

N5ESE's Version of Norcal BLT Tuner Kit

The [Norcal](#) SMK-1 Kit is a great novelty rig and a wonderful learning experience in Surface Mount Technology. With the popularity of that kit, NORCAL asked Charlie Lofgren, W6JJZ, to design a matching tuner. At just \$25, this has got to be one of the bargains of the decade in QRP accessories!

The tuner uses a Z-match circuit, which provides some bandpass filtering in addition to impedance matching. It uses a BNC connector at the input, and binding posts at the output, to connect to a balanced-feed antenna. The Z-match is best suited for balanced antennas, but I also modified mine to add a switch at the output (which grounds one side of the balanced output) and a BNC connector for connecting to coax antennas.

The schematic with my mods can be seen [-here-](#).

The designer tested the tuner with a field doublet using balanced feedline, on 40 through 10 meters. I was unable to match my twinlead-fed 40 meter doublet on 10, but I had no problem with 40 through 15 Meters, although the tuning was a little touchy on 20 and 15. I attempted to match the [Notebook](#) and [DCTL](#) antennas on 40 Meters, but was unable to get a match at any setting.

I'm a little concerned with the N7VE SWR bridge. When comparing my matches on 40 meters with my Radio Shack SWR meter and my MFJ Antenna Analyzer, I found that the Rad Shack and MFJ agreed, but the BLT Tuner's null was a little off. Typically, when the BLT's LED nulled, the actual SWR was 1.2 or 1.3-to-1 (but still usable). I could, however, with the BLT in "operate", adjust the BLT tuning controls to obtain 1-to-1 SWR (as indicated by the Radio Shack SWR meter and Antenna Analyzer), but then the BLT's LED indicator was off-null. Wondering if this was a systemic problem with this type SWR bridge, I attempted the same test with the Emtech ZM-2, and got similar disparaging results. This may bear some looking into.

The pictures below are offered as visual aids to those building the BLT. Enjoy!





