

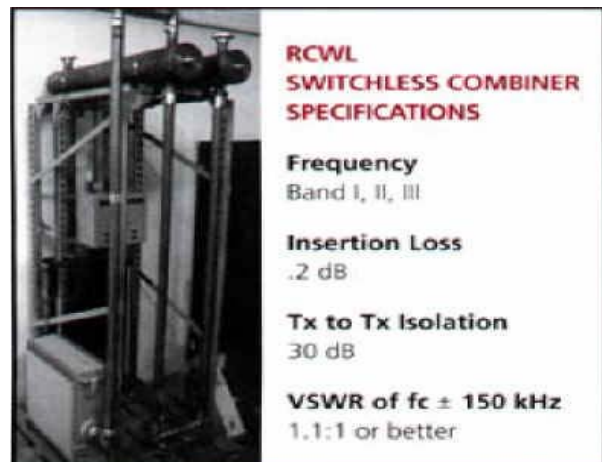
 **RF TECH TALK**
RCWL Switchless Comb

The JAMPRO RF SYSTEMS, INC. Switchless Combiner is designed to allow switching from one transmitter to another combining two transmitters to a single transmission line without experiencing any off air time.

To accomplish this, JAMPRO uses a motorized line stretching phase shifter to steer either transmitter to the antenna, the station load or both. The combiner is equipped with connections to facilitate remote operation, thus allowing the operation from the transmitter panel.

The system combines two FM transmitters identical in frequency, phase and amplitude into any one of three modes of operation. The three primary modes of operation are as follows:

- Mode 1:** Tx A to Antenna Tx B to Dummy Load
- Mode 2:** Tx A to Antenna Tx B to Antenna
- Mode 3:** Tx A to Dummy Load Tx B to Antenna



A phase shifting device is used to vary the phase offset between two parallel transmission lines, which are sandwiched between two 3-dB hybrids. Varying the phase difference at quarter wavelength intervals causes the Switchless Combiner to route the signal in different directions. The combiner is designed to switch modes under full power and comes equipped with an air/oil cooled 50 ohm termination.

The combiner can be used for various power levels, ranging from 5 kW to 20 kW, with the possibility of 35 kW soon - 2x1 kW to 2x35 kW. Installations include some of the largest radio markets in Asia as well as the number one radio station in Indonesia.