FM RECIEVER CIRCUIT EXPLANATION FOR EACH TEST POINT

A radio or FM receiver is an electronic device that receives radio waves and converts the information carried by them to a usable form. An antenna is used to catch the desired frequency waves. The receiver uses electronic filters to separate the desired radio frequency signal from all the other signals picked up by the antenna, an electronic amplifier to increase the power of the signal for further processing, and finally recovers the desired information through demodulation.

Here we use voltage source as antenna to receive signal along with some components transistor, capacitors, resistors and transistors. Here the internal capacitance of transistor Q1 comprises the Colpitts oscillator. The Colpitts oscillator uses a capacitive voltage divider network as its feedback source. Here VC is used to set resonating frequency of Colpitts oscillator to the frequency of the transmitting station that we wish to

listen. The information signal used in the transmitter to perform the modulation is extracted on resistor R1 and fed to the audio amplifier over a 220nF coupling capacitor (C1).

Here two capacitors which are parallel to each other C3 (100nF) and C10 (100µF, 25V), together with R3 (1k), comprise a band-pass filter for very low frequencies, which is used to separate the low-frequency signal from the high-frequency signal in the receiver.

After that in second part (at the right side of circuit) the modulated signal is passed through electronic filter which is operated by our voltage(V1) with carrier wave and after that we get our demodulated signal during demodulation which is extracting our original information from a carrier wave and our information is recover from the modulated carrier wave.

After that our information which we get during demodulation is passed through amplifier which we get our original amplified signal.