

## **Circuit Description**

### **Frequency Determining and Stabilizing Circuit**

Q4 function as a modified Coplitts type oscillator with PLL keep trap to maintain its stability.

### **RF Amplification**

The output of Q4 feeds to a pre-amp. Q5 to raise the power to certain level then the signal feeds to the final stage Q6 for further amplification. At last, this signal passes through a lowpass filter and antenna switch before feeds to the antenna.

### **Circuits fro Suppression of Spurious Radiation**

In addition to interstage filtering, the power amplifier Q6 output has also a PI lowpass filter. C58, L9, C59, L10, C60 serves both matching as well as harmonic and spurious suppression.

### **Modulation**

The output of the modulator driver amplifier is filtered and feeds to D3 for FM modulation.

### **Circuits for Limiting Modulation**

The modulation limiter performs by Q15, D10 and D11. When the modulating voltage is excessive, the clipper D10 and D11 is function.

### **Receiver Circuit**

The receiver is a double conversion super heterodyne system with ref frequency at 20.95MHz. The system will amplify the receive signal then filter and down convert to 21.4MHz ( 1<sup>st</sup> IF ). This signal will be filtered and down convert to 450KHz ( 2<sup>nd</sup> IF ). At last, the baseband signal will extra via quadrature circuit.

### **Miscellaneous**

U4 function as a compander and U3 function as a speaker driver.