

80M OCF (Off centre fed) Antenna

Design Parameters

For an 80-10 meter OCF dipole antenna, divide the $\frac{1}{2}$ wavelength standard of 468 by the lowest operating frequency of 3.6 MHz and you arrive at an overall length of 39.624M (130'). This is the length of a standard dipole but instead of dividing the result in half, use a 36/64% offset to determine the feedpoint.

The total length of 39.624M (130') multiplied by 0.64 (64%) gives the long leg length of 25.360M (83.2 feet). The short leg length is the remainder or 14.265M (46.8 feet).

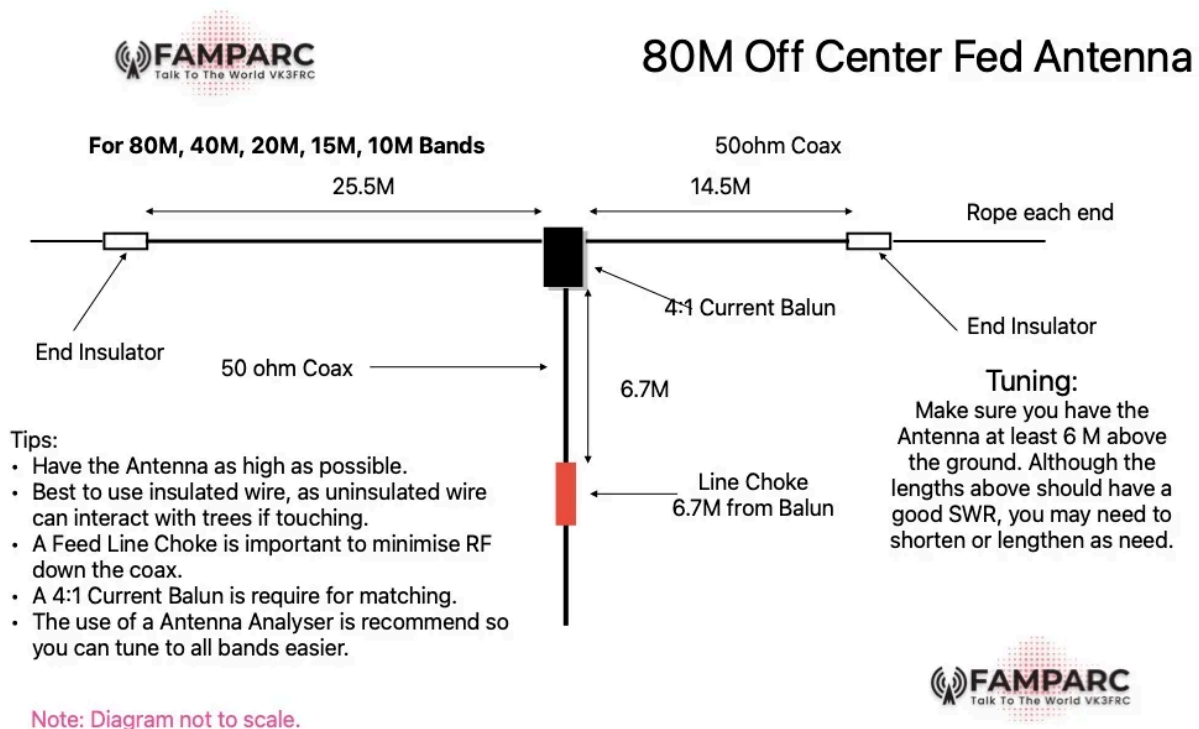
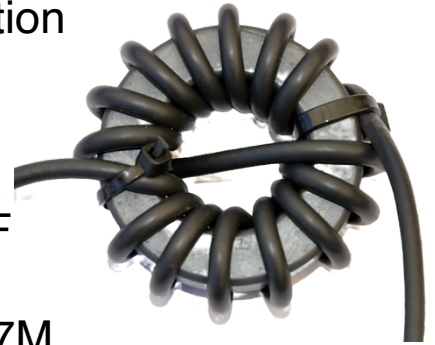


Using a quality CURRENT 4:1 balun at the feed point is crucial to the overall performance of the antenna when they are fed with coaxial cables.

The feedpoint impedance at the offset is at or about 200 Ohms and the balun will provide good transformation to the coax feedline impedance of 50 Ohms.

RF Choke (Important)

The OCF 80M or 40M model, does use a portion of the feed line prior to the 4:1 Balun as a Radiator. This can produce RF on the feed line, thus causing all sorts of of RF issues in the shack and your transceiver. Therefore a RF Choke is very important. For the 80M OCF version the location of the choke is around 6.7M before the Balun.



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After installing the OCF, check the resonant frequency on or lowest SWR for 80 meters. It should be in the low portion of the 80 meter band (e.g., 3.5 MHz or lower).

Now you can begin trimming small lengths of wire off each end of the OCF to obtain the lowest SWR at 3.6 MHz.

Begin with no more than 6 inches in total with 4 inches removed from the long leg and 2 inches off the short leg. Be sure to trim each wire proportionately.

For example, if you cut 150mm off the long leg, cut only 75mm off the short leg. Depending on your surroundings and antenna height, 80m may only reach an SWR of 1.8 – 2.0:1. This is normal and the higher bands will be lower.

Have Fun!

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