

3.5 Timing Protocol and Duty-Cycle Calculation:

Timing protocol for Abacus A Series Remote I

Pulse Position Modulation limited to 976 μ s on time per 7808 μ s time frame (12.5% duty cycle)

1 = 488 μ s pulse of 916.5 MHz output

0 = 488 μ s pulse of no output (rf output off)

Format

Preamble = 16 bits

Address = 64 bits

Start = 8 bits

Command = 56 bits

Check Data = 64 bits

Delay before
next command = ~2 seconds

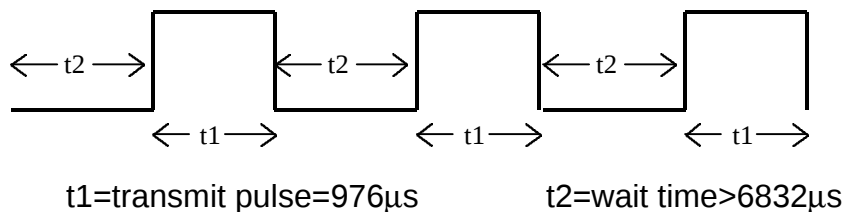
Output stream for Off command (used in FCC 01)

1100 0000 0000 0000 0000 1000 0000 1000 0000 1000 1000 0000 0000 1000 0000 1000 0000 1000
1000 0000 1000 0000 0000 1000 0000 1000 0000 1000 0000 1000 0000 1000 0000 1000 0000 1000
1000 0000 1000 0000 0000 1000 0000 1000 1000 0000 0000 1000 0000 1000 1000 0000

Repeat 15 times

2 second delay before next transmission allowed

Assuming the worst case is 100% on, the device transmits 2.3ms per pulse at the rate shown below.



$$\text{AveFact} = 20 \times \log (976 \mu\text{s} / 6832 \mu\text{s}) = -16.9\text{dB}$$

Therefore, a 16.9dB reduction is taken for all peak readings above 1GHz.