

Recommended wire lengths for Unun models 9130, 9132 & 9135

Wire Length Feet	1.8 MHz	3.7 MHz	5.3 MHz	7.1 MHz	10.1 MHz	14.2 MHz	18.1 MHz	21.2 MHz	24.9 MHz	28.5 MHz	50.1 MHz
175	1.2	1.6	1.1	1.1	1.1	1.8	1.3	1.6	1.7	1.2	1.5
169	1.4	1.2	1.2	1.2	1.2	2.1	1.4	1.4	1.5	1.2	1.1
162	1.4	1.5	1.7	1.3	1.6	1.8	1.9	1.1	1.5	1.7	1.5
146	1.7	1.5	1.4	1.4	2.4	1.5	1.3	1.2	1.4	1.5	1.5
135	2.0	1.4	1.3	1.8	1.6	2.0	2.0	1.7	1.5	1.6	1.3
124.5	<u>1.3</u>	<u>1.3</u>	<u>1.2</u>	<u>1.3</u>	<u>1.7</u>	<u>1.6</u>	<u>1.8</u>	<u>1.6</u>	<u>1.4</u>	<u>1.1</u>	<u>1.4</u>
98.5	1.8	1.7	1.4	1.7	2.3	1.9	1.4	1.2	1.7	1.2	1.2
88.5	1.8	2.2	1.7	2.3	1.9	1.3	2.0	1.8	1.4	1.5	1.5
72	2.0	2.0	1.4	1.2	1.2	1.9	1.9	1.5	1.1	1.5	1.1
59	1.6	1.6	1.3	1.5	2.0	1.5	2.0	1.1	1.7	1.2	1.5
53	<u>1.6</u>	<u>1.4</u>	<u>1.2</u>	<u>1.1</u>	<u>1.5</u>	<u>1.1</u>	<u>1.9</u>	<u>1.2</u>	<u>1.1</u>	<u>1.7</u>	<u>1.1</u>
49	1.5	1.3	1.4	2.4	2.4	1.3	1.6	1.6	1.4	1.7	1.5
44		1.2	1.5	2.1	2.1	1.7	1.3	1.7	1.6	1.1	1.2
36		1.2	1.3	1.3	1.3	2.0	1.6	1.2	1.7	1.6	1.5
29.5				1.2	1.2	2.1	2.0	1.3	1.2	1.6	1.3
24.5				1.6	1.6	1.4	2.1	1.8	1.3	1.2	1.4

Table shows typical SWR relative to installed wire length. SWR **will** vary based on topography, wire orientation and use of ground or counterpoise. For best results, use the

longest wire shown on the table that will fit your installation constraints. Installing the antenna wire as an **Inverted L** can change the feed point impedance and may require tuning (changing the length of the wire) for best coverage of all HF bands.

Rows in color are best overall lengths to use for optimum HF spectrum coverage. Experimenting by slightly changing the wire length (+ or-) is encouraged to provide best overall performance for individual installations because of topography and configuration.

By design, ununs are wound in a manner that provides little or no RF choking. Although not necessary, a 1:1 isolation/choke balun (models, 1110, 1113, 1115 etc.) at the transmitter end of feedline will stop RF from entering your equipment and reduce receiver noise caused by common mode currents. Installing a 1:1 choke balun at or near the unun will not allow the coax shield of the feed line to be used as a counterpoise.

[Any of the 913x units can be installed using three different methods.](#)

Ideal: Sloper configuration with one counterpoise but several different length counterpoises is better. Length of counterpoise should be approx. 20-40 feet but **NOT** resonant. If possible run the counterpoise away from or perpendicular to the antenna wire.

You can also use the unun with no counterpoise or ground if your feedline is at least 25+ feet long. In this configuration the coax shield will act as your counterpoise. Typically, performance is better with no ground at the antenna but you can try both ways.

Good: Attach counterpoise stud to a radial field of at least 4 wires minimum, 10-15 feet long each. Again, more is better and will increase efficiency. Longer length radials are not necessary.

Workable: Attach counterpoise stud to a good ground rod at the feed point of the antenna.

Weep holes are intentionally omitted on these models because the unit's final mounted orientation is unknown, but are very important to the longevity of your unun. If they are not installed, weather changes over a period of time can cause condensate to build up inside the enclosure and potentially cause a short or abnormal operation. They should be added by drilling two 1/16th holes at the low point of the enclosure using the unun's final mounted orientation. Holes are usually drilled in the corners or sides, opposite each other, but can be added in any location.

Please note that short antenna lengths will not be capable of performing as a highly efficient antenna, especially on lower bands. The intent of this unun is to allow HF coverage for portable applications or in restricted installations such as HOA managed communities. Longer wire lengths will always be more efficient and provide better performance.