

## DELTAFORCE/OMEGAFORCE ALIGNMENT PROCEDURE:

### 1. PLL ALIGNMENT:

VCO Voltage Adjustment: In Ch. 1 Band A the VCO Voltage is 1.8V at R348/C239 adjust L1 at the VCO Module.

#### STEPS FREQUENCY ALIGNMENT:

At Ch. 1 Band E, connect Frequency Counter to SJ133. Clarifier at center position

STEPS 5: 37.660Mhz adjust T101

STEPS 6: 37.661Mhz adjust T106

STEPS 7: 37.662Mhz adjust T103

STEPS 8: 37.663Mhz adjust T104

STEPS 9: 37.664Mhz adjust T102

At TX mode check Steps 5 frequency 37.660Mhz adjust RV108, make sure R246 trimmer at the center position.

Check also SJ133 oscillation in the oscilloscope and adjust L2 at the VCO Module to attain maximum oscillation.

#### REFERENCE OSCILLATOR ALIGNMENT:

At any channels, connect Frequency Counter to C252.

USB Frequency: 10.6975Mhz adjust L126 at RX mode

LSB Frequency: 10.6925Mhz adjust L127 at RX mode

AM/FM Frequency: 10.965Mhz adjust L124 at TX mode

#### CURRENT ALIGNMENT:

For Q171 current is 50mA and above adjust RV114.

For Q168/169 current is 50mA and above adjust RV113 and RV112

Attached the current PCB and solder it in the 3 connector above SJ122 and SJ9

### 2. TRANSMITTER ALIGNMENT:

At USB or LSB mode adjust to maximum L131,L132. L133, L134 to attain more than16W RF Power. Adjust RV116 also to attain SSB power maximum probably near the center position.

Check also FM to attain more than16W RF Power and adjust RV117.

Check AM Power to attain between 6 to 12W RF Power.

Check also the SSB and FM Power minimum, it must be below 4 Watts.

TX Meter Alignment: For FM & SSB Meter pointer at Red Bar in the RF Bar of the analog meter. Adjust RV119(Selector switch at S-RF Position)

FM Deviation: 1.6Khz to 2.6Khz at 1Khz 30mV audio input adjust RV106

AM Modulation: 80 to 95% at 1Khz 30mV audio input adjust RV119

RPT Deviation: 0.4 to 0.9Khz adjust RV109 at FM no Mod. Ham Band

Check SSB Carrier Suppression in USB and LSB mic gain at minimum adjust RV801 in Balance Mod Module to attain the maximum carrier suppression at 35dB.

### 3. RECEIVER ALIGNMENT:

USABLE SENSITIVITY: (at S+N/N 10dB, 2V)

AM : 12dBuV EMF , FM: 3dBuV EMF, SSB: 0dBuV EMF

Adjust L106, L107, L108, L109, L111, L112, L113, and L114 in AM mode to attain maximum sensitivity at 12dBuV EMF, Then at 66dBuV EMF at FM mode adjust L104 to maximum and check for FM distortion. Check also the FM sensitivity at 3dBuV EMF.

Adjust USB and LSB through L102 and L103 to attain the maximum sensitivity of 2V at 0dBuV EMF. Clarifier must be at center position to attain 1Khz audio wave in SSB.

RX Meter Alignment: Meter Pointer is pointing at 9Bar at the SIG Bar of the analog meter adjust RV101 at 46dBuV EMF Signal at either AM/FM/SSB mode

Squelch Alignment: Squelch VR at maximum, the signal must turn on between 56 to 76dBuV EMF.

AM/FM adjust RV104, for SSB adjust RV103

Check also the following parameters:

RF Gain: 56dB in RX

NB/ANL to attain maximum response adjust L101 to maximum. In RX

SWR /Cal for TX

Mic Gain Variation in TX

Roger Beep in TX

PA

Echo and AMT

+/- Shift, LCR, Call, Dimmer