

Kit Building—A Dying Breed? A K2 Comes to Life Part II

David Duke, KM5YQ, continues his series about his Elecraft K2 build.



The second phase of the assembly is all on the RF board, and it starts with resistors—lots of resistors. I use small baking pans, an ice cube tray, upside down lids, and a small hobby bin to keep things organized. To speed installation, I taped all the remaining electronic components on to a piece of paper in the order that they appear in the manual.

I bought a Weller temperature controlled soldering station and I found that the thin chisel tip works great for getting just enough heat to the pad and the lead. For solder I'm using Kester 63/37 in both .020 and .031 sizes. Also, I highly recommend a lead bending tool (check eBay).



During the last big capacitor installation, I found that I was missing C182, a 180pF cap. Also, four of the caps had markings that did not quite match the description listed in the manual (an internet search for standardized

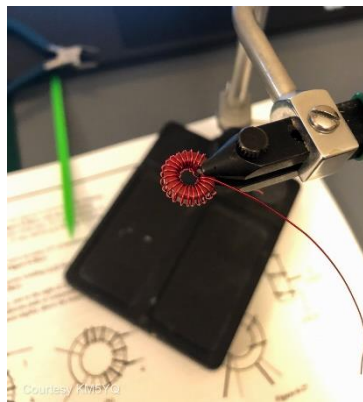
identifiers was not very helpful). Elecraft Support to the rescue! I sent an email that evening and the next day Mike responded and quickly looped in **Dave Wallaghen, W8FGU**, Elecraft's classic line support engineer†. In the email chain that followed, Dave identified the capacitors based on the information I supplied, and Mike handled the replacement capacitor, getting it processed and on the way the next day.

The manual is very well laid out and provides detailed instructions especially in the first sections. As you progress through the build, some tasks such as installing resistors, will not be quite so detailed, yet may refer to an earlier section to review a process or technique. The manual is written to assume that the builder is learning as they go along, and I can certainly attest to that.



With the weekend still ahead, I set aside the RF board and skipped ahead in the manual, to wind the toroids. This was not nearly as difficult a task as I had anticipated. I figured out a method of winding, pulling taut the wire to form itself around the angles of the toroid. Some of the transformers were challenging, especially the bifilar windings, but the manual was very helpful with explanations and figures. Although I won't exactly recommend this, I used my fly-tying vise to hold a few of the higher winding count inductors. Next time you see me, ask me why, 😊.

The replacement for C182 arrived. I installed it and put the boards back together for "Alignment and Test Part II." I powered it on and... **none of the magic smoke escaped!**



The manual guides you through calibrating the 4 MHz oscillator, the VCO alignment, and the BFO alignment. This section was detailed and easy to follow. I used an MFJ-259 antenna analyzer with a frequency counter and my KX3 connected to a dummy load a signal source. The kit comes with its own test process and equipment. An internal frequency counter probe is included with the kit (yes, you build that too!).

These steps continued through aligning the crystal filters, VFO linearization, aligning the IF amp, and the 40-meter pass band filter. I connected an antenna, waited a few minutes, oh my, was that... YES, W1AW! A little down in the noise, but I was receiving on 40 meters, my K2 serial #7976, is now officially a radio!



I spent some more time aligning the 4 MHz reference oscillator using my KX3 as a source. I had a small wire “antenna” connected to the K2, basically 7 inches of wire with a loop at the end that came with my KX3. Interestingly, I actually received a S5 or 6 high-speed CW signals on that little piece of wire around 7.040! Wow!

Ceremoniously, I affixed the serial number sticker to the chassis. Next up is the final stage of the build, the remaining band pass filters, and the transmitter section.

73 Dave, KM5YQ

†W8FGU was featured in an Elecraft YouTube video last year for their “Classic Line.” <https://youtu.be/IGR6HfakrZw>
