

Technical Description

The key fob transmitter circuit primarily consists of a single IC component which combines an 8-bit EPROM-based CMOS microcontroller with a UHF ASK transmitter. The transmit portion of the IC is a fully integrated UHF ASK transmitter consisting of a crystal oscillator, a phaselocked loop (PLL), a single channel open-collector differential-output Power Amplifier (PA), and mode control logic. External components consist of bypass capacitors, a crystal, and a PLL loop filter. There are no internal electrical connections between the microcontroller and the transmitter. The microcontroller portion of the IC utilizes an internal 4Mhz RC oscillator that is independent from the transmitter crystal oscillator. The output frequency of 315Mhz is fixed and set by an external reference crystal of 9.8438Mhz. When activated, the circuit broadcasts a repeating 13-bit Manchester (50% duty cycle) pulse consisting of a Start bit, an 8-Bit Address and a 4-bit Data code.