CIRCUIT DESCRIPTION

EARMIC-SET

Receiver Circuit

RF Signals induced at the Antenna enter the Duplexer DPX1 which only allows the Frequencies in the Range 902.1Mhz - 904Mhz to be Delivered at its Output.
The Signal Within this Frequency range reaches the RF Amplifier Q1,Q2 and Reaches the First Mixer Q3.
In the 1st Mixer Q3, the Received (and Amplified/Filtered) Signals are Mixed with the first Local injection Signals of the Frequency range from 880.4Mhz - 882.3Mhz and Reproduce a 21.7Mhz 1st IF Signal.
The IF signal is filtered by Crystal filter CF1 and Demodulated into Audio signals by the Detector circuit of U1.
The audio signal reaches Power amplifier MU3 which amplifies the audio signal up to Level sufficient to finally Driver the Speaker.

Transmitter Circuit

The Audio signal from the Microphone is amplified by audio amplifier MQ7 is now applied to the Variable-Capacitance Diode VD2. TX Voltage Control Oscillator Q8, connected in series with VD2, Oscillates Frequency range of 926.1Mhz - 928Mhz which is Frequency Modulated by the action of VD2.
This Frequency- Modulated Signal is buffed by Q7 and feed it to Duplexer and Antenna

PLL Circuit

The Reference Frequency of 6.25Khz is obtained by dividing the 9.6Mhz X-tal output with PLL. U2 divides the VCO output to reproduce 6.25Khz which is compared with former 6.25Khz
The RX. VCO Q6. output Frequency maintains 440.2Mhz - 441.15Mhz by the PLL. action and is controled by Micro-Computer.
The RX. VCO outputs are now doubled to 880.4Mhz - 882.3Mhz First Local Signal.
The TX. VCO Q8. output Frequency maintains 463.05Mhz - 464Mhz by the PLL.
The TX VCO outputs are doubled to 926.1Mhz - 928Mhz Transmitter Frequency.