



## F-9810

Pre-selector/Post-selector



The Sunair F-9810 Pre-selector/Post-selector permits operating collocated Sunair 9000E Series radios, whether transceivers, transmitters, or receivers, on frequencies with as small as a 10% separation. The Sunair F-9810 is controlled by the 9000E Series radio it serves.

When used with the various models of the R-9000E Software-Defined HF/ISB receiver, the F-9810 functions as a pre-selector and provides an additional front end selectivity stage, thus reducing the receiver desensitization and overload that normally occurs in the presence of strong adjacent RF transmissions.

When used with the T-9000E Software-Defined HF/ISB Transmitter, the F-9810 functions as a post-selector, rejecting spurious outputs and broadband noise in the transmit signal before it reaches the Sunair LPA power amplifiers, thereby limiting interference to collocated receivers.

A separate transmit antenna port provides the flexibility of using either a single antenna or separate transmit and receive antennas. In addition, the keyline over coax feature prevents damage to the unit from high power RF transmission by reducing the control time delay of transmit-to-receive switching.

The F-9810 offers a selectivity of 35 dB minimum ( $\pm 10\%$ ), 40 dB typical, from the nominal tune frequency, with an ultimate rejection of 70 dB minimum. The unit tunes in 10 Hz increments, and tuning time is 10 ms maximum, making the F-9810 suitable for ALE applications. Furthermore, the F-9810 offers two levels of gain.

The Pre-Selector/Post-Selector's intuitive modular design allows for ease of maintenance and upgrade throughout the equipment life cycle at minimal expense.

- Improves co-site performance
- 40 dB typical, 70 dB maximum attenuation
- Selectable gain
- Individual transmit and receive antenna ports

- Automatic tracking 10 ms tuning
- Automatic RF overload protection
- Automatic by-pass

# Product Specifications

## GENERAL

Frequency Range:	1.6 MHz – 30 MHz (by-pass below 1.6 MHz)
Tuning Time:	10 ms maximum
Bandwidth:	±2 % @ -3 dB
Unwanted Signal Rejection:	35 dB minimum @ ±10 % 40 dB typical
Ultimate Rejection:	70 dB minimum
Gain:	0 dB or -10 dB (selectable)
Gain tolerance:	+2 dB / -4 dB
RF Overload Trip:	10 Vrms nominal
Maximum Pre-selector RF Input:	200 Vrms
Noise Figure:	High gain: 20 dB nominal Low gain: 13 dB nominal
Intermodulation Distortion:	• Output third order intercept point • +35 dBm minimum • +40 dBm typical
Input Voltage:	• 12 Vdc/24 Vdc (internally selectable) • 115 Vac/230 Vac ±15 %, 47 Hz to 63 Hz, 20 VA maximum • Automatic changeover ac/dc
Front Panel Controls:	Power On/Off switch, High/Low Gain switch, Bypass switch, BITE Initiate switch
Front Panel Indicators:	2 x 16, backlit LCD, Power, Bypass, Low Gain, BITE, Overload, Fault

Interface to 9000 Series Radios:	RS232 and Keyline Over Coaxial Cable
Antenna Connection:	RX / TX antenna port TX antenna port
Dimensions:	Height: 1.75 in (4.4 cm) Width: 19.0 in (48.3 cm) Length: 19.0 in (48.3 cm)
Weight:	12 lbs (5.5 kg)
Origin:	Designed and manufactured in the USA

## PERIPHERAL EQUIPMENT OPTIONS

Spares Kits:	Running spares, field modules
Series 9000 Radios	RT-9000 / R-9000 / T-9000

## ENVIRONMENTAL

Temperature:	<ul style="list-style-type: none"> <li>Operating: -30 °C to +55 °C (-22 °F to 131 °F)</li> <li>Optional: +60 °C (140 °F)</li> <li>Storage: -40 °C to +85°C (-40 °F to 185 °F)</li> </ul>
Humidity:	95% at 55 °C (122 °F), non-condensing; splash-resistant front panel
Shock:	MIL-STD 810F, Method 516.5, Procedure 1
Vibration:	MIL-STD 810F, Method 514.5 & MIL-STD-167-1
Altitude:	<ul style="list-style-type: none"> <li>Operating: up to 10,000 feet</li> <li>Storage: up to 40,000 feet</li> </ul>



3131 SW 42<sup>nd</sup> Street  
Fort Lauderdale, FL 33322  
Tel: 954-623-3131/400-5100  
Fax: 954-583-7337



[www.sunairelectronics.com](http://www.sunairelectronics.com)

Specifications subject to change without notice or obligation. Revised: January 2015

US export control laws may apply to certain options