

Triple Duplexer with VSWR and Power Monitoring Display

General Information



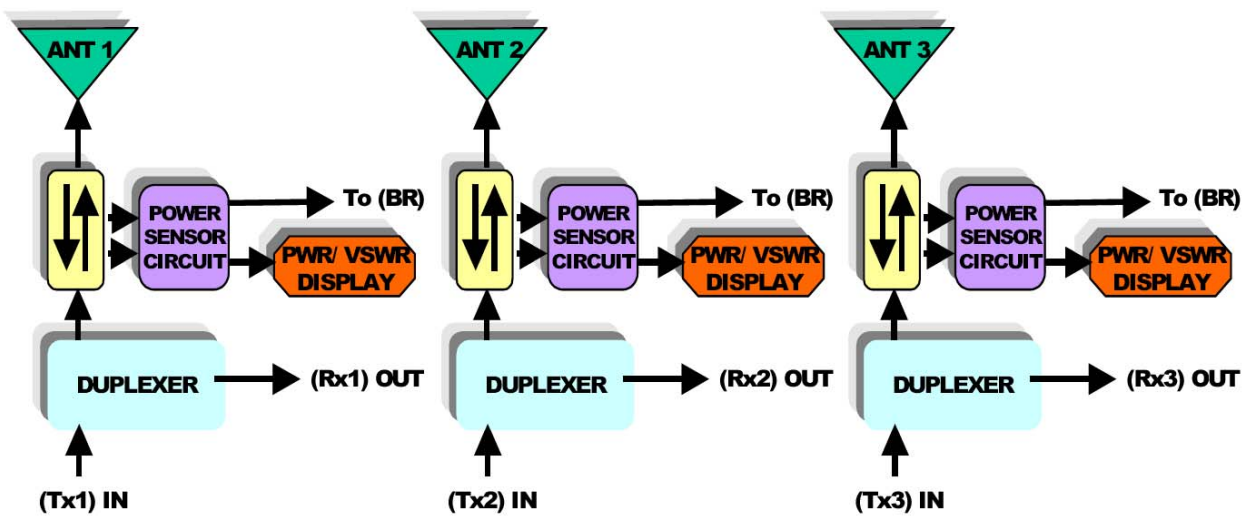
The Triple Duplexer consists of three duplexers which provide the required filtering of the transmit (Tx) and Receive (Rx) signals and allow the transmit and receive signals to share a common antenna (ANT) port. Each duplexer has an integrated dual directional coupler which samples the forward (FWD) and reflected (REF) power at the antenna output. The sampled FWD and REF power are detected by the power / VSWR monitoring circuit. A dedicated microprocessor is utilized for each duplexer to accurately calibrate the measured forward and reflected power readings. The actual forward power and VSWR are then displayed on a backlit LCD display located on the front panel. A separate display is provided for each duplexer / antenna port. In addition, the power / VSWR monitoring circuit generates DC voltages that are proportional to the sampled forward (FWD) and reflected (REF) power level readings.

These DC voltages are then fed into the lead base radios located in the main rack in order to determine the actual forward and reflected power readings and interpolate the VSWR for each duplexer / antenna channel.

Electrical Specifications

Parameter	
Transmit (Tx) Frequency Range	851 MHz – 866 MHz
Receive (Rx) Frequency Range	806 MHz – 821 MHz
ANT-Rx Insertion Loss	< 0.6 dB from 806 MHz – 821 MHz
ANT-Rx Return Loss	> 18 dB from 806 MHz – 821 MHz
ANT-Rx Rejection	> 10 dB @ 828 MHz
ANT-Rx Rejection	> 85 dB @ 851 MHz – 866 MHz
ANT-Tx Insertion Loss	< 1.0 dB from 853 MHz – 866 MHz
ANT-Tx Return Loss	>18 dB from 853 MHz – 866 MHz
ANT-Tx Rejection	> 85 dB from 806 MHz – 821 MHz
ANT-Tx Rejection	> 60 dB from 824 MHz – 849 MHz
ANT-Tx Rejection	> 25 dB from 869 MHz – 894 MHz
Average Power Handling	400 Watts AVG
Peak Power Handling	5000 Watts PIP
Operating Temperature	0 – 50 Degrees Celsius

Block Diagram



...closing the gap