

ATW-T202

(1) Audio PCB

Audio signal from microphone capsule is input to AF, AFGND.

B+ is used microphone capsule which is required of power supply.

It connects in using of T202.

User arranges VR1 input signal label.

IC1 (1/2) is pre amplifier.

It stays on clip if added more than 0.2V, MIC in condition of gain setting at 35dB, VR1 MAX.

It is available to input up to 135dB SPL on condition of audio pressure level to microphone capsule.

The max level is equal to T202 max one.

It works as a compressor combined with IC2 for compandor.

The D1, Q2 circuit block is a modulation limiter.

C6, C15 are oscillator prevention capacitors.

VR2 is potentiometer and which is controlled modulation level.

When SW1 is in a position of ST, BY between VR2, L4 and ground, it stays short and also mute mode.

D5 is circuit protection diode in case battery connects oppositely.

(2) RF PCB

X-tal is applied for Oscillation and Modulation circuit.

Q2 is sextic overtone (X6 multiplier) oscillation circuit.

Oscillation by x-tal is equivalent to the oscillation circuit of series of C and L.

It is set to gain the higher frequency than x-tal's unique oscillation frequency by putting D4 that is set to reverse bias with the series of x-tal, L5 and R20.

Therefore, by VR3 oscillation frequency can be fine-tuned.

Also by adding the sound signal to D4, D4's capacity is changed by its voltage change and modulated.

Zero temperature coefficient condenser is used in C32 and C33 in order to get the stable oscillation that is close to sine wave against the temperature change.

T1, C34 and T2, C36 consist of double-tuned circuit, which reduce spurious.

Q3 is the transistor for frequency amplification.

L6, VC1 is the circuit to tune to X2 frequency from the prior stage.

L6, VC1 and L7, VC2 consist of double-tuned circuit, which reduce spurious.

Q4 is the transistor for RF amplification tuned by L8 and VC3.

RF output can be controlled by rotating trimmer condenser of VC1, VC2 and VC3.

Supplied voltage for Q3 and Q4 is switched by SW2. It also enables to switch RF output high or low.

From C47 to L10 are the filter circuit. It cuts the spurious higher than oscillation frequency and will match to antenna of T202.

When the voltage of 9V battery lowers, D2 dims to inform the user that it is the time to change the battery.