

## CIRCUIT DESCRIPTION

### TRANSMITTER SECTION

#### Frequency Determining and Stabilizing Circuit:

Q12 functions as a modified Harley type oscillator with the crystal X2 as part of the feedback network.

#### RF Amplification:

The output of oscillator Q5 is taken from the tuned transformer in its emitter to the base of final Q6.

The output of Q6 at its collector is fed to the antenna.

#### Circuits for Suppression of Spurious Radiation:

In addition to inter-stage filtering the output of final Q6 is coupled to the antenna through triple "PI" network ( C43, L2, C3, L4, C2, & L2 ) which serves both to match and reduce harmonics to adequate levels. L1 serves as an antenna loading coil.

#### Modulation:

The output of modulator driver amp IC1 is fed to both driver through modulation transformer T5 in series with the battery voltage to collector-modulate both stages.

#### Circuits for Limiting modulation:

AMC ( automatic modulation control ) gate Q7 compares a portion of the modulating voltage with a portion of the TX+B supply voltage. When the modulating voltage is excessive, it turns on Q8 which shunts the audio input.

### RECEIVER CIRCUIT

The receiver is a conventional single conversion super heterodyne with the local oscillator controlled by crystal X1 operating at frequency 455 kHz below the received frequency to produce an IF 455 kHz. Audio squelch is provided by operational amp IC1.

#### Miscellaneous

IC1 function as a modulator during transmit and as a speaker driver during receive. Battery power is switched as required by the push to talk switch.