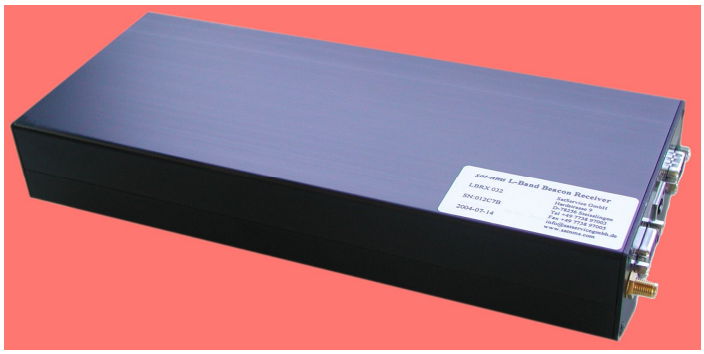
sat-nms LBRX - L-Band Beacon Receiver

The ***sat-nms*** LBRX L-Band Beacon Receiver manufactured by SatService GmbH is a measurement tool that measures the RF input level and provides this information as output signal for control systems. The ***sat-nms*** LBRX is our DIN rail box version of the ***sat-nms*** LBRX. A 19" rack-mount version is also available. The main application of this receiver is in antenna tracking systems, where the receiver provides the tracking signal level to the antenna step track controller. Other applications can pilot measurement and control loops like uplink power control.

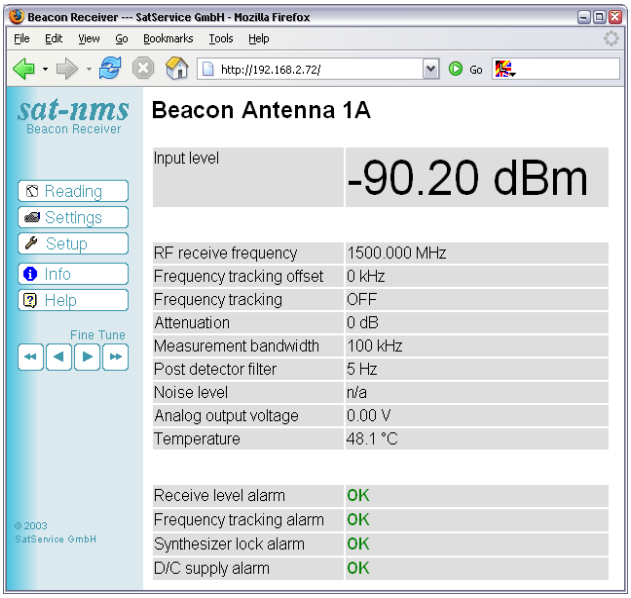


The ***sat-nms*** LBRX receives a satellite beacon signal that is down-converted to L-Band by a PLL stabilized Low Noise Converter (LNC) at its L-Band interface input. The ***sat-nms*** LBRX does not demodulate any satellite signals because the satellite signals are sometimes CW signals but even more often modulated in FM or QPSK/8PSK form. Due to this fact, the best implementation is a non-coherent receiver measuring the input level in a user selectable defined bandwidth and providing this as a dB-linear and calibrated analog output voltage and digital information via remote interface.

The output level is provided by four different and parallel available interface types: an http web interface via internal web server, distribution of measured level or c/n value as UDP datagram's, an RS232 interface and the analog voltage output with level alarm indication. The ***sat-nms*** LBRX L-Band Beacon Receiver is controlled remotely by a monitoring and control application through the TCP/IP interface. Communication with the beacon receiver is made with http requests or over a serial MNC protocol. The beacon receiver implements the http both, for the user interface and for the MNC interface.

Key Features

- Full L-Band Tuning Range 950 to 2050MHz with 1KHz Step Size
- Modulation independent Level Measurement
- No unpredictable Lock on PM/PSK Side Carriers
- Compact, small DIN Rail compatible Box also allows Integration into Antenna Controller
- TCP/IP-based Design
- HTTP Web Browser Interface
- Unlimited Number of Clients possible
- 14/18V 0/22kHz Interface to Switches and Switch Matrixes
- Full Remote Administration & Support Capability
- Relay Contact Output for Level Alarm
- Each Beacon Receiver is electronically calibrated for Level and Temperature Linearity and therefore provides excellent Level Accuracy even in Outdoor Environments



Applications

- Antenna Tracking and Control Systems
- Pilot Measurement
- Uplink Power Control
- The ***sat-nms*** LBRX can operate as a stand-alone solution or fits into the overall ***sat-nms*** NMS Network Management System provided by SatService

Contact Information

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Technical Specification

RF Specification

Input Frequency Range	950 to 2050 MHz
Frequency Step Size	1KHz
L-Band Input Connector	SMA female 50Ohm
LNC Voltage	OFF/14/18V
L-Band Test Output Connector	SMA female 50Ohm
Input Noise Figure	< 10dB
Frequency Accuracy	1*E-6
Input Level Measurement Range	-40 dBm to -80 dBm
Measurement Bandwidths	6, 12, 30 and 100 KHz
Minimum C/N_0 (6KHz)	45dBHz
Analog Output Voltage	0V to 10V
Analog Voltage Slope programmable	-5 V/dB to 5 V/dB
0V Point adjustable by Software	
Output Connector for analog Output Voltage	SMA female
Linearity Failure	+/-1dB in any 10dB
Switchable Input Attenuator to adapt the dynamic Range and Input Signal Level	0, 10, 20, 30dB
Video Bandwidth selectable by Micro Controller	0.1 Hz, 0.5Hz, 1Hz, 5Hz
Large Signal Behavior	No Impact at -35dBm Total Input Power
C/N Measurement Functionality	Measured in Intervals at Reference Frequency

MNC Interface Specification

Ethernet Interface for MNC and User Interface	10-Base-T, via HTTP GET Requests
RS232 MNC Interface	D-SUB 9 female
Summary Fault Indication	Relay Contact D-SUB 9 male
Level Alarm Indication	Relay Contact D-SUB 9 male

Electrical and Mechanical Specification, Environmental Conditions

Supply Voltage	22V-28V unregulated DC (25V for 2050 MHz) / 0.35A without LNB
Temperature Range	5° to 50° C
Humidity	Up to 90% non-condensing
DIN Rail Module	270x105x50mm
Weight	1kg

sat-nms LBRX Rear Panel

sat-nms LBRX Front Panel