

# A Winter's Tale... of building a transceiver!

For most of my time as a Radio Amateur, wintertime has been a mix of emotions for me. Gone are the long warm summer days, playing portable in the sun (or rain!) and usually gone with them is propagation on the higher HF bands.

However, in its place are the long dark nights and the chance to do some serious operating on the LF bands, 160m 80m and of course 40m. While the dark nights are not to everyone's taste, I have often seen them as an opportunity to both brush up on my CW skills and consider doing a little radio construction.

So it was that I happened on the Hendricks Kits website

[www.qrpkits.com](http://www.qrpkits.com) and saw some of the rather nice looking projects there. I had heard of their PFR-3 Portable Field Radio kit and was tempted by that but decided to go for something I could use during the winter months. The "Weber Dual Band Transceiver" which is essentially similar to the PFR-3 but designed more for the table-top, fitted the bill and with winter in mind, I ordered the 80m/40m version.

What particularly appealed to me was the DDS VFO (no drifting around the band!) the digital display, sensitive superhet receiver, built in keyer and loudspeaker, 600Hz crystal filter and the promise of 5 full Watts out. It sounded good.

I parted with my cash (it was around the £175 mark!) and waited a couple of weeks and, lo and behold, the postman delivered it direct to me! No VAT, no import duty, no "Parcelforce", nothing! That was my first surprise.

The second surprise came when I opened the kit up to find that, while the aluminium case was pre-punched, it was not pre-painted or with legends attached. I don't know why I thought it would be really. Not a problem – I knew it would mean a trip to Hobbycraft in Shirley to get some project paint. Hendricks supplied transfers for the panel legends in the kit so that would be fine. There was even room on the transfers for me to print my own callsign on my laser printer. The final surprise was the size of the rig – much much smaller (and lighter) than I had imagined.

So construction began. There are 2 boards – a motherboard and a front panel board connected to it. The usual pattern of construction was followed, resistors, capacitors,



transistors, ICs etc. It was relatively straightforward to build. The DDS VFO involved some SMT parts but they were pre-installed so nothing to worry about there.

Coil winding is often the bane of home kit construction. Counting the turns is one issue, having fingers small enough to wind them is another. Luckily having built lots of kits over the years I have got my turns counting down to a fine art, but as the eyesight gets worse and the fingers less mobile, I do find trouble sometimes getting the enamelled copper wire through those little holes!

After a couple of snags and a bit of time waiting for metal paint to dry, I was able to get the radio inside its case with all tests showing good. But on power up, the radio was VERY quiet! The transmit section was fine, 6w out on 40m and 8w on 80m – a little *over* spec in fact. But why was the receiver so quiet, especially on 40m?

I trawled the circuit diagram and concluded that the toroidal transformer windings in the receiver front end must be at fault. I checked them for continuity and that was ok, so the next port of call was the Yahoo Group for this kit. It was there that I found that the

instructions are none too clear when it comes to the placement of the dual band input transformers. It turned out that I had followed the instructions correctly but that like many others, I had ended up with the 40m transformer where the 80m one should be and vice versa! No wonder the radio was quiet – the front end was being attenuated!

It was probably more fiddly to try and take the 2 toroids out and replace them than to build the rest of the kit. I even had to rewind the 80m toroid again! Once that was done though, the little radio sprang into life and wow, my final surprise! The little beast is very sensitive and pokey audio-wise too. I have heard everything on this radio that my Elecraft K3 can hear and that's most certainly NOT what I expected from a kit radio. (Yes the K3 is a kit radio as well, but not a soldering kit like this one!)

It's been on soak test for a week now and is holding up fine. I have put out a few CQs but the bands have been quiet at the times I have been able to get on so I am not too worried about that. The G-QRP Club Winter Sports Activity Session starts on 26<sup>th</sup> December, with QRP stations from all over Europe on air, so I can give it a good bashing then.

Meantime, I can thoroughly recommend the Hendricks Kit family, if you want to have a go at "rolling your own". As for me, I am so impressed with this little radio that I have ordered myself a 30m and 20m version ready for those warm summer days once again!

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