APPENDIX

## CIRCUIT TO SUPPRESS SPURIOUS RADIATION AND CONTROL MODULATION

### AUDIO CIRCUIT

AF signal produced by the microphone element is feed in to the IC2 and amplified by AF-AMP.
Amplified AF signal is then feed in to Compander circuit that consists with the IC1 and the IC3, compressed to 2 to 1 ratio.
Compressed signal is then Pre-Emphasized by the IC2 internal AF-AMP.
The 32.15KHz pilot tone signal produced by the Tone-Generator circuit in the IC2 is superposed by control signal produced by the IC4 micro controller.
Above two signals are adjusted appropriately by the VR4 (32.15KHz) and the VR8 (AF signal), then mixed and send to the VCO1.
The Q301 detect peak signal that applied to the microphone element and turn the LED D15 off

### MODULATOR CIRCUIT

The modulator circuit is a direct FM type built around the VCO, VCO1. The modulated output from the VCO is sent to the RF final amplifier, which boosts the output to a nominal level of 10mW (Low) or 35mW(High).

### RF PRE-AMPLIFIER & FINAL AMPLIFIER

RF signal out from the VCO1 is through the buffer amp consisted by the Q303, 2SC4226 then feed in to RF amplifier consisted by four 2SC5226 transistors, Q304, Q305, Q306 and Q307.
The output filter comprised of L302, TC302, C329, C330 L303-L306 C331-C334 suppresses the output harmonics and output to the antenna.
Q310 is switch for above four transistor's RF amplifier and it control RF output level to 10mW(Low) or 35mW(Hi)
RF output power level is set by the VR301 (Low) and the VR300 (Hi).