

Theory of Operation for Ensure Technologies Key XC-20 Series

Please refer to the block diagram for this discussion.

This device is a keyed FSK transmitter. The transmitted signal comes from an integrated circuit that contains the VCO, PLL, data modulator and transmit amplifier. A 26 MHz crystal provides the reference frequency which is multiplied up to obtain the operating frequency.

A microprocessor provides control over operation of the RF transmitter. The microprocessor starts when the battery is inserted into the device and the transmissions will then start at periodic intervals ranging from 1 second to 1 minute.

On alternate transmissions, the device changes its antenna pattern by selecting one of two internal antennas via an RF switch controlled by the microprocessor.