

## **TECHNICAL DESCRIPTION**

### **MODEL PS-434A PIR TRANSMITTER**

#### **DESCRIPTION**

The transmitter is a low-power communication device operating at frequency 433.9MHz by SAW device (Y1). The signal is a digital coding modulated transmission, which transmitted data to a receiver. This digital coding provides different patterns by proprietary integrated circuit (U6).

#### **FUNCTION**

The passive infrared detector (FR1) produces a fluctuating voltage of about 1 mV as it detects the heat from a person moving in its fields of view. R32 and C20 and C25 offer some quieting of the power supply noise into the PIR detector as well as some RF filtering.

The PIR IC around (U3) forms the amplifier and band pass filter. The output (pin 2) of this IC provides the sufficient swing to latch the proprietary integrated circuit (U6).

The integrated circuit (U4) provides the chime alert when detects the low battery power.

The digital modulator is employed in the proprietary integrated circuit (U6), which sends encoded digital data. The capacitor (C3 and C17) and ceramic resonator (Y2) established the clock rate of 4MHz.

The output data from the proprietary IC (U6) drives a tuned Colpitts power oscillator. A high-Q SAW resonator (Y1) controls frequency of oscillation. The inductive load is configured on the PCB as the principle-radiating element which similar to an elementary dipole. Resistor (R2) in conjunction with the base bias circuit (R1) regulates the power output of the transmitter.

The transmitter operates from a 9V battery.