Product Operation Description

This product BT-16U is a belt set wireless microphone, which has two switching keys: one is for power on/ off, the other is for sending audio signal. The product BT-16U equipped one indicator by the side of the switching keys, it would light when the power switching keys were on.

The main function of BT-16U 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 transmittor 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 controled by the PLL(Phase Locked Loop) circuit via the Low Pass Filter(LPF). The Reference Oscillator circuit(Reference OSC) generate the reference frequency singal(fr singal), 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 singal(fp singal). And the divid ratio can be programmable via the MCU. The fp singal compare with the fr singal in PLL circuit, PLL output the voltage signal to control the VCO to adjusjt the RF singal frequency, till the frequency fo 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.