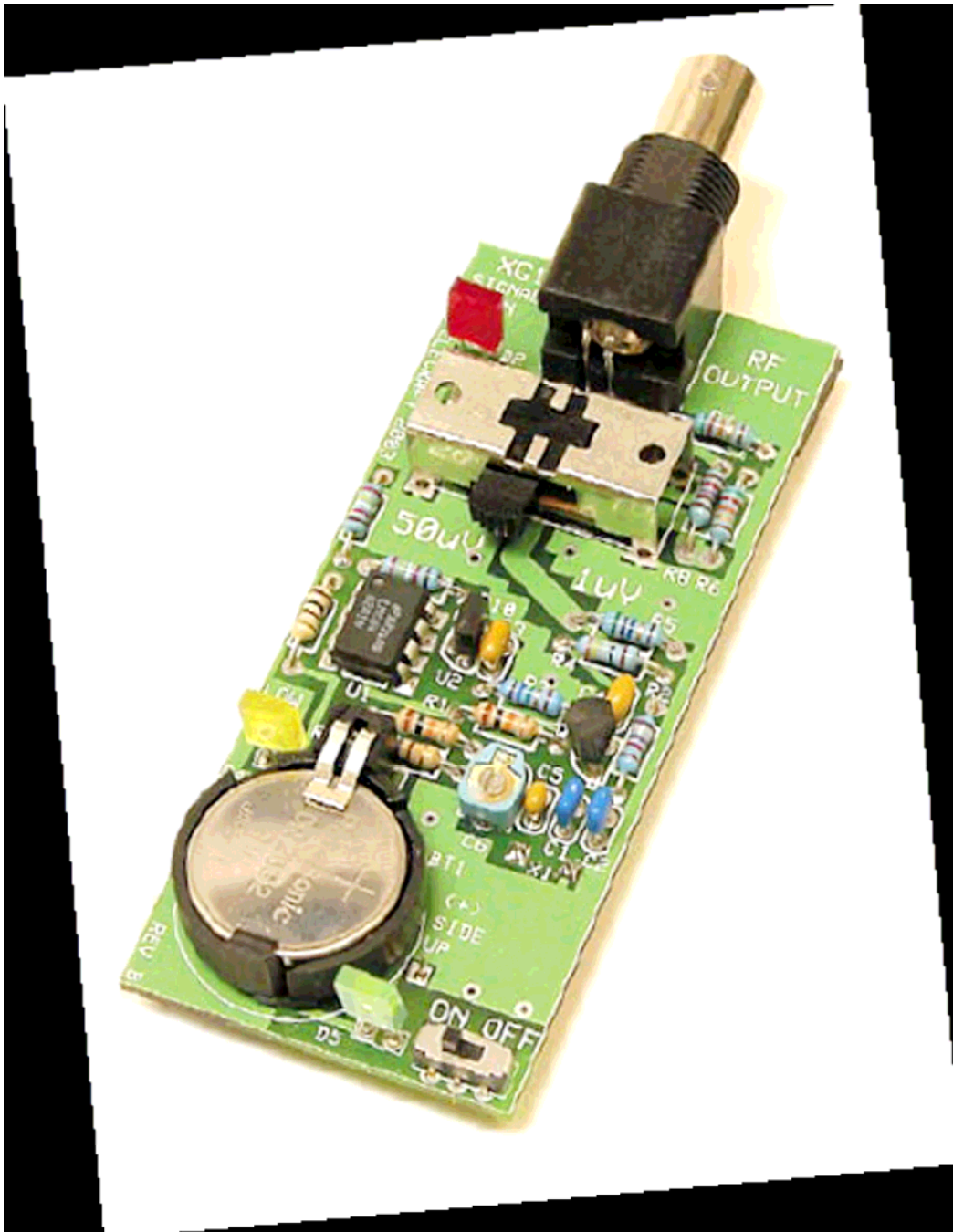


## NCJ Reviews the Elecraft XG-1

The Elecraft XG-1 is a small, inexpensive battery-powered signal generator that generates switch-selectable 1 uv and 50 uv signals on 7040 KHz. Why, you may ask, is such a thing being reviewed here in NCJ? Read on, please!

How many times have you wondered whether that last ill-advised antenna change or SO2R transmission may have killed your radio's front end? Have you wondered how accurate your S-meter is, or how the sensitivity of one radio compares with another? Trying to set the IF gain in your Yaesu radio after adding the Inrad roofing filter? Want to do a quick check of a transceiver's receiver at a hamfest? The XG-1 offers a quick and easy way to do all these things, and with a little more work it can be used with fairly good accuracy to measure the ultimate sensitivity and S/N ratio of your receiver. Not bad for \$39.

This is one of a series of "mini-module" kits offered by Elecraft, the K-2 people ([www.elecraft.com](http://www.elecraft.com)). It comes in the form of a 3 ½" x 1 ½" printed circuit board, a zip-lock bag of parts, and a 6-page manual with detailed, step-by-step assembly instructions.



If your eyes are like mine, reading the color codes on the 1/8 watt resistors and the numeric ones on the tiny capacitors is a challenge. Fortunately, after you have populated the board, the instructions provide a set of ohmmeter readings at various points that you can use to verify that you have things in the right spots. Total building time was about 2 hours. There was one outline on the PC board that seemed to conflict with the written instructions (C6, the frequency trimmer) but otherwise it would be hard to screw up if you follow instructions. To my pleased surprise, it worked first time.

Using the XG-1 is very simple. Be sure to disable transmit on your transceiver and cable the XG-1 to the antenna jack. Set the XG-1 to 50 uV, turn it on, and tune to 7040 KHz. Fine-tune the signal for maximum S-meter reading. Done. The manual for the XG-1 also offers instructions on using its 1 uv output and a digital multimeter to determine S/N ratio and minimum discernible signal. Should you forget and transmit into the unit, it has a protective circuit that has been tested at 10 watts for 2 seconds, as well as a warning light, but why flirt with disaster - the safest thing is always to turn your transceiver ALL the way down.

The XG-1 only has a single-frequency output; however, the manual tells you the expected levels of the second, third and fourth harmonics. Another unit, the XG-2, is available with non-harmonic accurate-level outputs on 80, 40 and 20 meters, for \$59. The harmonics are just fine for verifying receiver performance.

Using the XG-1, it took me about 5 minutes to determine that I had the IF gain of my Mark 5 set about three units too low, and to verify that my TS-930's S-meter was right on the money. I can now put the unit away until the next time I wonder if I've done something expensive to my radio, or want to verify performance. What's not to like?