Beacon Receiver

The MITEQ BR Series Beacon Receiver is a versatile receiver designed to lock onto a CW or modulated carrier and provide accurate and reliable relative power measurement indicators for either antenna positioning or uplink power control applications.

The BR-L operates in the L-Band and accepts a 940-2150 MHz signal. The outputs of the beacon receiver are analog and digital indicators of power measured at the input of the beacon receiver. The beacon receiver fits neatly into a single EIA standard rack height (1.75 inches).

A rich feature set of controls and indicators are easily accessible via an intuitive operating environment. The receiver can be setup completely from the front panel or over a remote bus via a host computer. There are 32 memory locations where various setups can be stored and recalled easily. Also, a log is continuously updated with time-stamped records of alarm activity.

Input Frequency (MHz)	Model Number
940-2150	BR-L

Features

- **RS485/RS422 selectable remote control**
- **Contact closure status outputs**
- **10/100 Base-T Ethernet interface providing:**
  - **HTTP-based web server**
  - **SNMP 1.0 configuration**
  - **Alarm reporting via SNMP Trap**
  - **Telnet access**
  - **Password protection and selectable RS485/422**

Options

- **Remote RS232 interface**

Specifications	BR-L
RF/IF performance	
Input frequency	940-2150 MHz
Dynamic range	-100 to -30 dBm
IF preselector bandwidth	340 kHz, 150 kHz, 7.5 kHz
Impedance	L-band input: 50 ohms fixed
VSWR	15 dB RL
Frequency stability	1.5 x 10^{-6} internal reference or external reference stability
External reference	10 MHz, +4 ±3 dBm; Unit will automatically switch to internal reference if external reference level falls below +1 dBm nominal
Signal detection	Total power detection in a predetermined bandwidth or unmodulated CW beacon power
Signal acquisition	AFC with 50 Hz
Acquisition search range	±10 to ±700 kHz fixed increments
Acquisition time	0.4 to 8 seconds maximum (bandwidth dependent)
Tracking range	Same as aquisition search range
Acquisition threshold	45 to 35 dB-Hz ≥ 4 dB C/N in the tuner bandwidth (bandwidth dependent)
Carrier tracking threshold	40 to 30 dB-Hz ≥ 1 dB C/N in the tuner bandwidth (bandwidth dependent)
Anti-sideband lock	Prevents receiver from locking on a telemetry sideband when the C/I is ≥3 dB
Signal outputs	
Digital output	12-bit binary word output
Analog outputs	Two identical outputs with a 20 volt range programmable from -10 to +10 V
Coupling	DC
Frequency response	0.1 to 10 Hz programmable in fixed increments
Source impedance	25 ohms nominal
Output current	20 milliamps maximum with short circuit protection
Output sensitivity	0.5, 1.0, 2.0, 4.0, 6.0 and 8.0 dB/V
Status alarms	Summary, local oscillator, input level low, receiver lock and AC power

Option

17. Remote control.
C. RS232 remote interface.

Notes: Missing option numbers are not applicable for this product.

For literature describing Local control (front panel) and remote control (bus protocols), refer to MITEQ's Technical Note 25T059.

General Specifications

Primary Power Requirements

Voltage ..... 90-250 VAC
Frequency ..... 47-63 Hz
Power consumption ..... 50 W typical

Physical

Weight ..... 15 pounds nominal
Chassis dimensions ..... 19" x 22" x 1.75" panel height
Connectors
- L-band input connector ..... SMA female
- External frequency reference input connector ..... BNC female
- Beacon level output voltage connectors DE-9S
- Beacon level digital video output connector DA-15S
- Beacon receiver status output connector DA-15P
- Remote interface connector ..... DE-9S for RS485, RS422 and RS232
- Ethernet interface connector RJ-45

Primary power input IEC-320

Environmental

Operating
- Ambient temperature ..... 0 to 50°C
- Relative humidity ..... Up to 95% at 30°C
- Atmospheric pressure ..... Up to 10,000 feet

Nonoperating
- Ambient temperature ..... -50 to +70°C
- Relative humidity ..... Up to 95% at 40°C
- Atmospheric pressure ..... Up to 40,000 feet
- Shock and vibration ..... Normal handling by commercial carriers

Typical Rear Panel View