

Circuit Description

I Transmission section

1. Low frequency amplifying section:

MIC signal input @pin13 of U301, through amplification by U301 output

@pin1, the output audio signal go to FM modulation.

2. VCO section:

Q1, Q2 work as VCO, the varactor VD1 value is controlled by PLL (U1).

3. Power amplifying section:

Q4 is a buffer and driver transistor and Q21 act as power amplifier.

When the signal have been amplified by Q4, Q21, it will be passed to

a switch diode D4 and send out from the integral antenna.

II Receiving section

1. RF section:

The signal received by antenna passed to filter network, then amplified by Q9, via band-pass filter F3, the selected frequency signal go into mixer Q7.

2. Local oscillator and Mixer:

Q7 is frequency mixing transistor, the VCO act as local oscillator,

the frequency is controlled by PLL, after mixing, the IF (21.7MHz) signal selected by F2, then amplified by Q6 output via C47 to U2.

3. IF section:

F2 is 21.7MHz crystal filter, second IF is 450KHz, U2 works as the second mixing, second local-oscillator, second IF amplifier, demodulation etc.

4. Audio section:

The demodulated audio signal output from U2 to U301 filtering and amplifying, then amplified by U3 audio power amplifier.

III Others

1. PLL section:

U1 works as PLL, X1 is a local-oscillation crystal, VC1 is a trimmer.

The U1 pin 3 output constant current to control VD1 oscillation frequency.