

sat-nms XBRX19 and X2BRX19 X-Band Beacon Receiver

The **sat-nms** XBRX19-Band Beacon Receiver manufactured by SatService GmbH is a measurement tool measuring the RF input level and providing this information as output signal for control systems. The **sat-nms** XBRX19 is based on the proven **sat-nms** LBRX L-band Beacon Receiver module, in that case operating jointly with a block down converter (BDC LO=6,3GHz) in front of it. 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 be pilot measurement and control loops like uplink power control.

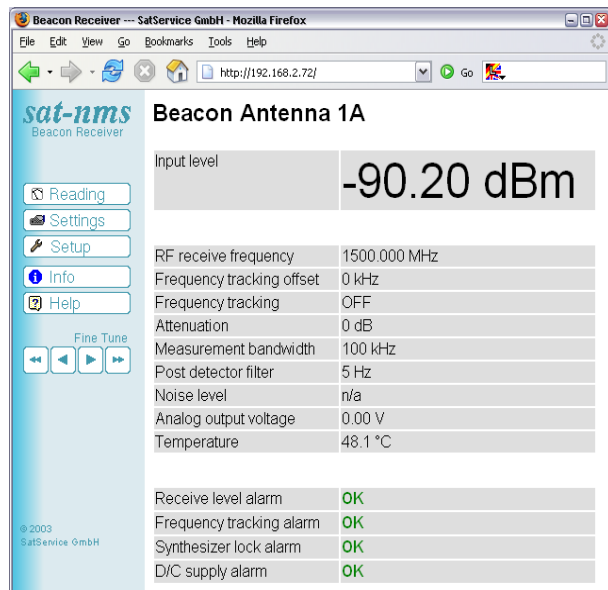


The **sat-nms** XBRX19 does not demodulate any satellite signals because the satellite signals are not always CW signals but even more often modulated in FM or QPSK. Due to this fact, the best implementation is a non-coherent receiver that measures the input level in a user selectable defined bandwidth and provides this digitized level information via local and remote interfaces. The signal level information is provided via four different interface types: an http web interface via internal web server, UDP datagram's, RS232 interface and the dB linear analog output voltage. The **sat-nms** XBRX19 Beacon Receiver is controlled remotely by a monitoring and control application via the TCP/IP interface. Communication with the beacon receiver is made with http requests or over a serial Monitoring and Control protocol.

The 19" rack-mount version of the beacon receiver is equipped with a LCD display and a front panel keypad for local control. The beacon receiver can be provided with one X-Band input port (**sat-nms** XBRX19) or with 2 X-band input ports (**sat-nms** X2BRX19) so that you can connect both polarization planes to the beacon receiver and select input port by software both locally or via remote.

Key Features

- Full Ku-Band Tuning Range 7,25 to 7,75GHz with 1KHz Step Size
- Modulation Independent Level Measurement
- No unpredictable Lock on PM/PSK Side Carriers
- Compact, 19" rack-mountable Unit with 1RU
- Front Panel Display and Keypad for Local Control
- Front Panel Test Output
- One or two X-Band input ports
- TCP/IP-based Design, Web Browser Interface
- 14/18V 0/22kHz Interface to Switches and Switch Matrixes at L-Band interface
- Full Remote Administration & Support Capability
- Relay Contact Output for Level Alarm
- Electronically calibrated for Level and Temperature Linearity, which provides excellent Level Accuracy even in Outdoor Environments



Applications

- Antenna Tracking and Control Systems
- Pilot Measurement
- Uplink Power Control
- The **sat-nms** XBRX19 can operate as a stand-alone solution or fits into the overall **sat-nms** MNC Monitoring & Control System

Contact Information

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Technical Specification

RF Specification

Input Frequency Range in Ku-Band	7250 to 7750 MHz
Frequency Step Size	1KHz
Frequency Accuracy	1*E-6
Ku-Band Input Connector	N female 50Ohm
L-Band Input Connector	SMA female 50Ohm
LNB Voltage via L-Band Input Connector	OFF/14/18V 0/22 kHz
L-Band Test Output Connector	SMA female 50 Ohm
Input Level Measurement Range	-30dBm to -95dBm
Large Signal Behavior	no impact at -25dBm total input power
Damage Level	+10dBm
Measurement Bandwidth	6, 12, 30 and 100KHz
Minimum C/N ₀ (6KHz)	45dBHz
Analog Output Voltage	0V to 10V
Analog Voltage Slope adjustable by Software	-5V/dB to 5V/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	0.1Hz, 0.2Hz, 0.5Hz, 1Hz, 5Hz
C/N Measurement Functionality	Measured in Intervals relative to N Reference Frequency

MNC Interface Specification

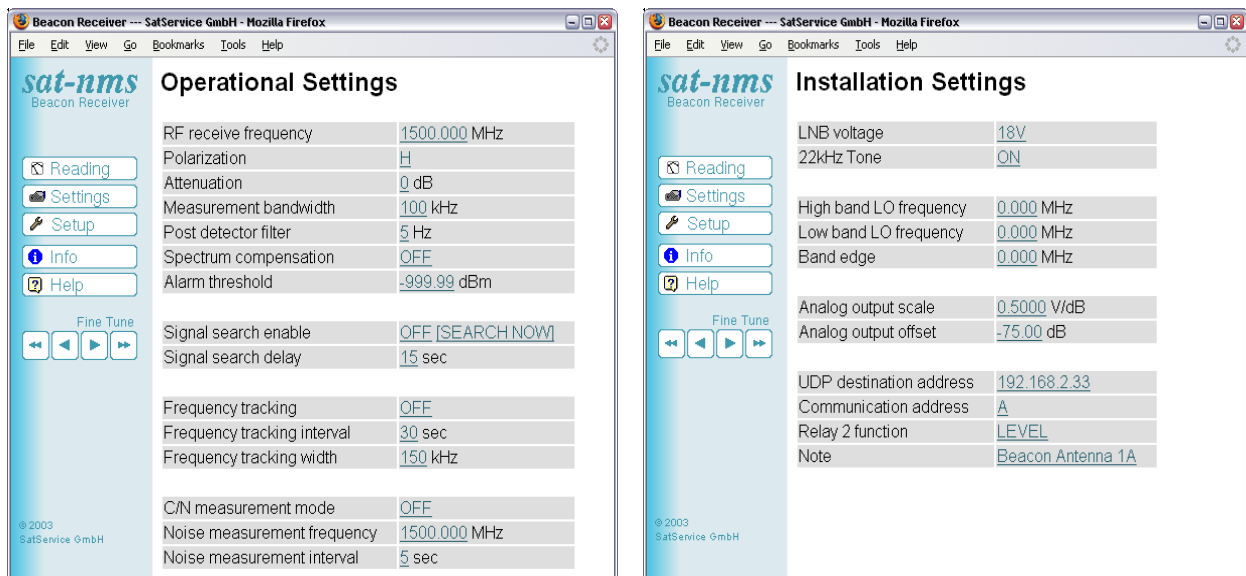
Ethernet Interface for MNC and User Interface	10-Base-T, via HTTP GET Requests
RS232 MNC Interface	D-SUB 9 female
Summary Fault Indication	Relay Contact D-SUB 9 male
Level Alarm Indication	Relay Contact D-SUB 9 male

Electrical and Mechanical Specification, Environmental Conditions

Supply Voltage	90 to 240V AC 50 to 60Hz
Temperature Range	5° to 50° C
Humidity	Up to 90% non-condensing
Mechanical size	483x43x(460/530)mm (WxHxD), 1RU 19"
Weight	6 kg



sat-nms X2BRX19-Band Beacon Receiver Rear Panel



Operational Settings

RF receive frequency	1500.000 MHz
Polarization	H
Attenuation	0 dB
Measurement bandwidth	100 kHz
Post detector filter	5 Hz
Spectrum compensation	OFF
Alarm threshold	-999.99 dBm
Signal search enable	OFF [SEARCH NOW]
Signal search delay	15 sec
Frequency tracking	OFF
Frequency tracking interval	30 sec
Frequency tracking width	150 kHz
C/N measurement mode	OFF
Noise measurement frequency	1500.000 MHz
Noise measurement interval	5 sec

Installation Settings

LNB voltage	18V
22kHz Tone	ON
High band LO frequency	0.000 MHz
Low band LO frequency	0.000 MHz
Band edge	0.000 MHz
Analog output scale	0.5000 V/dB
Analog output offset	-75.00 dB
UDP destination address	192.168.2.33
Communication address	A
Relay 2 function	LEVEL
Note	Beacon Antenna 1A