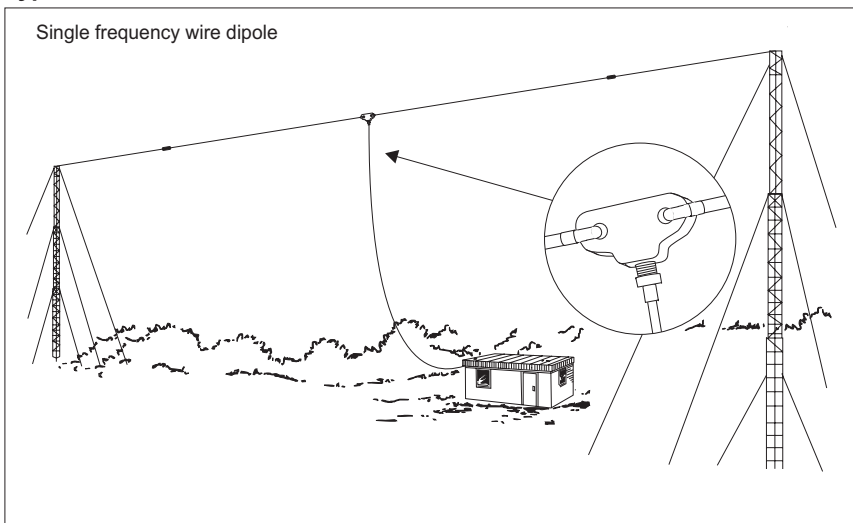


**915 Series Wire Dipoles**

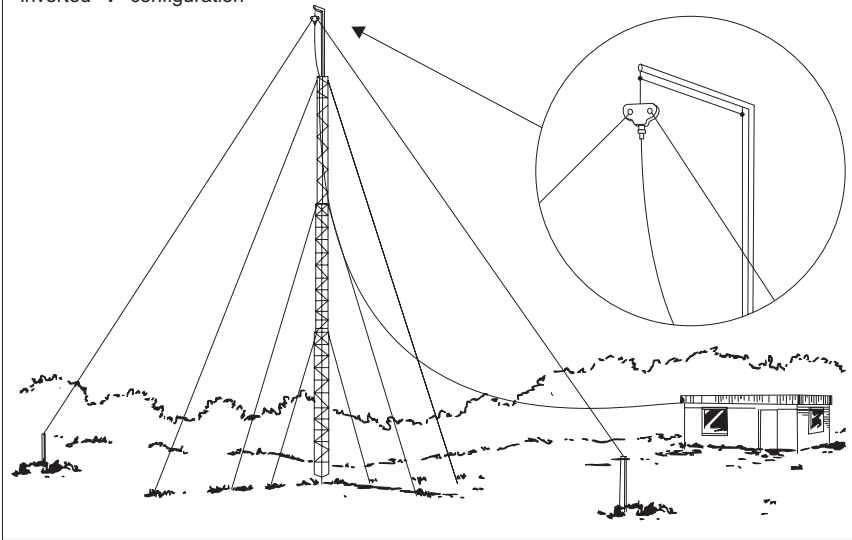
Single frequency wire dipole antennas, spot-tuned to the required operating frequency, are the most efficient antennas for use in HF base stations. They are simple to install and have a relatively narrow bandwidth. Dipole antennas should be mounted at least 1/2 wavelength from the ground. Dipoles may be mounted either between two towers or in an inverted "V" configuration (requires only one mast). As a guide, when installing the masts, the length between insulators of a half wave wire dipole is  $142/(\text{frequency of dipole in MHz})$  metres. I.e. a 3.7MHz dipole - length between the insulators =  $142/3.7 = 38.38$  metres. To this an allowance should be made for extra insulators and halyards.

Wire dipoles supplied by Barrett Communications are pre-cut to a specified frequency but have adjustable ends. These adjustable ends allow fine tuning for optimum SWR during installation. To fine tune a dipole install the antenna in its final position and check the antenna SWR. Should the SWR be greater than 1.5:1 the antenna will require adjustment. If a tunable transmitter is available, determine at what frequency the best SWR is obtained. If this occurs at a frequency below the required frequency the dipole is too long, if it occurs on a frequency higher than the required frequency then the dipole is too short. Drop the dipole and adjust both ends by an equal amount and repeat the above sequence until an optimum SWR is obtained. If a tunable transmitter is not available use a method of trial and error shortening or lengthening the dipole ends, a little at a time, until optimum SWR is obtained. Remember always adjust each end by the same amount as the other every time.

**Typical Installations**

## Typical Installations can't...

Single frequency wire dipole in an inverted "V" configuration



Several single frequency wire dipoles positioned between two towers.

