



## **1.operational description**

The RF section of the SA01 G is based on a Melexis chip and a one transistor- based PA. The Melexis chip is a fixed medullas (32) PLL. Thus the 13.56 MHz Xtal is multiplied by 32 giving the 433.92 MHz carrier frequency. A balanced output is matched by a passive network to a one transistor PA that can deliver up to +8 dBm into 50 OHM. This device is followed by a passive antenna matching network. A printed F type antenna is used.

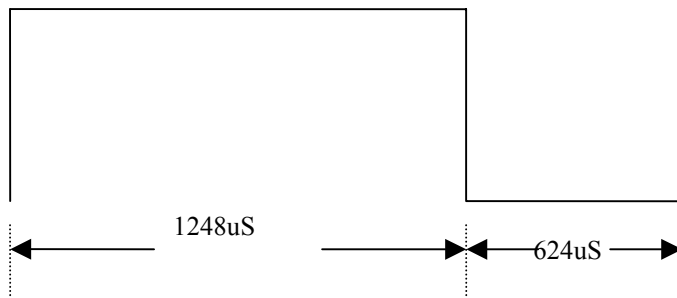
The u-Controller provides two signals. Namely a chip enable line that activates the Melexis and the PA and a data line that is used to OOK modulate both the Melexis device and the PA

## **2. Timming Requirements**

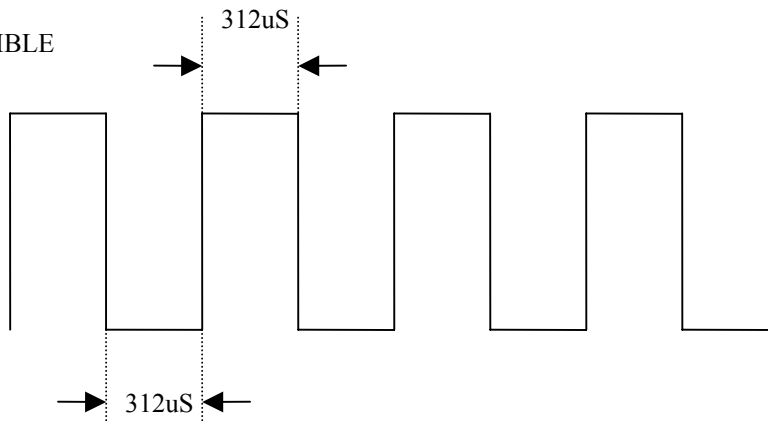
When the PIR sensor detects activity 4 identical transmissions are sent. The time between the end of one transmission and the start of the subsequent one being random. This time interval varies between 105ms and 400 ms. However, the total TX period is always less than 1 s.

In addition 3 times per hour a similar supervisory transmission is sent even if there was no PIR activity

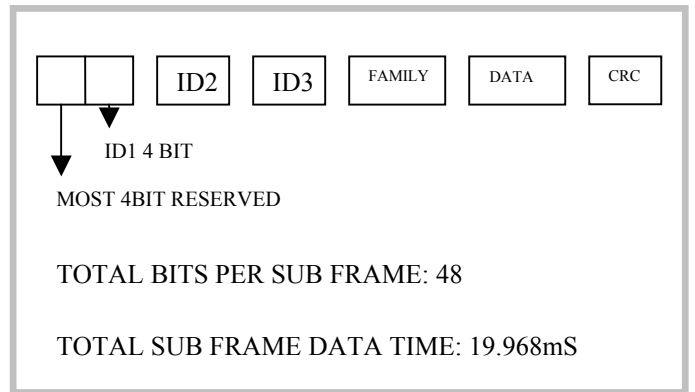
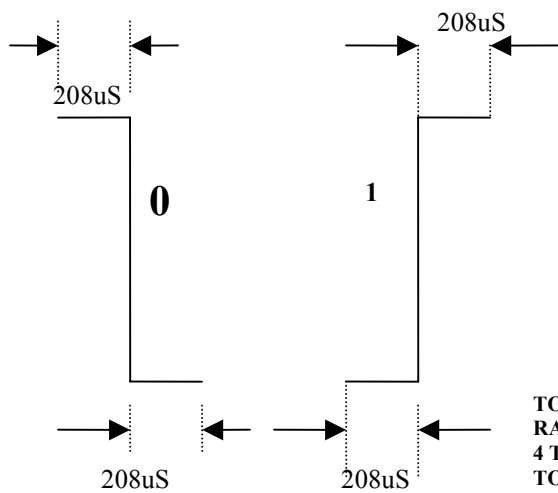
1. START BIT



1. PREAMBLE



1. DATA



TOTAL SUB FRAME TIME: 21.842Ms  
 RANDOM SUB FRAMES  
 4 TIME SLOTS  
 TOTAL SUB FRAMES IN SUPER FRAME: 5

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