

9:1 VOLTAGE UNUN. Version 2

9:1 voltage unun using a L15 ferrite core.

With the view to establish a quick and easy multi-band antenna deployment for portable and camping operations a simple long wire antenna with an earth or earth plus counterpoise arrangement with a 9:1 voltage unun is one possible solution.

Requiring a unun to feed a long wire antenna ideally without a tuner a 9:1 voltage unun design using a L15 ferrite toroid core was selected.

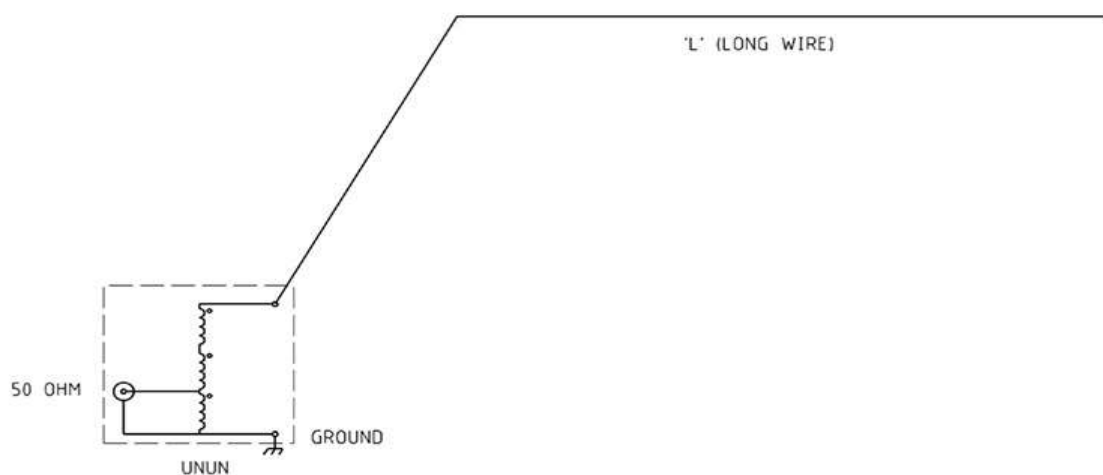


Figure 1 Typical 9:1 voltage unun and long wire antenna configuration.

Construction

1.25mm Enamelled copper wire was used in a triple bifilar winding of 4 turns wound evenly spaced around the L15 ferrite toroid core with the three individual windings wound close together.

The length of enamelled copper wire per winding for the L15 ferrite toroid core is determined by length per winding plus tails = 600mm

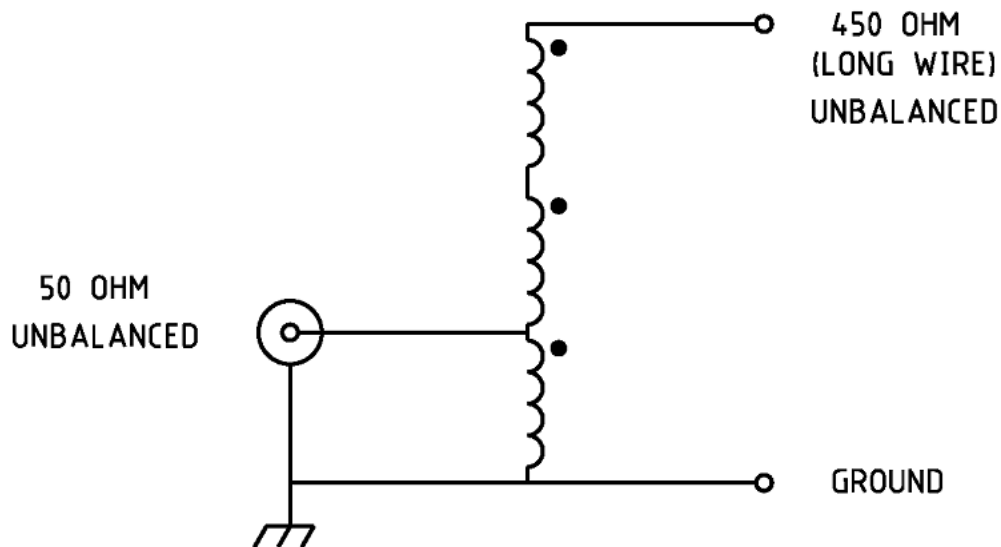


Figure 2 Schematic of the 9:1 voltage unun. Typically unbalanced = 50/75 ohms too unbalanced = 450/675 ohms.

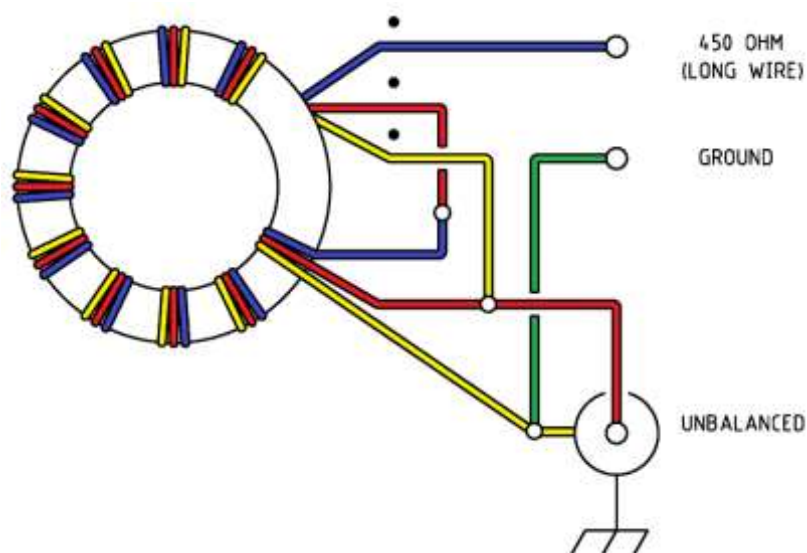


Figure 3 Wiring of the 9:1 voltage unun.

Note this drawing shows winding connections and not the number of turns required. See article for details.

Parts list.

- 1 x L15 ferrite toroid core. [Jaycar](#) Cat. No. LO-1238
- Pink heavy duty Teflon plumbers' tape.
- About 3 x 400mm of 1.25mm Enamelled copper wire.
- Black and Green binding posts.
- SO-239 UHF chassis mount connector
- Sealed Polycarbonate Enclosures 82 x 80 x 55mm

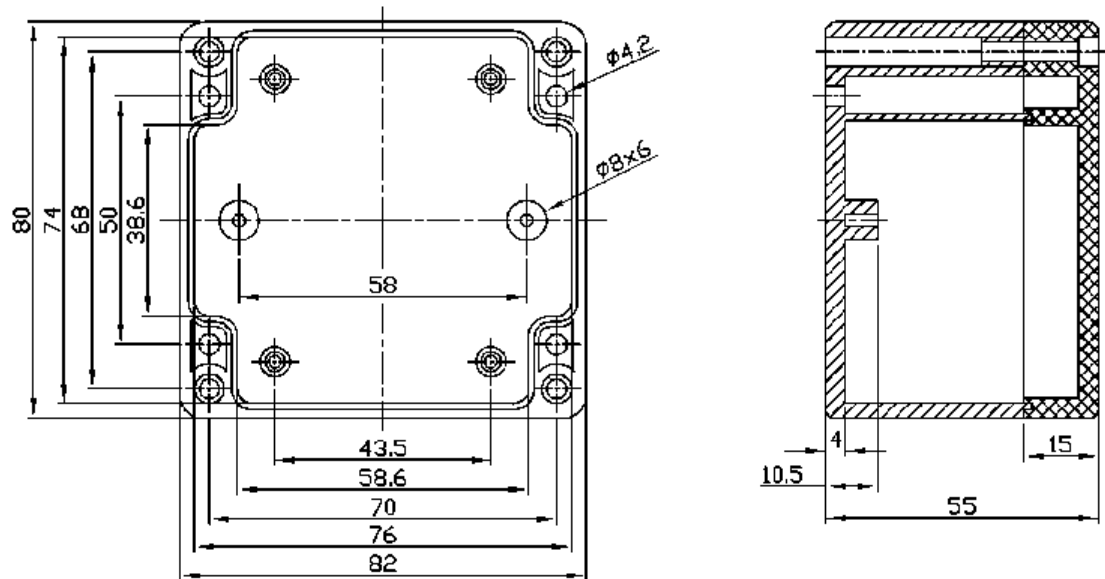


Figure 4 Sealed Polycarbonate Enclosures 82 x 80 x 55mm details

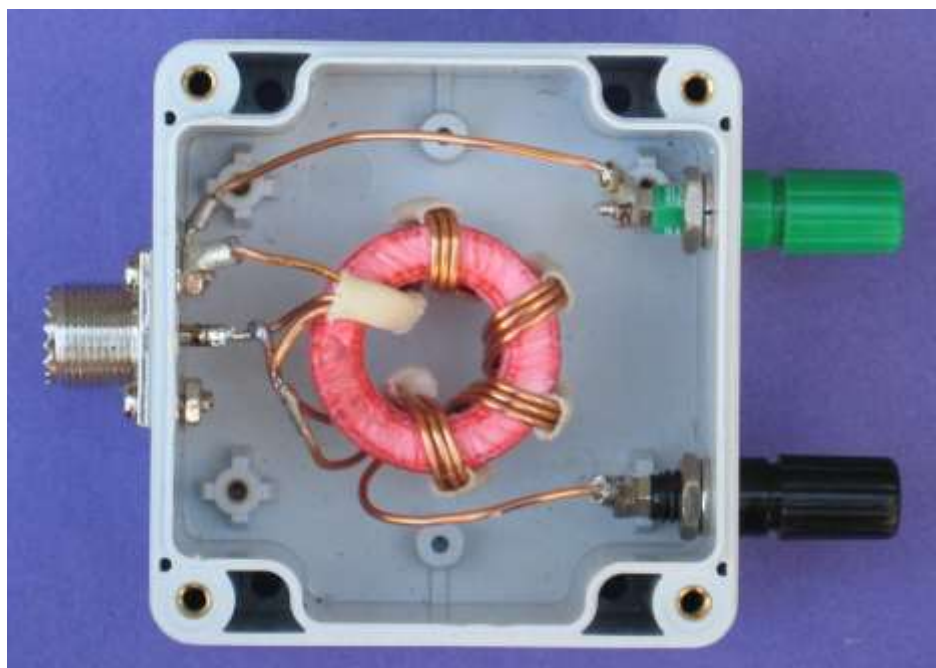


Photo 1 Completed core winding assembly. note fiberglass tube sections to hold winding groups together.