

# Operational Description of ATW-T1802D Transmitter

## 1. Audio

- 1.1 Audio signal produced by the Microphone element is feed in to the audio IC 201.
- 1.2 Audio signal injected in to the IC201 is then amplified by the internal AF Amp.
- 1.3 Amplified audio signal is feed in to the compander circuit that const by IC251 operational amp and IC252compander IC, and compressed.
- 1.4 Audio signal that coming from the Guitar cable also feed in to the IC201, through the buffer amplifier, then feed in to the same AF amp listed item 1.2.
- 1.5 The compressed audio signal Is feed in to the IC201 and pre-emphasized and out from the IC201 and adjusted it level to appropriate by VR202.
- 1.6 32.15KHz signal that produced by the tone generator circuit in the IC201, is superposed with the control signal that produced by the micro-controller IC301 and out from the IC201 and adjusted it level to appropriate by VR201.
- 1.7 Properly adjusted Audio and tone signals are mixed and send to the VCO, VCO101.
- 1.8 Q201 detects peak signal level that feed in to the microphone and line input and dimmer the Power LED D303.

## 2. RF

- 1.9 RF signal produced by the VCO, VCO101 is modulate by the mixed audio and tone signal.
- 1.10 Modulated RF signal is through the buffer amp Q101, feed to the RF amplifier, consist by Q102 and Q103.
- 1.11 Amplified RF signal is then set it RF output power to; Hi position, 30mW by VR151and Low position, 10mW by VR101.
- 1.12 Amplified RF signal is suppress it harmonics by through Low pass filter consist by L104 to 108, C136 to 140 and feed in to Antenna terminal.
- 1.13 RF signal feed in to the Antenna terminal is then transmitted to the air by antenna screwed on to it.