

Response to Some ATCB Comments

Comment 1. What is the purpose of this device and where is it expected to be used?

Response 1. The CB520 and CB550 are call boxes that are designed for the consumer environment. They incorporate a low-power transmitter to summon assistance at the press of a button. The press of a button initiates a short rf transmission to a receiver and controller which sends audio to speakers: "Assistance requested in the spark plug department." Another application is to take a poll: "How was your shopping experience? Great, All Right, Not So Good, I'll Never Be Back." These call boxes can be used in any larger store where customer service is important.

Comment 3. How does the device prevent the successive transmissions of each button from exceeding the maximum transmit time under 15.231?

Response 3. The short answer is that the maximum number of buttons that can be pressed (and recognized) is four. After four buttons, any additional buttons are ignored. At almost 1.2 seconds per button message, plus some synchronizing bits, the maximum transmit time is about 4.8 seconds. This is less than the 5 seconds allowed by 15.231. The detailed answer is below.

Average bit duration = 6 msec.

Bits per word = 20

Synchronization bit / word = 12 msec.

Word repetitions per message = 9

Message length = $(6 \times 20 + 12) \times 9 = 1.188$ seconds.

Four button messages = $4 \times 1.188 = 4.752$ seconds