

## DESCRIPTION OF ELECTRICAL CIRCUITRY

### A) RECEIVE MODE OPERATION

- 1) A signal is received with the antenna and Amplified by LNA(Low Noise Amp.:Q1,Q2).  
And passes through the 462 to 467MHz band pass filter F1.  
And the signal enters IC2.
- 2) An RF signal and 1st local oscillating frequency signal from 1<sup>st</sup> local oscillator goes to the mixer (IC2).  
And this signal is converted to 1st IF frequency(21.3MHz).  
And passes through the 21.3MHz band pass filter F2 and Amplified by 1st IF Amp.(Q5).
- 3) This signal is inputted to pin 24 of IF/DET circuit (IC1), and converted to 2nd IF(50KHz).  
This signal goes out from pin 15 of IC1 as audio signal.
- 4) This signal is amplified with the AF amplifier through an expander circuit of IC11 through the filter of the CTCSS circuit (IC13) afterwards and connected with the speaker.

## B) TRANSMISSION MODE OPERATION

- 1) When TALK switch is pushed, pin 65 of IC17 enters mode "L".  
Then the power line of TX is switched on.
- 2) The AF signal is amplified with the pre-amp from the microphone and the amplitude is compressed into this input (pin3) with the compression circuit (IC11).  
And signal is output from pin 6 of IC11.
- 3) This AF signal is input to pin 1 of IC13 (CTCSS).  
The AF signal which is input to pin 1 and amplified passes through the band-pass filter of 3KHz from 300, and passes the amplitude limitation circuit.  
The tone signal of CTCSS is added and the AF signal which receives the amplitude limitation is output from (IC13) pin 4 as a modulation signal.
- 4) This signal is input to FM modulating circuit of transmission circuit.
- 5) A 462/467MHz band frequency is generated by the VCO (Voltage Controlled oscillator :V2).
- 6) This 462/467MHz carrier power is amplified with the buffer amplifier(Q11) and the power amplifier (Q8) and emitted from the antenna through the antenna switch.