

Wireless microphone circuit description 电路说明

AUDIO CIRCUIT 音频部分

The audio signal is injected via the microphone sensor into the electronic switch (U5 CD4066). Then the audio signal is amplified (U3 4558) and via pre-weight circuit composed of R79, R99, C77, C78, C68 with a compress circuit (U4 NE571). The level of the output signal is controlled by the resistor VR2 to modulation part.

MODULATOR CIRCUIT 调制部分

The modulator circuit is direct FM type built around the local oscillator (VCO) composed of Q29, Q32, VD1, VD2, VC2 and a resonator DR1 and controlled by PLL (U3 E035L) with 4MHz Crystal as its clock to generate a set carrier needed. The audio signal can be piloted by a 45kHz crystal oscillate circuit and be delivered to modulation transistor Q29 (BFP420) after VR1, the output signal from Q32 is sent to RF pre-amp.

RF PRE-AMPLIFIER & FINAL AMPLIFIER 放大部分

Three transistor amplifier stages, using Q3/Q7(BFR520), & Q9(BF998R), culminating with a normal transmitter output of <1mW. The output filter comprised of L56, L3, L4 and VC1, C21, C14, C5, C4, C8 and filter FL1(DF915) suppresses the output harmonics and matches the output to the integrate antenna.

Operation and Display (操作和显示部分)

A MCU (U9 89S52) with a 12MHz crystal as its clock and accessory (U11, U1, U4) controlled operation interface and U13 HT1621 driving LCD display.

POWER CIRCUIT 电源部分

The power is controlled by U6 and Q33, 37 for analysis circuit part, and U7 and Q14, Q19, Q26, Q28 for digital circuit part.

Operation frequency range: 902-928MHz only; Modulation Type: 80kF3E

UHF Frequency Adjusting

Operating the button key, and being treated by MCU & PPL to control the VCO via a DC pulse voltage, and the VCO output a corresponding frequency signal.