

## 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.