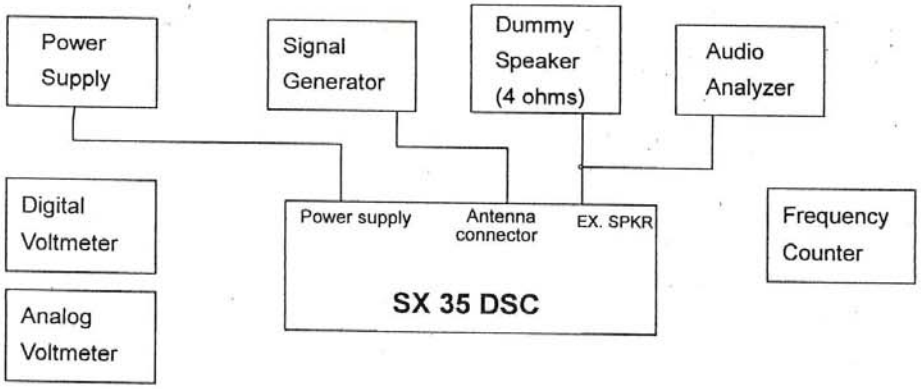
ALIGNMENT PROCEDURES

1. VCO Alignment Method

1) Set the channel to "16".
2) Connect TP-3 to the Digital voltmeter.
3) Adjust L211 Coil to read 1.6V on the DC digital voltmeter.
4) Disconnect TP-3 from the Digital voltmeter.
5) Connect the Frequency counter to TP-1.
6) Adjust VC201 to obtain 135.400MHz on the Frequency counter.
7) Connect DC digital voltmeter toTP-3.
8) Connect a dummy antenna to an Antenna connector, then connect the Frequency counter.
9) Press the PTT switch for TX mode.
10) Confirm if TX frequency is 156.800MHz.+/-300Hz. on the Frequency Counter.

2. Receiver Alignment Method

Connection Diagram



1) Connect the RF Signal Generator to the Antenna connector.
2) Connect the Audio Analyzer to 4-ohm dummy speaker, then connect to EXT. SP jack.
3) Set the frequency to 161.600MHz, on the RF Signal Generator, and set the RF output level to 60dBμV (Emf).

ALIGNMENT PROCEDURES

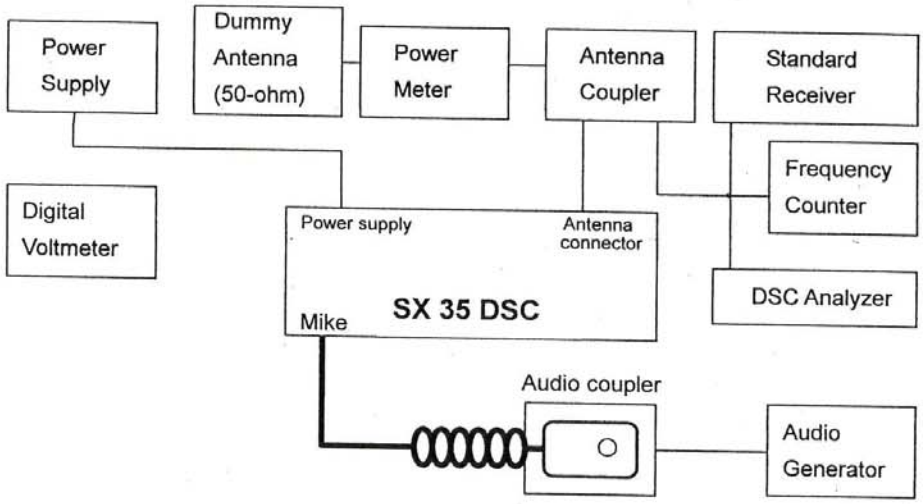
4) Select channel 20.
5) Adjust volume to get 2V audio output level.
6) Connect TP-2 to the DC analog voltmeter.
7) Adjust coils L107, 106, 105, 104, 103, 102, and 101 in order, and adjust each coil to maximum reading (full scale) of DC analog voltmeter. The adjustment of each coil should be conducted as follows : Adjusting the output level of RF signal Generator, get the pointer to stay around the center of scale on DC analog voltmeter.
8) Set RF signal generator to 156.550MHz.
9) Set the channel to "15".
10) Adjust L101 and L103 to obtain maximum reading (full scale) on DC voltmeter. The adjustment of each coil should be conducted as follows : Adjusting the output level of RF signal Generator, adjust the pointer to stay around the center of scale on DC analog voltmeter.
11) Confirm the items below.

Items	Limit
(a) Speaker output power at 10% distortion	More than 2W
(b) Residual noise level	Less than -40dB
(c) Maximum usable sensitivity	Less than 6dBμV (Emf)
(d) Squelch operation (tight sensitivity)	Less than 6dBμV (Emf)

ALIGNMENT PROCEDURES

3. Transmitter Alignment Method

Connection Diagram



1) Set the channel to "18".
2) Connect the dummy antenna to the antenna connector through the RF power meter and also connect the standard receiver.
3) Select "Low power" pressing the "Hi-Lo power" switch.
4) Press the PTT switch for TX mode.
5) Adjust VR201 potentiometer to obtain 0.8W power on RF output power meter.
6) Adjust VR301 potentiometer to obtain 23W power on RF output power meter
7) Set the input level of microphone to 94dBA+20dB.
8) Adjust VR302 potentiometer to obtain the value of +/-4.8KHz. on the deviation meter of Standard receiver.
9) Set the input level of microphone to 94dBA.
10) Confirm if the value on deviation meter of Standard receiver is between +/-1.5KHz and +/-3.0KHz.
11) Confirm if the distortion level of Standard receiver is +/-3.0KHz., adjusting the input level of microphone.
12) Confirm if the audio wave distortion is less than 10% at +/-3KHz.
13) Confirm the residual modulation is less than -40dB positioning the input level of microphone to "zero".

ALIGNMENT PROCEDURES

4. DSC Adjustment Method

1) Set the channel to "10".
2) Connect the dummy antenna to the Antenna connector, then connect the Standard receiver.
3) Short the DSC TEST terminal on Digital PCB.
4) Adjust the potentiometer VR303 to obtain the value of +/-2.6KHz. on the deviation meter of Standard receiver.