

Product Operation Description

This product UH-101 is a handheld wireless microphone, which has one switching key for power on/ off. The product UH-101 equipped two indicators on the switching keys: one would light when the power switching keys were on, the other would light when the power is low.

The main function of UH-101 is transferring audio signal to electric signal via micro, the input electric signal were deal with frequency modulated, amplified and transmitted the radio signal to relative receiver.

The RF signal of transmitter is generate by the Voltage Controlled Oscillator(VCO), after the RF-Power Amp circuit ,the power of the RF signal can be amplified , and then it can be transmitted by the antenna.

The VCO is controlled by the PLL (Phase Locked Loop) circuit via the Low Pass Filter(LPF). The Reference Oscillator circuit (Reference OSC) generate the reference frequency single (fr single), and the frequency depend on the crystal.

A part of the VCO output RF signal is feedback to the PLL, the RF signal frequency will be divided to the low frequency single(fp single). And the divid ratio can be programmable via the MCU. The fp single compare with the fr single in PLL circuit, PLL output the voltage signal to control the VCO to adjust the RF single frequency, till the frequency for fr signal and fp signal are equal. So the VCO can output variable frequency RF signal via set the divide ratio in PLL.

Correspond the wanted channel RF frequency, the divide ratio is preset in MCU memory. When the user set channel with DIP Switch (Channel Selector), the MCU will obtain the corresponding divide ratio and send to the PLL. Then the PLL control the VCO to work in the channel frequency.

The audio after compress is summing with the Tone Code signal ,input to the VCO circuit. It will be modulate by the RF signal via a Variable Capacitance Diode within the VCO circuit.