

Tune-Up Procedure

The repeater device has three trimmers on the main PCB board and one trimmer on the secondary PCB board for adjusting and tuning the repeater frequency. All the other parameters (power, modulation bandwidth and timing) are pre-set to a fixed value and are not changeable or adjustable.

The alignment procedure involves a setup that includes a power supply, a synthesized spectrum analyzer and a signal generator.

First Alignment: The output signal is monitored on the spectrum analyzer with a scan-width of 20 KHz. The center of the modulated output waveform is adjusted using trimmer C7 on the secondary PCB board to within +/- 2 KHz. of the center frequency. This adjustment procedure is performed on the finished and complete unit as a final test before cover closure (after cover closure the repeater parameters are verified again).

Second Alignment: The signal generator is set at the center frequency and is connected to the repeater antenna. The spectrum analyzer is set to 455 KHz, span 50 KHz, amplitude -30 dBm. The spectrum analyzer is connected to test point 6 (TP6). Trimmer C51C is used for fine tuning the frequency. Using trimmer C58B (on the main PCB board) adjust the BPF imageB filter to a maximum signal/noise ratio. The same procedure is repeated for trimmer C59B.

This testing procedure is done while the repeater antenna is brought to the proximity of a wire antenna connected to the spectrum analyzer.