



## **Model: SPF2010**

### **Operation circuit description**

#### **Transmitter**

Audio signal input from Stereo Cord then input to Q4, Q8 is a preamplifier with automatic sound level control, IC3 is a MPX encoder make left and right audio signal mix together and modulate, then input to Q14 preamplifier, Q9 is triple times oscillator generate 49.86Mhz RF signal, Q10 is a buffer make RF signal more strong, Q11 is a power amplifier which increase the RF power then pass a low pass filter transmit the RF signal through antenna. D6 LED is power on indicator. The Q12 with D4 is voltage stabilizer.

#### **Receiver**

RF signal receive from antenna, L1, L2, C1 to be a band pass filter which reject most of un-want frequency, Q1 is a RF amplifier which increase RF signal go to IC1, also Q2 and Y2 is an oscillator which generate the fixed LO frequency to IC1 and mix with RF signal then go to IC1, IC1 is an inter – frequency stage include stereo MPX decoder, it demodulate the MPX signal return to original left and right audio signal, the left and right audio signal go to IC2, which is a power amplifier, it makes enough power to drive the speaker LS1 and LS2, VR1 is a sound volume control. D1 and D2 is a mute circuit.

#### **Power supply and ground**

Transmitter power is supplied by an external 12V 100mA AC/DC adaptor, no external connect is available for grounding, the printed circuit board traces are the only ground.

Receiver power is supplied by 2 pcs AAA size batteries.