

# SIMREX Corporation

## Preselector Preamplifier

# LOW COST interference SOLUTION



### **SIMREX..Global wireless solutions.**

**The "low cost" solution to interference, intermodulation, and desense problems !**

For almost 2 decades, SIMREX Corporation's wireless products have been providing wireless networking solutions with applications in SCADA, telemetry, telecommunications, mobile data and online transaction markets. SIMREX Corporation provides licensed and unlicensed solutions, installed worldwide.

### **Product Overview**

The function of SIMREX Corporation's GLB Preselector Preamplifier is to provide additional filtering against undesired signals. Interference can be caused either by insufficient rejection in the receiver itself or by intermodulation effects. Intermodulation occurs when an interfering signal is strong enough to overdrive one of the receiver stages; therefore, any gain in an amplifier could tend to aggravate the condition because it amplifies the strength of the interference along with the desired signal. A Preselector Preamplifier combines a preamplifier with a filter, so interfering signals are 'rejected' rather than amplified. Accordingly, the design objective in this product line is to achieve the highest possible selectivity with carefully controlled gain. The 'nose' of the selectivity curve is very sharp, so the unit must be tuned to the exact frequency to be used.

### **FEATURES**

- Extremely sharp selectivity curve
- Available from 40 Mhz to 1000 Mhz
- Custom tuned to your receiver frequency
- 8 db gain
- Ultimate rejection >80 db
- High overload resistance
- Low current drain
- Easy installation
- Small size
- RF tight cast aluminum enclosure

### **APPLICATIONS**

- Repeater Systems
- Commercial two way
- Utilities
- Paging
- Remote Bases
- Public Safety
- Satellite Links
- Monitoring Systems
- Security Systems
- Trunking Antenna Systems
- TV Signal Filtering
- Many More

# Preselector Preamplifier Specifications

CENTER FREQUENCY			SPECIFICATIONS	
Freq (MHz)	± Offset (MHz)	Rejection(dB)		
40	0.600	45	Power Requirements	10-15 Volts DC
80	0.600	40	Current Drain	10-25 ma
150	0.600	28	Gain	8 db
220	1.600	44	Nominal Impedance	50 OHM
450	5.000	55	Standard Connector	BNC
800	20.00	65	Optional Connectors	N or F UHF S0239
900	20.00	75		

## Gallium Arsenide Option

Better performance is obtained with GaAs transistors. The higher gain these transistors provide is traded off for still better selectivity. GaAs transistors also offer greater resistance to overload and improved noise figure; however, we tune them for maximum gain. The input tuning adjustment is left unsealed for the user to touchup for best noise figure, if desired. This option is available for units tuned to 200 MHz and higher.

## Special Tuning Options

**Maximum Selectivity:** When conditions warrant, more selectivity can be achieved than with the standard tuning. Additional selectivity (approx. 5 dB) can be obtained with a lower gain (2-3 dB).

**Maximum Gain:** Gains as high as 11 dB can be realized by trading off approximately 20 dB of selectivity.

Typical Rejection (8db Gain)

## Advantages

- Improves receiver performance
- Increases receiver front end selectivity
- Cures desense problems due to overload
- Reduces intermodulation interference
- Attenuates signals from nearby transmitters
- Improves sensitivity in many systems

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