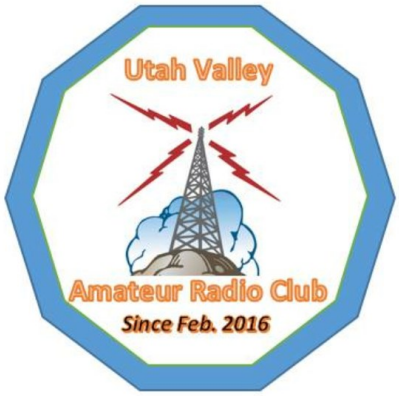
DIY

Worthwhile projects you can build on your own



Coax continuity tester

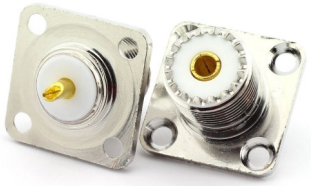
Have you ever suspected that your coax had a break in its center conductor or that your coax shield and center might be shorted? Couple that with the fact that the leads of your ohmmeter were not long enough to reach between one end of your coax and the other end outside on your roof. Well, here's an easy solution, but it's still going to require your ohmmeter.

It's nothing more than a 100-ohm resistor soldered between the center pin and the flange of an SO-239 bulkhead. The idea is to install it on one end of your coax, and measure the resistance at the other end. If both the shield and the center conductor of your coax are continuous, the ohmmeter should read about 100 ohms, give or take.

This works for most common coax types, such as RG-58, RG-8X, LMR-400, RG-213, LMR-240, RG-8, and others. And it works for coax lengths up to 300 feet. What it won't tell you is which side (the center or the shield) is broken, if the resistance reads infinite. And it won't tell you where the short is, if it reads zero ohms.

Parts list

One SO-239 bulkhead connector
One 100-ohm 1/4-watt 1% resistor



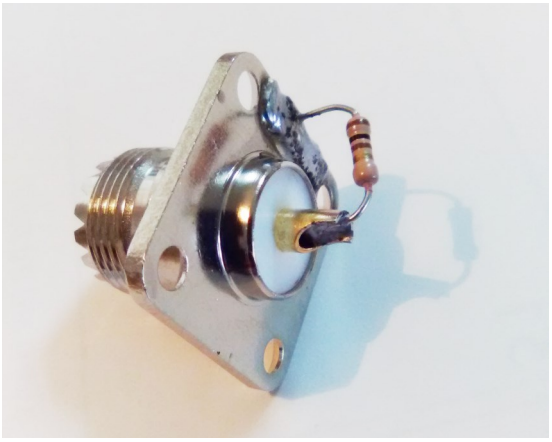
SO-239 bulkhead

Construction

Attach the PL-259 connector of one end of any coaxial cable onto the SO-239 bulkhead. This provides for both a heat sink and a center stabilizer, in case you get the Teflon dielectric too hot. Cut both ends of the 100-ohm resistor to leave about ¾" of wire on each end. Solder one wire of the 100-ohm resistor to the inside cup of the center pin of the SO-239 bulkhead, and allow it to cool.

PL-259 attached

Using a hot (60 watts or greater) soldering iron, solder the other wire of the 100-ohm resistor to the flange of the SO-239 bulkhead. The flange is a terrific heat sink, and will require lots of heat, so this step must be done as hotly and as quickly as possible. Furthermore, what this joint will need is a lot of solder *flux*, rather than just solder, to get the solder to bond with the flange.



The finished product

Conclusion

Alright, this was a rather simple project for a DIY column in the newsletter. Ideally, I could provide beeping circuitry to replace the ohmmeter. But I've used this so often, I figured I might as well share one of my simple, secret tools, to help make my amateur life a bit easier.

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