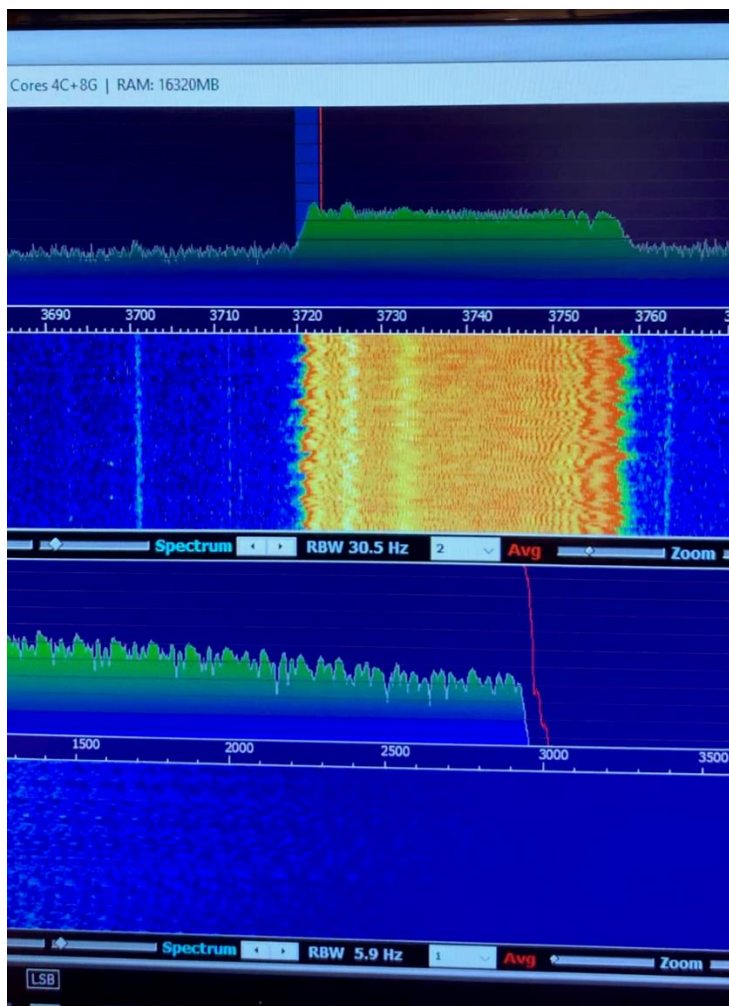


Noise is Always a Challenge:

Over the last few months, I have been plagued with an especially aggressive noise problem on 80M. It starts up at all times of day and continues for hours both night and day. The signal it produces is 40 kHz wide and repeats every 170 kHz. At first I thought there was some type rotary device but interestingly it starts at about 3690 kHz and gradually moves up the band with its harmonics until it reaches 3750 kHz approximately. Here is a picture of what it looks like:

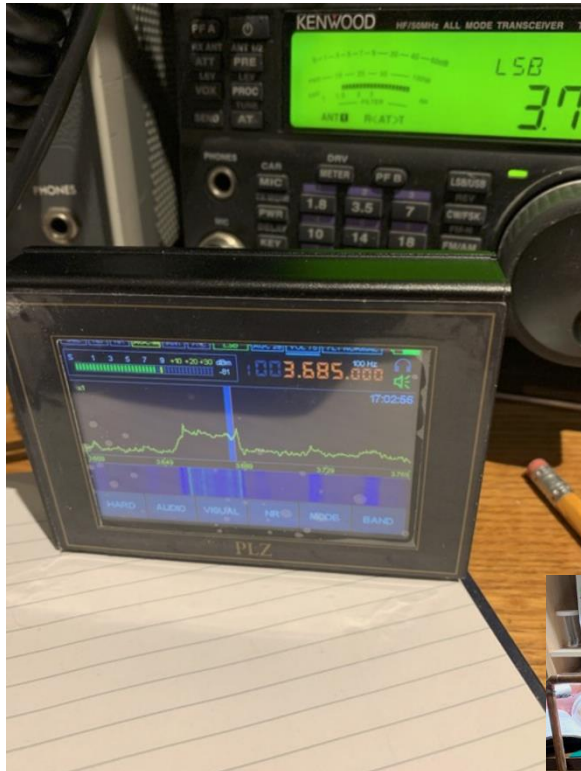
So what to do, you ask. I have contacted Fortis and they are coming down shortly to have a look to see if they can figure it out. I have contacted Industry Canada and they



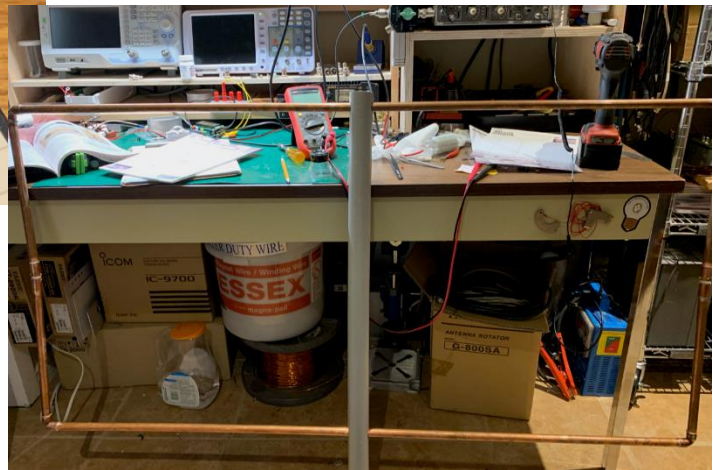
are coming down to Coaldale to see if we can find the source. I have contacted fellow hams and others to see if there is any light they can shed on the RFI and have had tremendous response from everyone. After doing some extensive research on line I have decided that it is likely an out of spec lighting ballast for high power lights often used in grow ops and other nefarious installations. They could be used in other type of businesses that require high power lamps for either growing things or perhaps drying paint. These ballasts are chopping devices that produce RFI like crazy and are required to meet Industry Canada specs in terms of RFI. However there are off shore companies that export them into North America that don't necessarily follow our rules of spectral purity. They are

cheaper than buying the more expensive ones from responsible companies who do follow the rules. Regardless, the devices are dirty and need to be either replaced or removed.

The police departments around the world are aware of these devices too and often they can simply use an AM radio to search out where the grow ops are. They drive around the neighbourhood and find the strongest source of noise. However, in my case there is no RFI on the AM band and it only shows up on 80M, so an AM radio won't help. I have a portable radio that I can use to find the noise and that is an option that I am going to use shortly. However, I also have a Malahite receiver that I am going to build a portable antenna for that will show me precisely where the source is. I have put a picture from the Malahite receiver that I took the other night below to show how useful this little radio is:



As you can see it shows it very well and with a suitable antenna for direction finding it should work well for portable RFI searches. I built an derivative of an antenna detailed in the March issue of QST and the results were encouraging and I have been able to find the source is east of my QTH. Now I just need to go down the street and see if I can find it exactly. Here's a picture of the antenna I built. Please don't look at the mess on the bench or the shack:



I was able to use it to find the general direction of the noise.

So, the quest is still on, and I will refine my search so that I can tell the IC inspector the direction to look in over the next week. If you have any questions or comments, they are always welcome. Wish me luck.

An Update on - Noise is Always a Challenge:

Murphy joined us this last week and it is all because I spent some time setting up a visit from Industry Canada for this past Wednesday. The Radio Inspector, James, was going to bring his equipment down for the day and work with me to find the offending QRM around here. He phoned me on Tuesday evening to arrange the visit and we were looking forward to spending some time doing radio sleuthing things together. Socially distanced, of course, and masked up like a couple of bandits. I ran downstairs and checked the 80M band and the noise was gone. We still set it up in the event that it came back in the morning and I checked again and it was still gone. I gave James a call at 8:00 and let him know and we delayed the trip till it comes back. It hasn't. Not only is that a good thing, but it is a really good thing because I can hear really well on 80M again and don't have to worry about it anymore. Until it comes back that is. So we still have no idea what the noise was for sure but we will keep it on the back burner until it shows up again. I have no doubt that is going to happen eventually and the quest will continue.



Now that looks a little better, right? Still a bit of power line noise but that's something I can live with for the moment because I'm not planning to do any 80M DX anyway. If I really want to get

a lower noise figure, I will have to move to a wide open space somewhere with a perfect ground and no power lines to contend with and live completely off grid and have no friends or neighbours. I don't have any friends now so I'm at least that far in the process.

73

Tom VE6ARG