

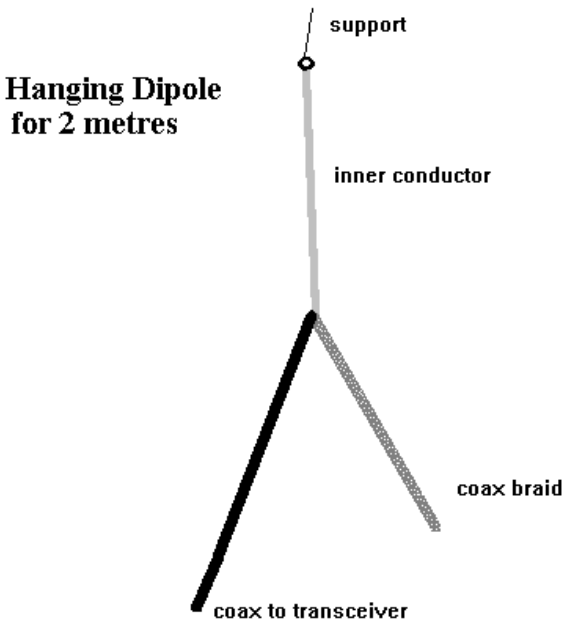
Build a hanging dipole for 2 metres

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Described is a simple omnidirectional, vertically-polarised dipole for two metres. Made from coax cable, it can be rolled up and stored in a small container. It may be used as is indoors, or waterproofed for use outside. No special gain claims are made; it has no more gain than any other.

However it should be significantly more effective than the antenna that came with your handheld. The cost of building the project is around five to ten dollars. Allow about 20 minutes to construct and erect the antenna.

A single length of 50 ohm coaxial cable forms both the antenna element and the feedline. The antenna is made by removing a quarter wavelength of outer jacket and bending the braid back along the cable towards the transceiver to form a vertical dipole. This means no metal work or wiring is required (apart from attaching the BNC or PL259 plug).



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Parts required

The following is required to complete the project:-

- 3-4m RG58 coaxial cable (not critical - use longer length if height is needed or the operating position is distant from the antenna)
- PL259 or BNC plug (to suit transceiver)
- small metal lug, washer or nut
- tape measure, scissors, small screwdriver, long-nosed pliers, multimeter, fishing line, soldering iron

Construction

- Solder the PL259 or BNC plug to one end of the RG58 cable.
- From the other end of the cable remove 48 cm of the black plastic outer covering to expose the braid.
- With a small screwdriver (Phillips head is best) gently part the braid to make a small hole near where it ceases to be covered by the plastic jacket. Aim to make it about 5mm in diameter.
- Use either pliers or a screwdriver to pull the inner conductor out from inside the braid through the hole in the braid (Fig 2c).
- Fold the braid back along the cable towards the plug. Solder the end of the braid to prevent fraying.
- Remove about 5mm insulation from the inner conductor.
- Solder the end of the inner conductor to a small metal lug or nut.
- Thread fishing line through the lug or nut and hang the antenna in its desired position.

The antenna is now operational. You may wish to check the SWR and make it longer or shorter if the SWR is above about 1.5:1 at 147 MHz.

Erection and use

The antenna should be hung vertically for best performance. Keep it away from metal objects and have it as high as possible. Where signals are weak, hang the antenna near a window facing the repeater. If you intend to use the antenna outside, apply sealing compound to stop moisture entering the cable. Not doing this will mean poorer performance over time as cable losses increase.

Notes

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