

# **DIAMOND ANTENNA**

## **CP22E INSTRUCTION SHEET**

The CP22E is a 2-meter monoband, 2-5/8 wavelength groundplane antenna, optimized for the U.S. amateur band. Made from heavy-duty aluminum, the CP22E is easily assembled yielding excellent performance with 6.5dB gain over a 1/2 wave dipole.

### **Specifications**

FREQUENCY:	144-148 MHz
GAIN:	6.5dB
POWER:	200 Watts
IMPEDANCE:	50 Ohms
VSWR:	1.5:1 (Nominal)
ELEMENT PHASING:	5/8 Wave Two-element stacked groundplane.
RADIALS:	Three
GROUNDING:	DC Ground. Antenna element & radial connected to mounting pipe.
MAX. WIND RATING:	90 MPH
MAST DIA. ACCEPTANCE:	1.2-2.4 inches
LENGTH:	8.9 feet (2.7m)
WEIGHT:	2.4 lbs. (1.1kg)
CONNECTOR:	SO-239 female
WARRANTY:	90 Days against defects in material or workmanship.

### **ANTENNA ASSEMBLY INSTRUCTIONS**

1. Remove antenna sections & components from package.
2. Lay upper and lower sections in a line end to end. Assemble upper section to phase coil using enclosed hardware. (Note: phase coil has one end that's open and other end that's solid--open end attaches to upper section)
3. Attach bottom section to solid end of phase coil.
4. Attach assembled upper & lower section to base coil assembly.
5. Fasten radials to base coil assembly. Secure lock nuts.
6. Attach mast brackets to Antenna support pipe. Pass coaxial cable thru Antenna support pipe. Connect coaxial cable to connector.
7. Weatherproof around connector to prevent potential moisture entry.
8. Align hole on antenna support pipe with threaded hole at bottom of antenna. Fasten screw with lock washer and tighten.
9. Attach antenna to antenna mast using brackets and hardware kit.

We suggest mounting immediately beneath the antenna a one-turn choke coil of approximately 6-10" diameter. This will act as an isolation choke and release strain on connector. The coil diameter is not critical. Note: Some cables require a larger diameter coil to prevent movement of center conductor. Tape coil to mast.

## FOR YOUR SAFETY

**Read the following safety precautions before start assembling the antenna.**

- Assemble the antenna on the ground or wide and flat place such as on balcony before installation.
- Do not assemble or install the antenna on a place where you can not have enough distance from any electric power lines.
- Do not install the antenna on a rainy or windy day.
- Do not attempt to install the antenna only by yourself. Installing the antenna alone on the roof may lead you dangerous accident. Always ask your friends for help installing the antenna.
- Do not use iron or aluminum ladder at a reachable distance from any electric power lines.
- Do not install the antenna on a mast which is not grounded properly.
- Do not have your family members or friends touch or come close to the antenna, unless they have realized its potential danger.

## TO AVOID FATAL ACCIDENTS

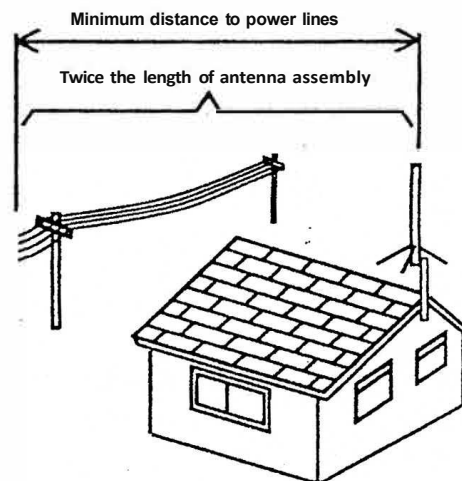
- Do not attempt to sustain the antenna, or any part of support structure if it begins to fall down. Let it fall by itself.
- Do not attempt to remove or restore the antenna or any part of support structure if it touches a electric power line by chance. Let it be as it is, do not touch it, and call your local electric power company immediately.

## IN CASE OF AN ACCIDENT

- Do not touch a person or an animal who is or seems to be in contact with the antenna or any support structure which is fallen on a live electric power line. Touching one may lead you to be electrocuted.
- Do not attempt to separate a person or an animal who is or seems to be in contact with the antenna or any support structure which is fallen on a live electric power line by yourself. Call or have someone call a police officer, ambulance, doctor immediately.

## ANTENNA INSTALLATION PRECAUTIONS

To determine antenna installation location, there are several factors to be taken into account. First thing is antenna propagation direction to specific target stations. As to whether there is any obstacles such as tall buildings on the line of sight. Next is specific installation location. As to whether specific location is adequate in terms of antenna support and surrounding safety.



- Do not attempt to install the antenna by yourself if you do not have any experience in installing base station antenna. Ask your experienced friends or professional for help.
- Do not attempt to install the antenna at a location where does not have enough distance from nearby electric power lines. It is advised to install the antenna at least twice of total antenna height from nearby electric power lines.
- Do not install the antenna on any type of tower, pole or telescopic mast which exceeds 30 feet high, if you do not have enough experience in installing the antenna on that kind of location. Ask your experienced friends or professional for help.
- Do not use more than 1/1 0" section if you install the antenna on iron plumber's pipe. Attach guy wire if multiple pipes are used to install the antenna.