

sat-nms KaBRX19 and Ka2BRX19 Ka Band Beacon Receiver

The **sat-nms** KaBRX19-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** KaBRX19 is based on the proven **sat-nms** LBRX L-band Beacon Receiver module operating jointly with a block down converter (BDC) in front of it, defining the input frequency range of the Ka-band beacon receiver. The Ka-band BDC includes two local oscillators (LO) and therefore provides the wider frequency coverage of two input frequency bands. 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.

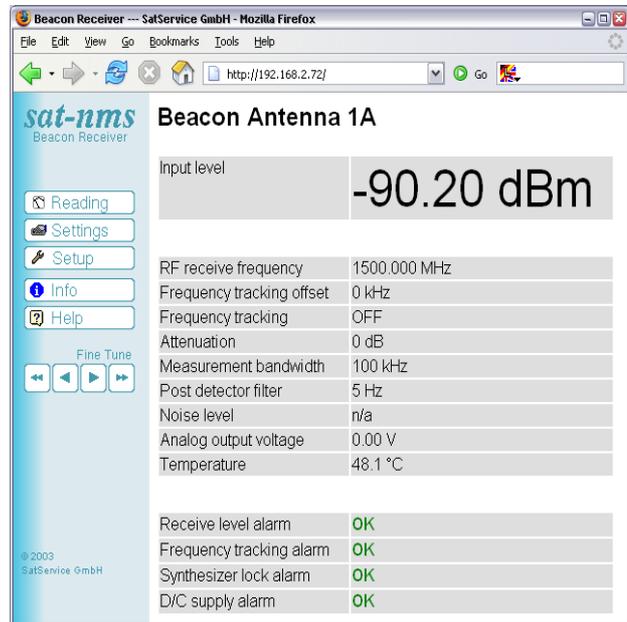


The **sat-nms** KaBRX19 does not demodulate any satellite signals because the satellite signals are not always CW signals but even more often modulated in FM or QPSK. Due to this fact, the best implementation is a non-coherent receiver that measures the input level in a user selectable defined bandwidth 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** KaBRX19 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 provides with one Ka-Band input port (**sat-nms** KaBRX19) or with 2 Ka-band input ports (**sat-nms** Ka2BRX19) so that you can connect both polarization planes(X /Y) to the beacon receiver and select input port by software both locally or via remote.

Key Features

- Several Ka-Band Tuning Ranges available between 17300 and 22000MHz 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 C-Band input ports
- TCP/IP-based Design, Web Browser Interface
- Unlimited Number of Clients possible
- 14/18V 0/22kHz Interface to Switches and Switch Matrixes on 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



Beacon Receiver --- SatService GmbH - Mozilla Firefox

http://192.168.2.72/

Beacon Antenna 1A

Input level: **-90.20 dBm**

RF receive frequency	1500.000 MHz
Frequency tracking offset	0 kHz
Frequency tracking	OFF
Attenuation	0 dB
Measurement bandwidth	100 kHz
Post detector filter	5 Hz
Noise level	n/a
Analog output voltage	0.00 V
Temperature	48.1 °C

Receive level alarm	OK
Frequency tracking alarm	OK
Synthesizer lock alarm	OK
D/C supply alarm	OK

Applications

- Antenna Tracking and Control Systems
- Pilot Measurement
- Uplink Power Control
- The **sat-nms** KaBRX19 can operate as a stand-alone solution or fits into the overall **sat-nms** NMS Network Management System

Contact Information

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Technical Specification

RF Specification

Input Frequency Range in Ka-Band in MHz, select two at time of order or request your frequency band for a specific quote	17300 to 18300; 17700 to 18700; 18200 to 19200; 19200 to 20200; 19700 to 20200; 20200 21200; 21200 to 22000
Frequency Step Size	1KHz
Frequency Accuracy	1*E-6
Ka-Band Input Connector	SMA female 50 Ohm
L-Band Input Connector	SMA female 50Ohm
LNB Voltage via L-Band Input Port	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 -30dBm total input power
Damage Level	+10dBm
Measurement Bandwidths	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	0.1 Hz, 0.2Hz, 0.5Hz, 1Hz, 5Hz
C/N Measurement Functionality	Measured in Intervals relative to N Reference Frequency

MNC Interface Specification

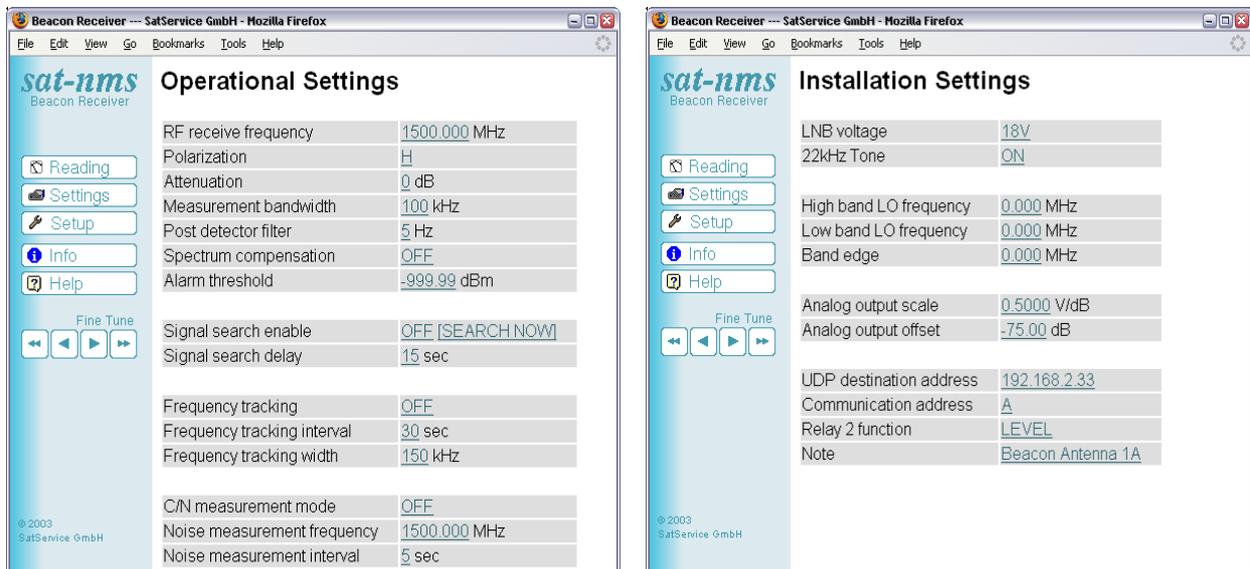
Ethernet Interface for MNC and User Interface	10-Base-T, via HTTP GET Requests
RS232 MNC Interface	D-SUB 9 female
Summary Fault Indication	Relay Contact D-SUB 9 male
Level Alarm Indication	Relay Contact D-SUB 9 male

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 KaBRX19-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