

Circuit Description of 925.8-927.4MHz Wireless BEAUTY Speaker

TRANSMIT SECTION

Compressor

The audio signal from RCA jack feeds to the compressor IC2. After the audio signal has been compressed, it delivers to the buffer amplifier (IC3). Then, the signal is routed to the voltage control oscillator (VCO) section.

Auto Level Control (ALC)

To prevent the transmitter from over-modulation, IC2 provided a built-in ALC circuitry. The ALC attack time and recovery time is control by C9. The ALC starting point is controlled by the potential divider R55 and R57.

VOX detection

To detect if there is any signal presenting at the input terminal for the transmitting purpose, a VOX detection circuitry is built with T1, T2 and T3, T4. It amplifies the signal from the compressor output (pin 12 and 5) and direct feeds to the MCU. When there is signal presenting the MCU, it's output goes high. It turns on the power supply of the RF transmitter section. After that it polls the data to the phase lock loop (PLL) IC IC2 and starts the transmission.

Oscillator and Modulator

P1 and P2 come from the steady signal which is controlled by Auto Level Control, then the signal is sent to VD1 to modulate, and the PLL circuit will be completed through T5, IC7. The over-modulated signal is enlarged by T2, T3, then through C29 to transmit out, at the same time IC5 and MCU work with IC7 together to complete the PLL circuit.

switching circuitry

CH1, CH2, CH3, the three channels are controlled the frequency 927.4MHZ, 926.6MHZ, 925.8MHZ by SW.