



F-9810B

Pre/Postselector



The Sunair F-9810B Pre/Postselector permits operating collocated (co-site) Sunair radios, whether the RT-8500WB Transceiver or any radio of the 9000E Series, on frequencies with as small as a 10% separation. The Sunair F-9810B is controlled by the Sunair radio it serves.

As a pre-selector, the F-9810B 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.

As a post-selector, the F-9810B rejects spurious outputs and broadband noise in the transmit signal before it reaches the Sunair LPA power amplifiers, thereby limiting interference to collocated receivers.

In transmit mode, the F-9810B operates as postselector on the radio's low output power path. Because of this, the F-9810B is fully operational as postselector with an RT-8500WB regardless of whether the transceiver is driving the LPA-8200 at 100 mW or operating at its full 125-W output.

A separate transmit antenna port provides the flexibility of using either a single antenna for transmission and reception 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.

- **Improved 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**

The F-9810B 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-9810B suitable for ALE applications. Furthermore, the F-9810B offers two levels of gain.

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

| GENERAL | |
|--------------------------------|---|
| Frequency range: | 1.6 MHz – 30 MHz (by-pass below 1.6 MHz) |
| Tuning time: | 10 ms maximum |
| Bandwidth: | $\pm 2\%$ @ -3 dB |
| Unwanted signal rejection: | 35 dB minimum @ $\pm 10\%$ 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 |
| MTBF | 396,664 hours |
| 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 $\pm 15\%$, 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 |