HOW TO OPERATE THE "Bundu Basher" ON 80 METRES

A loading coil must be added to operate on 80 metres. The overall length of the 80-10 metre version of this antenna is about 23 metres. See details below:

The nominal inductance of the loading coil is 110 µH to cover the 80m band. Use 50mm PVC plastic pipe for this coil. The PVC pipe needs to be about 70 to 80mm long, to allow for attaching strain-reliefs. Shrink tubing can be used for weatherizing (note that this changes the inductance slightly – but is not serious) the shrink tube openings of the coil can be made watertight by stuffing it with hot-melt glue from a glue-gun just before applying heat to the shrink tubing. **You need to make this loading coil as waterproof as possible.**

Use 0.7mm Ø enamelled copper wire. Wire length needed is about 8.5 metres, make it 9.0 metres. With 52/53 turns, and t**ightly wound**, the coil takes up about 40mm of space. Measured **110.7uH** on my inductance meter. Instead of wrapping red wire around the ends, rather use suitable plastic cable ties. I went to an electric motor repair shop to get the wire. If you have one of my LC Meters, you can measure the coil exactly!

Figure One: Typical loading coil.

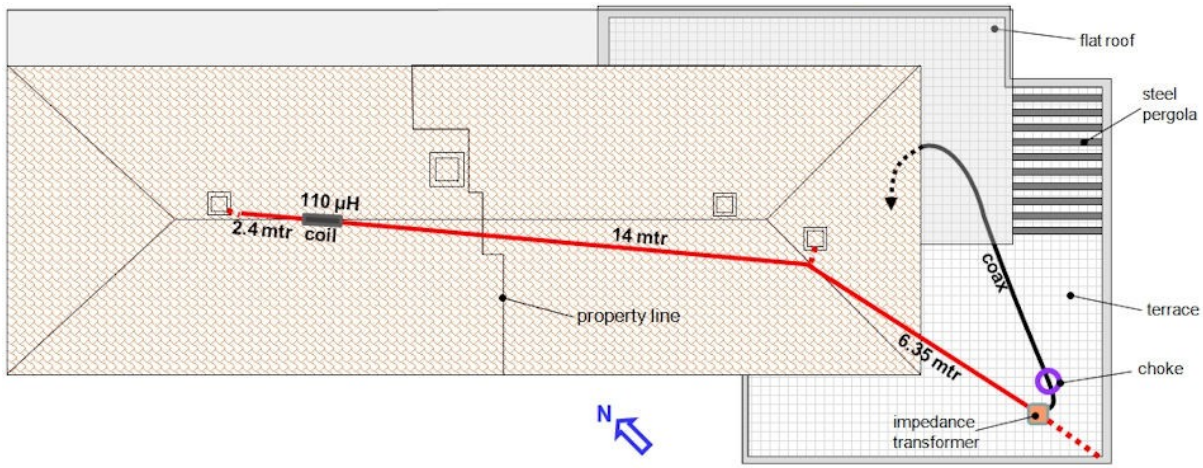

Figure Two: Typical Antenna Layout.

Tuning the total antenna. Standard approach for tuning-and-pruning the antenna is to start with the band where the antenna acts as a 1/2-wave end-fed (40 metres for the 80-10 antenna). Measure the SWR in the portion of the 40 metre band that is of interest. Without an antenna analyser, this is do-able but definitely not easy.... **If the frequency of the SWR dip is above that band portion, then increase the long wire by 5 cm at a time and repeat the measurement. Conversely, slightly decrease the length of the wire if the SWR dip is below the band portion of choice.** Repeat until the minimum SWR is achieved. Now add the loading coil and 2.4 metres of cable. Then follow the same procedure for adjusting the 80 metre length of the extension wire for minimum SWR on the portion of the 80 metre band of your interest. Just fold back the excess and wind around onto itself. So it is best to start out with wires that are definitely too long. Do your SWR measurements on 7.100 MHz for 40m and 3.65 MHz for the 80m tuning operation.

Depending on your local environmental conditions you may have to use an antenna tuner for best results.

The typical layout shown above does not necessarily have to go over a house roof – this is just an example. I have hung the transformer box under the eaves, and strung the cable from an upstairs room and over some trees and bushes at a height of about 5 meters, and it worked beautifully.