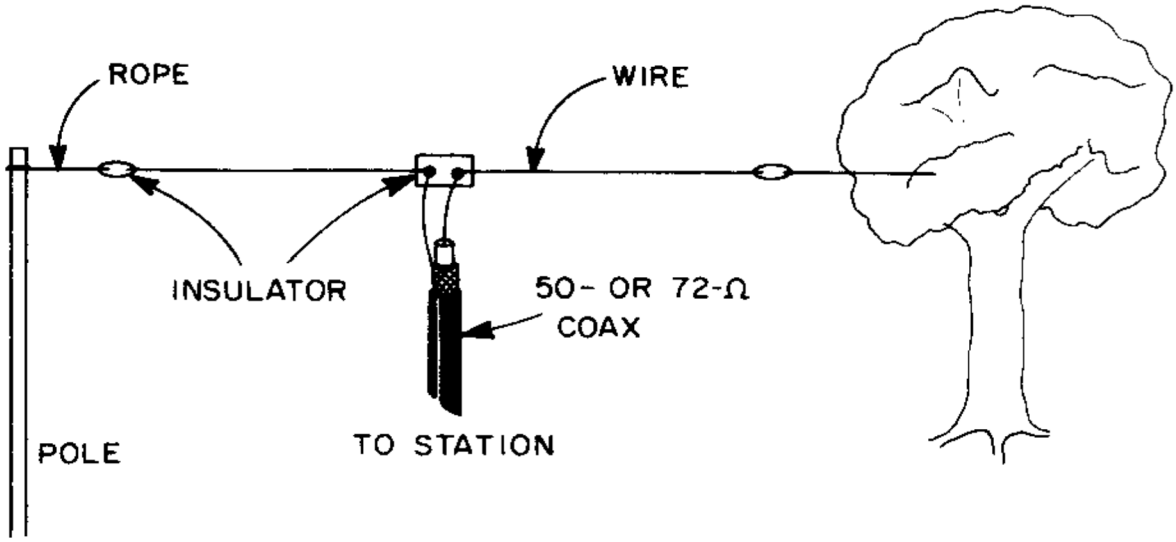
PK's Loop Antennas ABN 76 271 051 082

Clear & Long Range Radio Reception Everywhere

Installing your 40m Dipole Antenna

Your new PK's HF Dipole Antenna is pre-tuned to the middle of the 40m Ham Band at 7.1 MHz, no tuning or cutting is required. The balun should connect to your radio via a suitable length of coax cable; with this in mind consider antenna height and coax cable length as the deciding factors for installation. We can supply coaxial cables of various lengths, pre-fitted with PL-259 connectors. Be sure to support the balun by the centre eyelet, to relieve the weight of the coaxial cable on the dipole wires.

Basic T Dipole Antenna



Find a centre support point and two convenient mounting points for the wire ends like; nearby trees, a fence post, the side of a building or put up some poles.

For DX (Long Distance) communications, your 40m Dipole will work best at heights greater than 8m and as far away from buildings and power lines as possible; otherwise interference on reception and reduced DX range will occur.

If you intend operating the dipole in the N.V.I.S. (Near Vertical Incidence Skywave) mode for Short Distance communications, then consider a maximum height of 3 to 4 metres, with the dipole flat to the ground, doing this will cause the antenna resonant point to lower, so some coiling up (folding back) of the ends of the wires maybe required to resonate the antenna back to band centre..

The next and most popular dipole and simplest installation method is the Inverted-V configuration…

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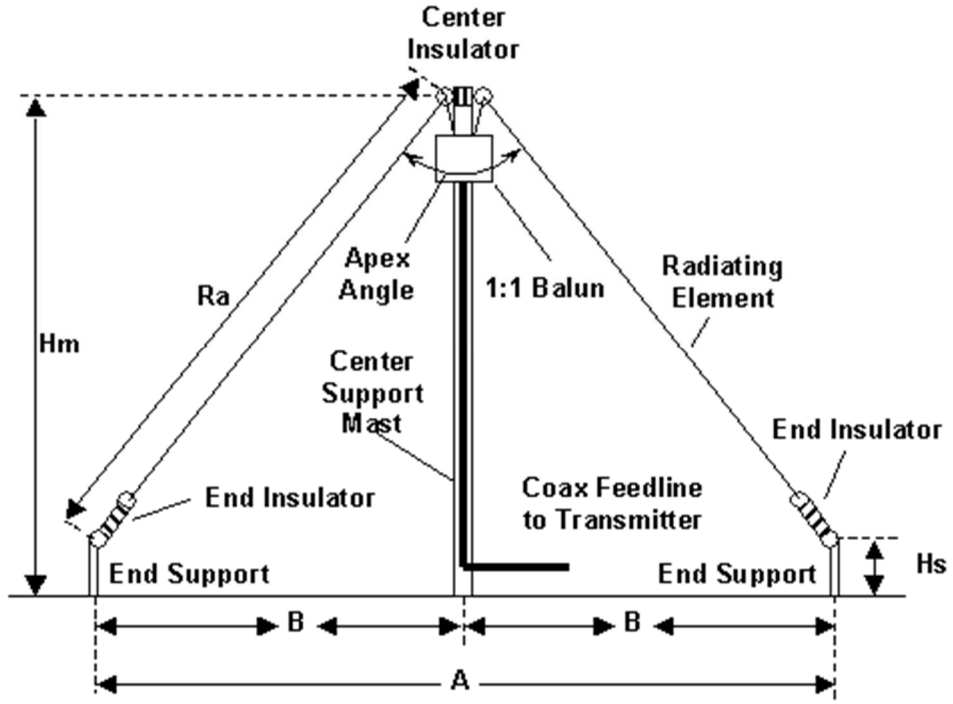
The Inverted - V

If you choose to use the Inverted-V configuration, you will need to support the dipole by the centre eyelet at least 8 metres off the ground and angle the wire ends down 70-120 degrees and fix them using rope to convenient anchor points, like a fence, tree etc. Minor wire trimming/folding back may be required to tune the antenna on the desired frequency.

Introduction

As you can see from the diagram below, this antenna gets its name from the shape. It's really just a dipole with the centre raised on a mast and the endpoints near ground. By raising the centre point, the horizontal space requirement is reduced and only one tall support is required. Although not the same performance as a dipole at the recommended height of 1/2 wavelength above ground, it is still very effective when space is a premium.



A standard dipole generates a horizontal radiation pattern in the shape of a figure 8, with maximum radiation broadside to the antenna. The Inverted-Vee tends to be more omni-directional and radiates equally in all directions.

For best results with this type of antenna, the Apex Angle should be kept between 70 and 110 Degrees. Below 70 Degrees the radiators start to become parallel to each other and signal cancelling will start to occur. Above 110 Degrees the antenna starts looking like a standard dipole, minimizing any of the feed impedance and shortening effects. The optimum Apex Angle is 90 Degrees.

Good DX !

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