2. Technical Description

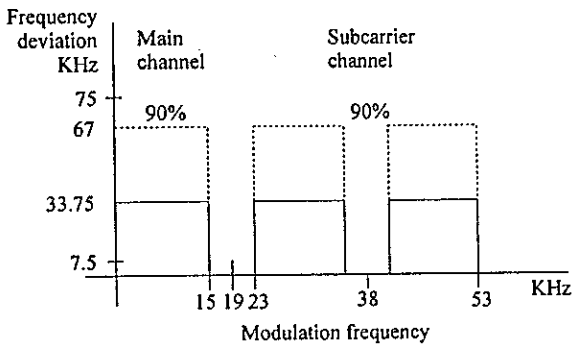
a. Stereo Modulation

The R-channel audio signal from portable player is input to R-channel amplifier (pin 1) through a R-channel pre-emphasis and the L-channel audio signal from portable player is input to L-channel amplifier (pin 18) through a L-channel pre-emphasis. Each audio signal is amplified by independent amplifier and output of the multiplexer.

The 38KHz crystal oscillator, connected between pin 5 and pin 6, creates a 38KHz subcarrier and 19KHz pilot signal.

The audio signal and the 38KHz subcarrier are balance and modulated in the multiplexer. The L+R signal and the 38KHz subcarrier, which are a dual side band modulated signal at L-R are added to create the main carrier which is output from pin 14.

The potentiometer between pin 16 and pin 17 can be used to lessen the subcarrier leakage due to unbalance in the multiplexer.



Modualtion spectrum of pilot tone.

b. FM Modulator

The high-frequency oscillator is a Collpits oscillator. The composite signal is input from pin 12 to the base of the oscillator transistor. By adding the audio signal to base, the reactance of the transistor changes. By changing the time constant of the tuning circuit in the oscillator, the frequency is modulated.

The modulated high frequency is send to high frequency amplifier and is amplified. Then the amplified signal is connected to the antenna through a band-pass filter.

c. Regulator

The voltage from the cigarette lighter is converted and regulated to 4.5 Vot., then it is supplied to DC jack for supply of portable player.