

RX1-RBR MKII

FM/UHF RE-BROADCAST RECEIVER

The RX1-RBR is a FM / UHF rebroadcast receiver operating in the FM band from 87.5 to 108MHz or UHF STL band 300-960MHz (option 2). The application of the unit is for high quality, off-air re-broadcasting at relay stations or as a UHF link receiver. The system consists of a RX1-RBR MKII with combinations of transmitters to provide a FM translator system.

The receiver includes a high quality, "front end" with tracking filters and PIN attenuator to ensure exceptional performance. The FM Front-end PCB is replaced with the UHF down-converter for the UHF Link receiver version (**Option 2**)

A highly selective ceramic I.F. Filter is used in conjunction with a tracking demodulator to ensure maximum selectivity and superior audio performance. (Optional RF input filter for increased selectivity and sensitivity) [**Option1**].

The RX1-RBR provides outputs for MPX (composite baseband to 100kHz) and stereo audio left and right, via a high quality stereo decoder. Metering facilities are provided on the front panel for monitoring of the incoming signal quality.

The receiver includes a diversity facility where two receivers can be used in a main and standby combination with automatic changeover if the main unit fails. This facility is built into the receivers as standard.



RX1-RBR MKII FM Relay Receiver

Features

MPX and stereo audio (L & R) O/P (built-in stereo decoder)

Diversity receiver operation

A.C. Operation , +24V D.C. (**Option 3**)

Automatic tuning (front-end) , Fully synthesized

100kHz baseband operation

Standard selectivity (400kHz adjacent channel operation)

High selectivity (300kHz adjacent channel operation)

Option 2: Configured as UHF Link receiver

Ordering Options

Option	Frequency MHz	Description
Standard	87.5 - 108	7th Order Front-end filter RX1-RBR MKII
Option 1	87.5 - 108	9th Order filter, 16dB Gain RX1-RBR MKII 1
Option 2	300 - 950	UHF Front-end RX1-RBR MKII U
	Band 1 300 - 950 Band 2 400 - 470 Band 3 800 - 870 Band 4 910 - 960	
Option 3		+24V D.C. Input

NOTE: Operating Frequency must be provided with order

TECHNICAL SPECIFICATIONS

PARAMETER

RF SPECIFICATION

Frequency range	87.5-108 MHz or UHF Band (300-960MHz) [Option 2]
Input sensitivity	150uV for 60dB S/N (stereo)
Frequency synthesizer	PLL
Frequency steps	100kHz (local/remote)
Frequency stability	+/- 2ppm
Frequency deviation	+/- 75kHz peak
RF input connector	N-type (female) 50 Ohm
Baseband outputs	2 x BNC's
Diversity input	BNC (loop through)

POWER SUPPLY

AC Power Input	230V / 50 Hz or 115V / 60Hz (18VA) (option 3)
AC mains input connector	IEC male
DC power input	+24V (Option 3)
Mains variation	+10% - 15%

ENVIRONMENTAL

Operating temperature	-10 to +45 °C
Operating altitude	<2300 metres
Humidity	<90% (non condensing)

PHYSICAL

Dimensions (mm)	485W x 350D x 44.43H (1U)
Weight	3kg

PARAMETER

BASEBAND OPERATION

Stereo separation	>50dB 30Hz to 15kHz (decoded)
Stereo crosstalk	>45dB (60 dB at 1kHz , typical)
Stereo distortion	<0.25% (typical 0.08% at 1kHz)
Stereo S/N ratio	>75dB (30Hz to 20kHz) 50us de-emph.

STEREO DECODER

Stereo decoder	75kHz for +10dBm. 50us de-emph.
Stereo separation	>30dB 30Hz to 7.5kHz (50dB at 1kHz)
Stereo distortion	<0.25% (typical 0.1% at 1kHz)
Stereo S/N ratio 1mV input	>70dB
Headphone level	-3dBm / 600 ohm (nominal)

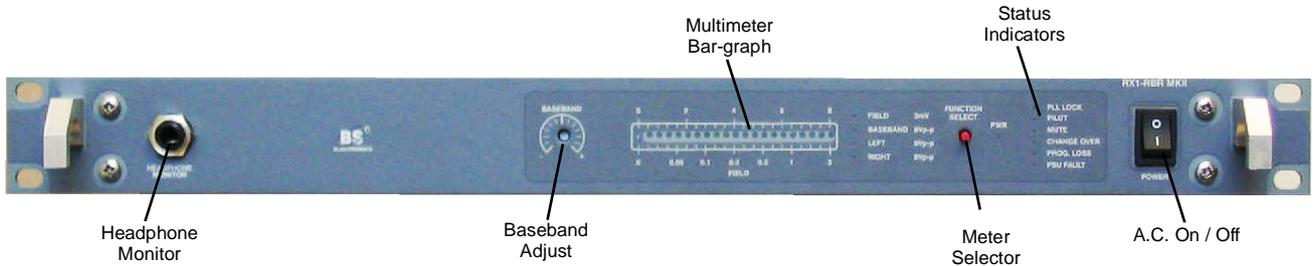
Dynamic selectivity (wanted to unwanted) for 54dB S/N

0kHz	-46dB
100kHz	-37dB
200kHz	0dB
300kHz	33dB

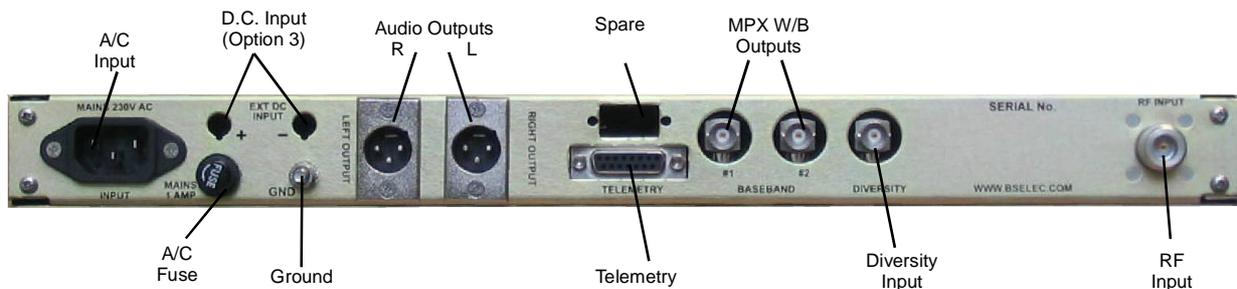
For more detail refer to selectivity parameters on front page of the brochure.

TELEMETRY

Alarms (voltage free)	Receiver muted, PSU, forced changeover,
Alarms (open collector)	PLL lock, program loss
Control	Remote frequency control



RX1-RBR FRONT PANEL CONTROLS AND INDICATORS



RX1-RBR REAR PANEL CONNECTIONS