

Subject: Pawsey Stub Coax Balun

From: G8MNY@GB7CIP.#32.GBR.EU

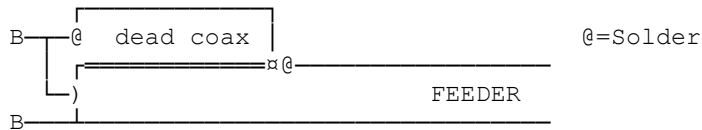
To : TECH@WW

By G8MNY

(Updated Dec 04)

This type of balun is to be found in most textbooks & many aerial designs. It is a 1:1 balun & does not alter the impedance.

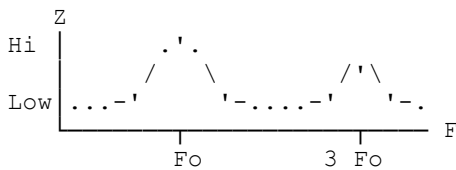
Balun is $\frac{1}{4}$ wave of scrap coax alongside the feeder (a pipe will do).



The feeder inner is connected to the dead coax braid B & B are the 50Ω balanced feed points. The dead coax is what it says, a shorted out at both ends bit that could even be copper pipe of the same diameter. It is connected to the feeder $\frac{1}{4}$ wave back from the aerial where the braids join together. At the aerial end the dead coax is connected to the feeder's inner.

This works by making the aerial connections look "balanced", as the ± voltage phases appear to radiate equally from both halves of the balanced $\frac{1}{4}$ wave lines & hence cancel, the 2 balanced folded $\frac{1}{4}$ waves look like a $\frac{1}{2}$ wave where the centre is at RF ground & therefore can be connected to the feed coax outer without any RF left on the outer of the coax skin.

Common mode Z is only high at the resonant frequency, where it eliminates any outer feeder current on the unbalanced coax.



Why don't U send an interesting bul?

73 De John, G8MNY @ GB7CIP

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