Appendix 7. Operational Description

Theory of Operation

This microphone is submicrophone of the Enter Tech Any Sing-Along Multimedia microphone has full karaoke functions using ultra high band of 900MHz The 2nd microphone achieved crystal clear sound by using ultra highband and noise reduction circuit. The 2nd Microphone has been tested static and crackling sounds by high-system advanced Frequency Coordination The MAGICSING offers an extended reception range when assistant microphone is enabled. With the second microphone, you can use the functions in the main mic.

The wireless microphone uses a transmitter module operating in the 902-928MHz band. This modulator is a high performance, ten channel FM transmitter capable of transmitting analog data. To transmit analog information the moduler reverts to FM modulation.

An antenna is connected directly to the PCB. The transmitter is designed to operate with a 50-ohm load. The antenna is located inside of the unit housing as an integral part of the circuit board.

An accurate 12.00MHz VCO(voltage controlled oscillator) serves as the frequency reference for the transmitter. The modulated 12.00MHz reference frequency is applied to the Phase Locked Loop(PLL).
The PLL, combined with a 902-928 MHz VCO, forms a stable frequency synthesizer that can programmed to oscillate at a number of present frequencies.

An onboard micro-controller reads the channel-selection lines and programs the PLL to desired channel frequency. Abuffer amplifier is used to isolate the VCO from the antenna and to increase the output power of the transmitter. The output of amplifier is connected to a LPF which is used to suppress harmonics emissions.