SDR – Part 5

Pre-selector Dial

I published a construction article in the May 2022 publication of Practical Wireless Magazine.

Electronic viewing of the magazine, as part of a subscription, is here: https://pocketmags.com/eu/practical-wireless-magazine

While playing with the build pre-selector kit I noted in the article that you can make the wanted signal disappear completely into the noise floor and then watch it soar again out of the noise as you adjust the BPF.

What if you have the pre-selector tuned so that you can't see the wanted signal at all? To overcome this you need some form of dial to give you an idea of where the pre-selector should be generally set. On the Drake 2B receiver the pre-selector is marked both from 0 – 10 in linear steps as well as with the main 5 amateur bands used in those days – see Figure 1.

Figure 1. Drake 2B pre-selector dial

As the pre-selector switches across three broad I needed a scale that indicated MHz across each band.

To make the scale I used Microsoft Visio and the Visio file should be one the same website where you found this document. I have to ZIP the Visio file as my

website provider (WIX) does not allow files with strange filename extensions to be uploaded.

In the Visio file is one worksheet and you can see how I divided the dial up using drafting lines (Figure 2) which was printed and then stuck in place on the panel. Then using a signal generator (HP 8647A) and watching the output of the QPD on HDSDR I could determine where the knob was pointing to and hand write the MHz onto it.

Then back to Visio to move the MHz across (using the drafting lines as reference), and then drew the green, blue and red arcs. Then printed off, stuck to the panel and checked.

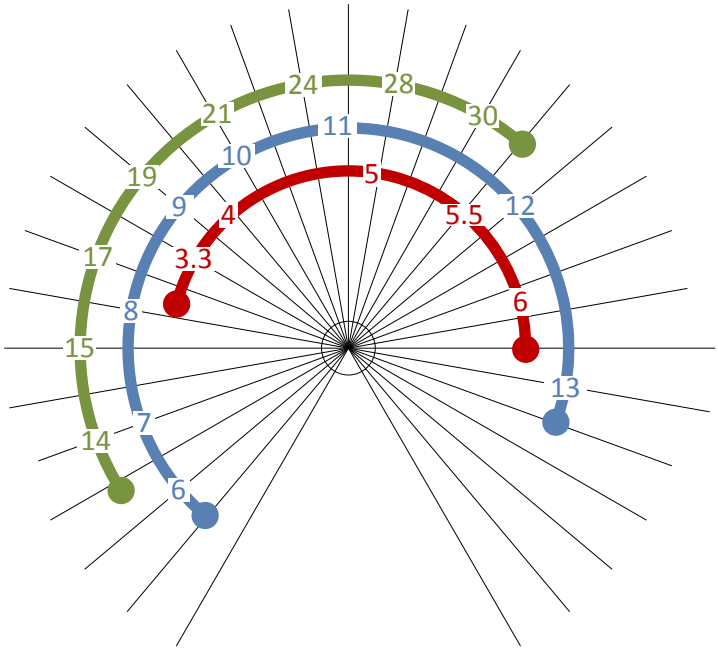

Figure 2. Developing the dial

Then as shown in Figure 3 I removed the drafting lines, changed the colours of the arcs and printed the final dial. The dial shown in figure 3 of the article has some funny colours as my printer needed new toner cartridges.

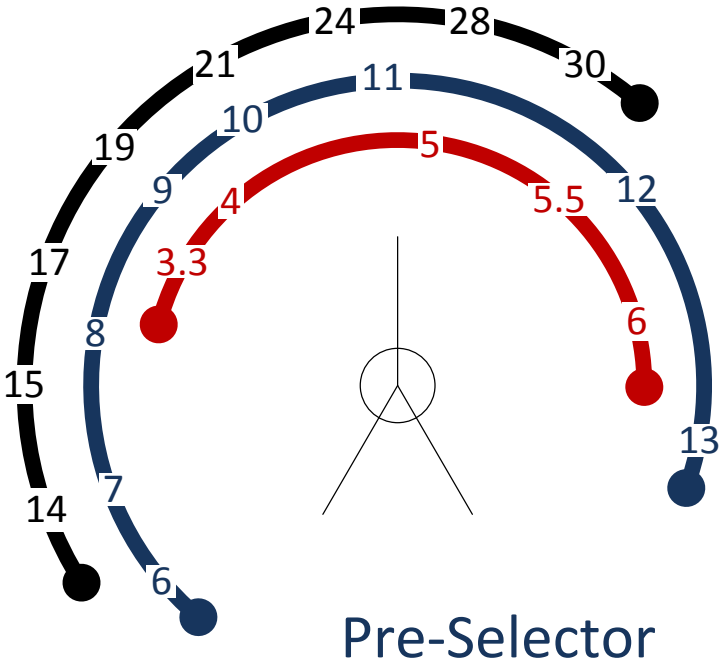

Figure 3. Final dial

I do prefer the red, blue and green in Figure 2 rather than those I use in Figure 3

Samuel

Ps – the VISIO file has been zipped as my website provider (WIX) does not allow .vsd files to uploaded.