

Desensitization—What’s The Deal?

So, you’re assigned to the Emergency Operations Center with your trusty handheld and are busily handling emergency traffic. Suddenly as you are speaking with somebody in the EOC you find you both sound garbled or one can’t hear the other.

<Queue Dramatic Music>

You are probably the victims of *Desensitization* or *desense* for short. This is a phenomenon that can sneak up on you at the most inopportune time. You fumble for your VFO, check the repeater offset, tone and squelch and shake your handheld violently. Nothing works and you have messed up your settings.

What’s going on?

The answer is that your transceiver is doing what it’s supposed to do but it is attempting to receive two strong signals making your transceiver seem less sensitive to the preferred signal. You and your colleague have handhelds tuned to 449.225, which is the repeater input. When you “press the pickle” to talk to the repeater on 444.225 your friend is picking up the signal from the repeater at 444.225 AND your transmission on 449.225. The stronger signal overpowers your friends radio causing it to prefer the stronger signal, even though its off frequency from the one he or she was set to listen to.

This results in them hearing the stronger, off-frequency signal sounding garbled, and maybe even a little mixed with the weaker

signal arriving from the repeater. An annoying echo.

Desense doesn’t just happen to handhelds, it can happen when mobile radios are close to each other and tuned to the same repeater.

So, rather than pulling out your hair (which has proven to be an ineffective solution)

What can you do?

Plan A is to separate the two handhelds by some distance, like a hundred or more feet. Plan B is to dial down the output power of the radios. This may help by not overpowering the repeaters signal.

Plan C is to set the receiving radio so that it is listening on the repeater input. Essentially put your two radios to operate SIMPLEX with each other.

Some HTs are more sensitive to desense than others because of the way their front-end selectivity (ability to pick up signals of selected frequencies while rejecting undesirable signals).

So, when you suspect desense, go for a walk. Chances are that will fix things. If not, go for PLAN B, dial down your power, or go to simplex.