations relevant to the product within the scope of the directives (EU) 2023/988, 2014/30/EU, 2014/53/EU and 2011/65/EU of the EU Council.

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