

FCC ID: GCD-SA-29G OPERATIONAL DESCRIPTION



1. Operational description

The RF section of the SA-29G is based on a Melexis chip. The Melexis chip is a fixed medullas PLL. Thus the 13.56 MHz Xtal gives the 433.92 MHz carrier frequency. A balanced output can deliver up to +8 dBm into 50 OHM. This device is followed by a passive Antenna matching network. A wire Monopole 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 the Melexis device. In the RX mode the RFM receiver enables a sensitivity of approximately -102dB with a seperate Wire Monopole Antenna as the described above.

2. Timing Requirements & Supervisory Transmissions.

When the SA-29G is activated (an "event") 5 identical **transmissions** of 21ms each are sent. The time between the end of one transmission and the start of the subsequent one being random. varies between 21ms and 84 ms. The total time of these 5 transmissions is 105ms. After every event, the detector switches into "sleep mode", for 2 minutes. In this period, no alarm event can be transmitted.

In addition there are "**supervision transmissions**" send if there was no activity event for 20 minutes. This means there are at least a minimum of 3 transmissions per hour (event or supervision).The Supervision Format is identical to the event format (the total time of each **supervision transmission** consists of 5 transmissions which take up 105ms).

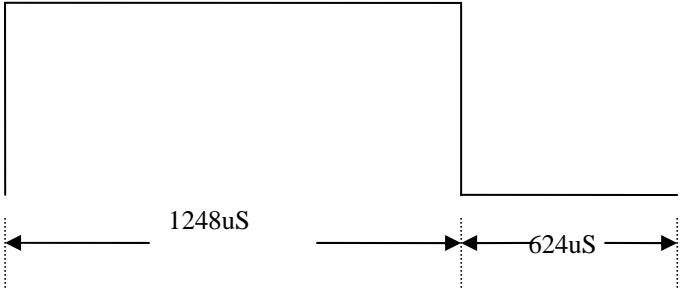
In the "worst case" there could be 3 supervision transmissions per hour, which would reach a total transmitting time of $105\text{ms} \times 3 = 415\text{ms}$ (per hour), which is much lower than the 2 second FCC 15:231 limit.

Each Rosslare Device in the setup, which has a Rosslare protocol, can be received by the SA-29G repeater. The repeater is in RX state, all the time. When it picks up a wireless transmission, that fits the ID list that it has, it will forward this transmission to the Control Panel, Siren, Keypad or any other Receiver that is part of the setup.

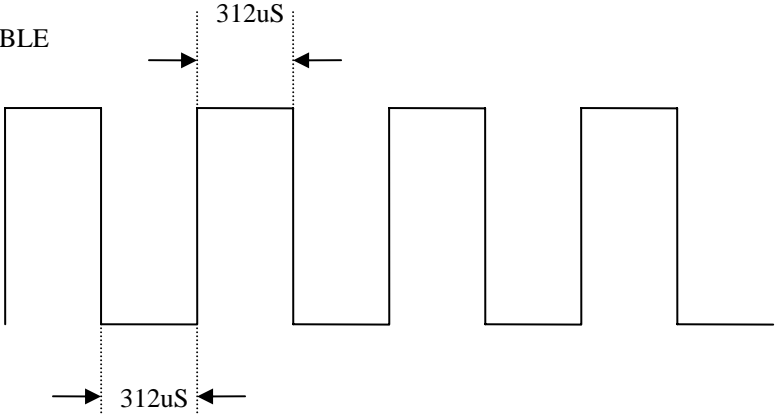
On page 2 there is a transmission format scheme. The transmission consists of preamble (312us on & 312us off), a Start bit 1024us on & 624us off and 6 BYTES DATA (48bits) in Manchester format 208us on, & 208us off. All together make 21.842ms frames.

With the random time of 1 to 4 frames we get 21ms to 84 ms between sequence frames.

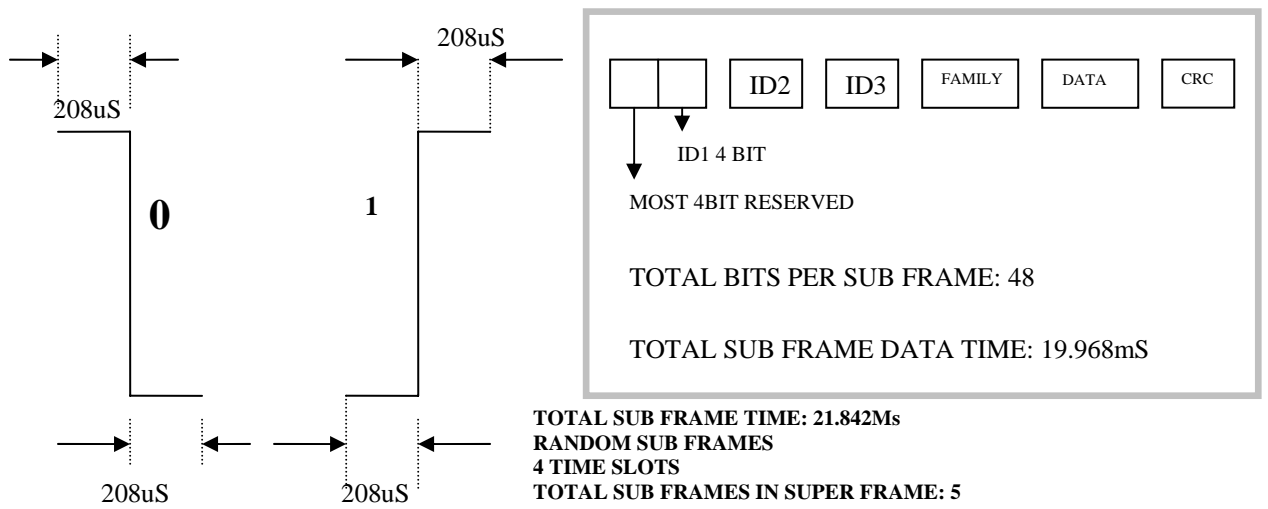
1. START BIT



1. PREAMBLE



1. DATA



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