UEM-8T Circuit Explanation:
How each operations of each section based on the block diagram.


1. Audio signal input connect

Two way balanced inputs CN1and CN2
Impedance: 680 ohm
2. AF AMPLIFIER

There are two channel (CN1\&CN2) audio signals.CN1 is using OP amp IC8B while CN2 using OP amp IC8A. Audio signals output to AF multiplexer circuit.

## 3. AF MULTIPLEXER

The audio signals of the CN1 and CN2 channel through multiplex circuit IC20, Q18 and Q22 separately send the signals to the channel of OP amp IC18B and IC18A. Then one signal is sent from IC7A, IC7B, TR8 and TR7 to the output port of CN6.The other signal is sent from Q15, Q21, VR3, IC3A and IC3B to the output port of CN0. The rest two signals are sent to stereo modulator through IC4B, IC4A, IC11A, IC6 and IC12A, IC12B, IC11B, IC9.

## 4. STEREO MODULATOR

STEREO MODULATOR circuit is made up of IC2, X2(38kHz) and T2, which modulate its input signal. Its output signal sends to IC9 and Q20 then to VCO for
frequency modulation. Besides, the signal through Q12 and Q11 is sent to MCU for controlling.

## 5. MCU

MCU is the key part circuit of the whole apparatus, which consists of QU54, IC16 and $\mathrm{X} 1(16 \mathrm{MHz})$, and the MCU separately control PLL FREQUENCY SYNTHESIZER , function key(S1,S2,S3,S4) and LCD1 function display, RF transmit (Q17,Q8,Q10,Q14,Q9,Q16)and function adjustment.
6. VCO and PLL FREQUENCY SYNTHESIZER

VCO circuit is made up of Q4 and Q6, which modulate the signal came from STEREO MODULATOR. Then the signal output to RF amplifier circuit.
PLL FREQUENCY SYNTHESIZER circuit is made up of IC3 and peripheral circuit and in charge of controlling the VCO frequency stability
7. RF amplifier

RF amplifier circuit is made up of Q5, Q7, TR2, TR4 etc. It amplifies the RF signal and output to antenna.
8. DC power switch and Supply power circuit

Set up the DC power switch to ON or OFF. The whole apparatus power supply is through Q1, Q2, Q3 delaying then to TR5, IC14, IC15 to supply +8 V and +5 V for the whole apparatus separately.

