

# COAXIAL DIPOLE BASE STATION ANTENNA INSTALLATION GUIDE



**NOTE : The installation, performance testing and maintenance of this antenna must be undertaken by experienced personnel only. ZCG Scalar disclaims any liability or responsibility for any event whatsoever which occurs as a result of improper or unsafe installation practices.**

## Delivery

- Upon delivery, unpack the antenna carefully and **check the contents** against the packing slip. It is most important to inspect the antenna to ensure that no damage has occurred in transit and that all items ordered are present.
- **If there is any damage or any item is missing**, advise the cartage contractor and make appropriate notes on the delivery docket before signing. If possible, any damaged items should be photographed. Then contact ZCG Scalar immediately.
- Store the antenna in a safe location away from vehicular traffic. Ensure materials are kept dry, and if necessary cover materials with a water proof cover to prevent water ingress and damage.

## Model and Frequency

- The model will be marked on the label to be found adhered to the antenna.
- This label will also state the frequency range for which your antenna has been tuned.
- A detailed specification sheet is available to download from [www.zcg.com.au](http://www.zcg.com.au)

## General Precautions

- At all times standard OH&S working conditions must be maintained. Use common sense during all installation work.
- Never install an antenna where contact with electrical power lines is possible. Serious injury or death may occur. Power lines, telephone lines and guy wires can look the same. Assume any wire or line can electrocute you.
- Always wear an approved safety harness when climbing an antenna mast or working on a raised platform where a fall could occur.
- Always take heed of all RF Electromagnetic Radiation Hazard Warning Signs which appear at the installation site. Never work where contact with live antennas is possible.

## Installation

- Collinear antennas must always be mounted a minimum of a half wave from the nearest vertical structure.  
e.g : @ 70 MHz minimum 2 metres, @ 400 MHz a minimum of 380 mm, @ 900 MHz a minimum of 170 mm.
- The antenna should be secured using ZCG Scalar recommended clamps, or an equivalent. Take care not to over-tighten the clamps beyond reason.

## Cable and Connectors

- The antenna feeder cable should be secured so as no stress is placed upon any connections.
- Ensure that connector mating surfaces are not damaged and are clean and dry. The male connector pin should be set so as to not damage the female connector pin. Tighten the connectors firmly and make sure they are seated correctly. The connection should be sealed with at least two layers of self-amalgamating tape to prevent ingress of moisture.
- The feeder cable should be earthed to avoid a destructive power surge in the event of a lightning strike.

## Return Loss Test

- Following installation of feeder cable, measure the return loss at the feeder cable input and check that there is no major departure from the factory specification.

## Power Up

- Commence the power up by applying low power to the antenna. Monitor the forward and reflected power at the transmitter. Progressively increase the power to full power and monitor the forward and reflected levels.
- Only operate the antenna at the specified power levels. Exceeding the stated power levels will invalidate the warranty.
- REMOVE TRANSMITTER POWER IMMEDIATELY IF ANY ADVERSE CONDITIONS ARE DETECTED.

## Maintenance

- The antenna and its components have been designed for high reliability and low maintenance. We recommend that you conduct a routine annual mechanical inspection of the antenna, connections and feeder cable, together with a check of the return loss.