



## Advanced Business Sciences, Inc.

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### Theory of operation for ABS cuff transmitter.

The following is the schematic for the transmitter which contains a program governing its transmitted serial numbers.

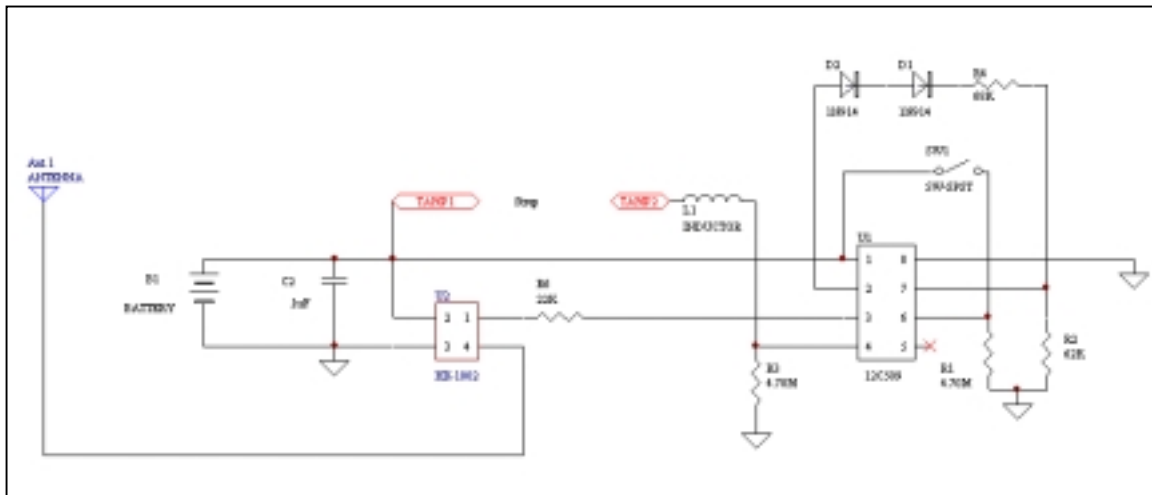


Figure 1

B1 consists of two lithium batteries connected in series to provide a 6V power source.

C2 is a 0.1 uF capacitor providing power filtering.

U2 is a RFM HX1002; 303.825MHz Hybrid transmitter using FCC part 15 approved SAW filtering. RF

Output power into 50  $\Omega$  @ 25°C is -3dBm minimum and +2dBm Maximum

R6 is used for current limiting on the data line between the PIC chip and the transmitter chip

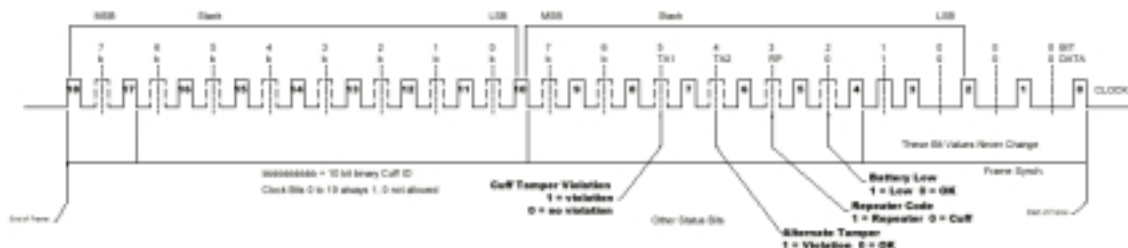
U1 is the 12C509 PIC chip running on an internal 4 MHz oscillator.

SW1 is a magnetic switch used to force transmitter in a continuous transmission mode.

Ant 1 is a 50 ohm tuned  $\frac{1}{4}$   $\lambda$  internal antenna

D1, D2, R4, & R2 makes up the low battery detect circuitry.

The following diagram shows the transmitted data stream



The Data stream consists of a timing pulse followed by a data pulse. The on/off time is 500us/500us if a data pulse of "1" is transmitted and 500us/1500us if a "0" is transmitted.



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The following block diagram shows the RF oscillators and data path.

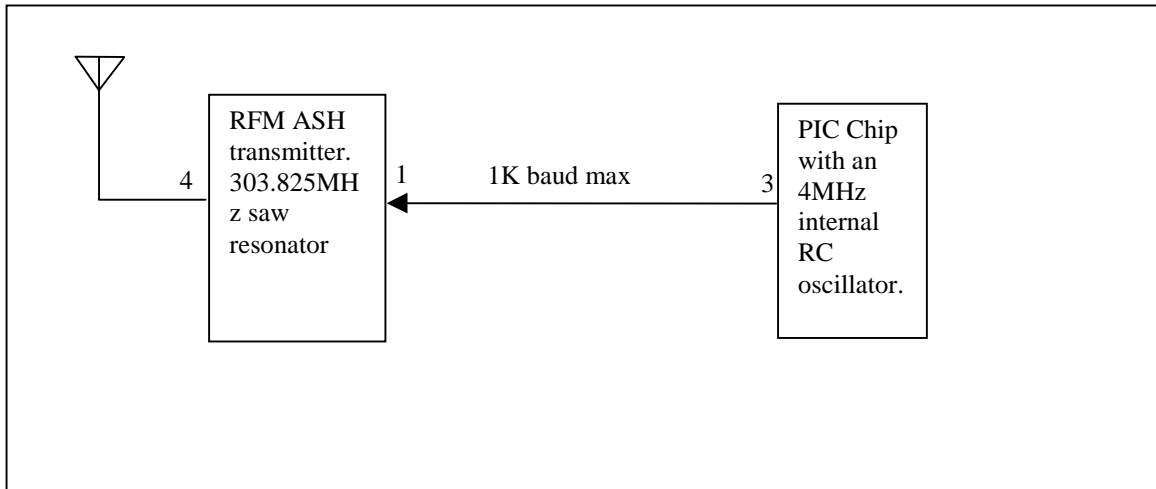


Figure 2: Block diagram of oscillators and data path