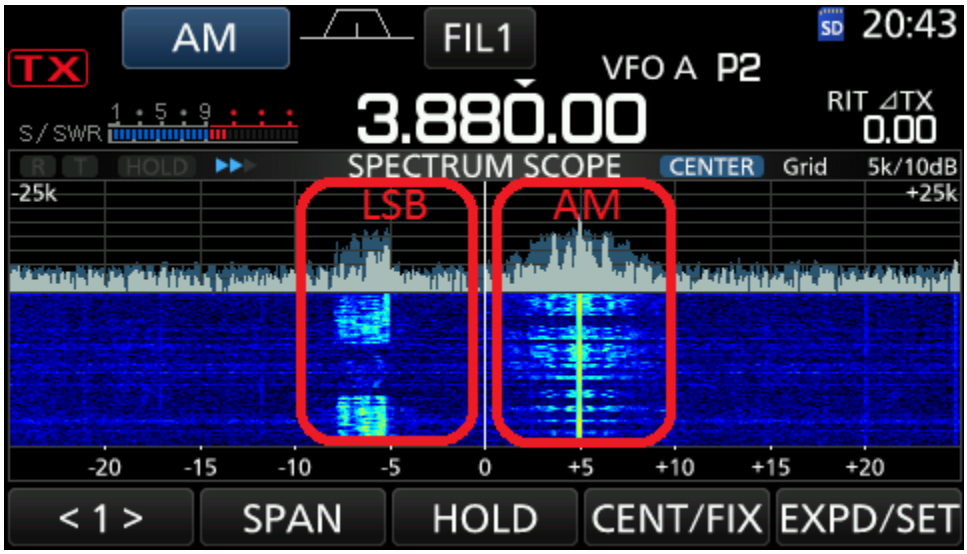
Band Scope

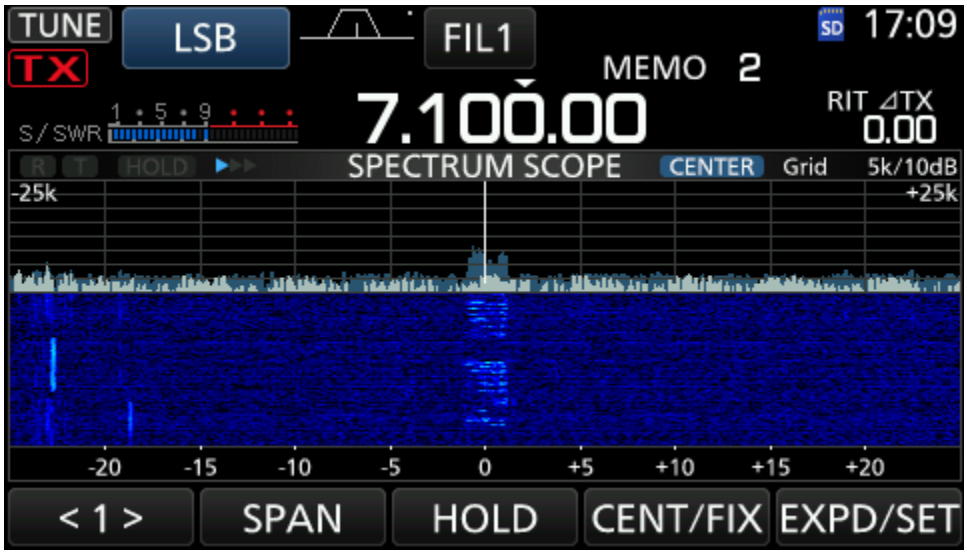
In the Modulation section of the (still under construction) Ham Basics page, I show this screen capture of my IC-7300 to illustrate the difference between AM and Single Side Band signals:



This shows:

- The radio is tuned to 3.880 MHz (in AM mode) but there's no signal at that frequency.
- 5 kHz higher (at 3.885 Mhz), there's an AM signal. There's a clear carrier right at 3.885 MHz and two symmetrical side bands on each side.
- 5 kHz lower (at 3.875 Mhz), there's an LSB signal. All the energy of the signal is on the lower side of 3.875 MHz (where the carrier would be if it was an AM signal). That is, only the lower side band is present.

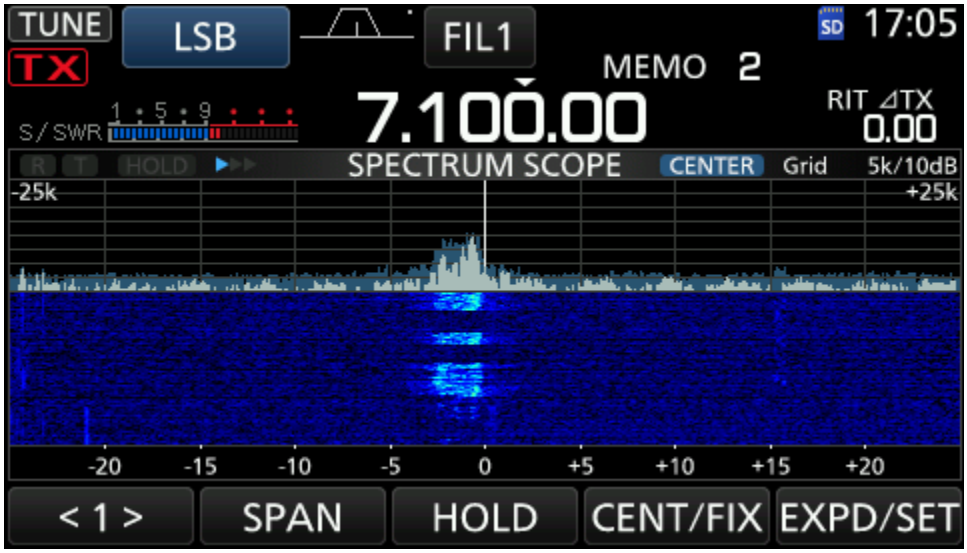
One thing I always found a bit annoying about the IC-7300 is that when in Single Side Band mode, the display shifts the frequency a bit so that the centre of the signal is shown at the display frequency. Here's an example of an LSB signal on the Aurora Net on 7.100 MHz:



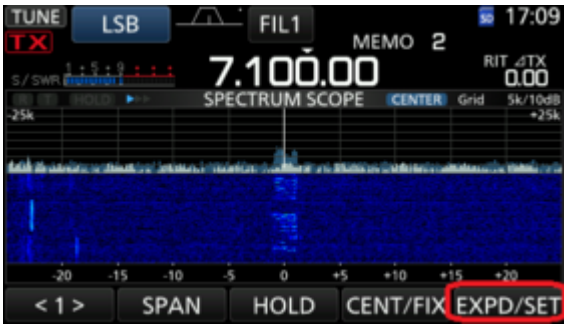
Note that even though it's an LSB signal, the centre of the signal is at 7.100 MHz. I don't like this for two reasons:

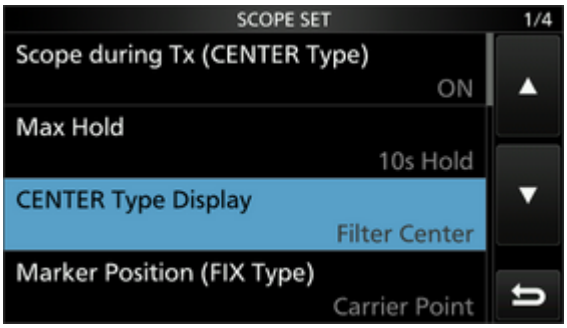
- That's not really what's going on. There's no EM energy at 7.100 MHz. It's all distributed in the lower 3 kHz.
- This way of displaying the signal doesn't make it obvious that this is a *lower* side band transmission (as opposed to an *upper* side band signal for example).

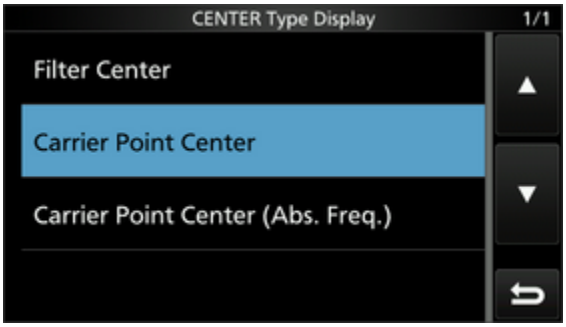
Instead, I'd like the display to show this:



As it turns out, there's an easy (but a bit hidden) way to switch this setting:







1. Press and hold the EXPD/SET button on the screen.
2. Go in the `CENTER Type Display` menu and
3. Select the `Carrier Point Center` option.

I got clued in that this was an option watching this excellent video that explains how to identify various signals by looking at the band scope:

