

Wireless microphone circuit description of IU-4007

AUDIO CIRCUIT

The audio signal is injected via the microphone sensor into the audio circuit composed of the op amp IC U2 (4558), & compandor IC U1 (NE571). The signal is compressed via the compandor circuit at a 2:1 ratio and is pre-emphasized by U2. The level of the output signal is controlled by the resistor R59, R70 and 10k VR.

MODULATOR CIRCUIT

The modulator circuit is a direct FM type built around the local oscillator controlled by Crystal X1 (36 times to local oscillator), variable capacitance diode D1, Q1, Q10, IFT T5~8 and C82~86. The modulated output from the oscillator is sent to the RF pre-amp and RF final amplifier which boosts the output to a nominal level (<1mW).

RF PRE-AMPLIFIER & FINAL AMPLIFIER

The 2-stage amplifier, using two transistors Q11, Q12, culminating with a normal transmitter output of <1mW. The output filter F1 and VC121, L4~7, C67, C68, C73, C74, C90 suppress the output harmonics and matches the output to the integrate antenna.

POWER STEADY CIRCUIT

2 IC U3 (6371) & U4 (7805) and 2 transistors Q14, Q15 provide voltage to modulation and amplifier respectively.