

EIL-POOLGUARD-PBM

PBM Industries

Operational Description of Poolguard Transmitter

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Circuit Description

Transmitter Operation:

The transmitter is a 418 MHz, single frequency, on-off keyed (OOK) type circuit. Its architecture and design are based on a modified negative feedback colpitts oscillator which is frequency stabilized by a surface acoustic wave (SAW) resonator.

The unit is powered by one 9 volt alkaline battery and consumes ≈ 5 ma of current during activation. In the in quiescent state the current is less than 10 μ A.. The system modulation is accomplished by the turning the oscillator on and off through port RA1 of the micro-controller. The micro is clocked at 4.00 MHz. nominal. The data rate of the modulation is just under 3600 baud and is constant. When the alarm is activated, a burst of alarm data is sent every 100 ms. and transmission will continue until the device is manually reset. The transmitter is on only when an alarm is triggered.