

ALIGNMENT PROCEDURE

The SP230/250 U2 Receiver is designed for broad band covering UHF(440-470MHz) and should require no special alignment, unless repairs are performed on the receiver portion.

The only alignment normally required is to squelch circuit, Apply a signal that produces 10dB SINAD, reduce the input to -130dBm, close the squelch control(RV2,RV4) until the receiver mutes. Increase the signal to 10dB SINAD reading reference level and adjust RV2 or RV4 until the squelch opens. In high noise environment, some users may prefer to have the squelch opening set somewhat tighter, e.g.:12 to 14dB SINAD.

Should repairs be required, the following procedures should be applied:

VCO

1. Set the unit to the lowest transmitter frequency, 440MHz(UHF), 138MHz(VHF) and adjust the VCO L203 to 2.5V and 1.0V respectively.
2. Set the unit to the highest transmitter frequency, 470MHz(UHF), 162MHz(VHF) and check that the VCO voltage is below 11 volts.
3. Set the unit to the lowest receiver frequency, 440MHz(UHF), and adjust the VCO C208 to 1.5V.
4. Set the unit to the highest receiver frequency 470MHz(UHF), 162(VHF) and check that the VCO voltage is below 11 volts.

* Note : use TP1 to measure the voltage.

Transmitter

Connect the unit to a Service Monitor with the power meter setting to the 5 W scale (or autorange)

TCXO

Set the channel selector to the mid-range frequency 455 MHz, adjust CT1, for a reading of 445 MHz +/- 200Hz. For the VHF data radio, adjust the CT1 and set the frequency within the required range.

APC

1. Adjust RV1 for fixing up High Power(5W)
2. Adjust RV3 for fixing up Low Power(1W)