

20m half-wave end fed (SWR < 1.3:1)



The add-on 300 ohm horizontally supported 1/4 wave section converts the 40m vertical into an "L"-shaped 20m J-Pole antenna,
Notes : Any counterpoise or earth rods need to be disconnected.

300 Ohm Matching section = A + B

Trim B to reduce SWR to 1:1 - See notes

It is important to support the matching transmission line off the ground as this affects the SWR.

This is perhaps why OE3MZC used coax and accepted the coax losses.

1/4 wave wire @ 40m

or

1/2 wave wire @ 20m

Section B

Section A

4 Clamp-on Ferrites
act as a choke

PL259 with
Mini-8 or RG58

The IDEA for this came from OE3MZC's 20 Metre 1/2 wave end fed who used 50 ohm coax for his 1/4 wave matching section, but this has greater dielectric losses, hence this design used twin line with lower losses.

Theory :- For a 1/4 wave end fed antenna Z_0 approx 50ohms, but end fed 1/2 half wave antenna $Z_0 > 2000$. The tapped 1/4 wave section acts as a matching transformer, and is made up of sections A+B

Section A = 3.54m & Section B = 0.75m but is cut to 1m initially.
Reduce SWR below 1.3:1 by trimming the shorted section 2.5 cm at a time.

G8ODE RSARS 1691