

Dual Band J-Pole Antenna (70cm & 2m) - by Gerry - VE6GLF & John -VE6AIV



The driven element is the middle length element.

Description

This antenna consists of three elements made from 1/2" copper pipe. The longest element and the shortest element are grounded to the mounting plate at the bottom. The middle size element is driven with 50 ohm coax and is insulated from the mounting plate by a standard CB antenna type mount. The element length and distance apart is critical. The antenna needs no ground radials and sees a half wave length. Everything below the mounting plate is not seen by the antenna. The antenna delivers about 3 db gain on both bands. Some tuning may be required.

Measurements

Longest element - 57 1/2" overall from mounting bracket

Middle size element - 17 9/16" overall from mounting bracket

Small element - 6 3/8" overall from mounting bracket

Distance from longest element to the shortest element - 2 7/8" center to center

Distance from longest element to the middle size element - 4 1/2" center to center

Construction

The mounting bracket is approximately 5 1/2" long and is made from 1 1/4" angle iron galvanized 1/8" thick. The dimensions of the bracket are not critical. We used a construction angle bracket from the lumber yard. Drill three 9/16" holes in the bracket at the element spacing above. Mount two 9/16" bolts and nuts 1 1/2" long with the threads upward. These are to mount the long and short elements and are grounded to the mounting bracket. Cut a linear slot in the elements so that they can be compressed onto the bolts and held in place with hose clamps. Mount a copper flange nut into a coupling and then mount that onto the middle size element. The flange nut has 3/8" threads so that it can be threaded onto a standard mobile antenna mount that is insulated and mounted onto the bracket. Mount the antenna mount into the hole in the bracket for the middle size element. This is the type of mount that you can insulate it from the bracket. Screw a PL259 connector onto it and has a male 3/8" thread for mounting the antenna. Solder caps onto the upper ends of each element. Note that the caps etc. are included in the overall dimensions.

Tuning

The driven element (middle length) is common to both bands and if it is lengthened or shortened it will affect both bands. Trimming the shortest element will only affect the 70 cm band and trimming the longest element will only affect 2 meters.

Mounting

The antenna can be mounted onto a pipe by means of a muffer type clamp. Insure that the mounting pipe does not rise above the top of the antenna bracket or it will affect the SWR of the antenna.