6m/2m/70cm Tri-band High Performance Gain Vertical Antenna

V-2000

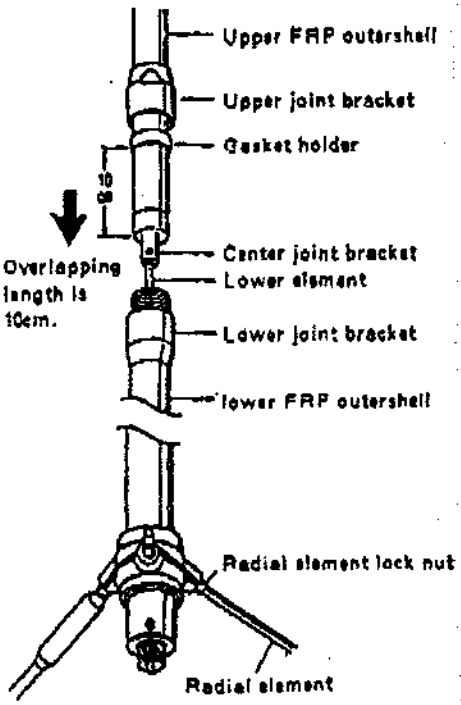
Direct Joint System FRP Outershell
Liner Phase Shift Technolgy

DIAMOND ANTENNA

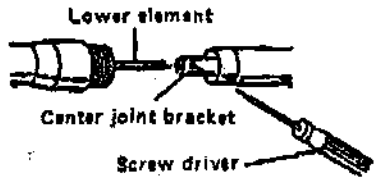
Operation Instructions

●Assembly

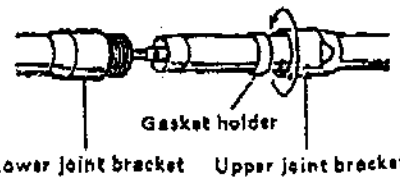
Before assembling, remove paper tube and protecting paper which protect the antenna while transporting.



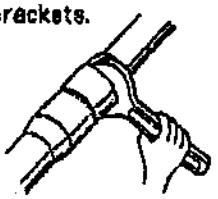
① Connect upper and lower elements.



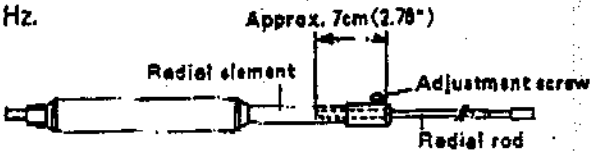
② Fix lower element at center joint bracket firmly.



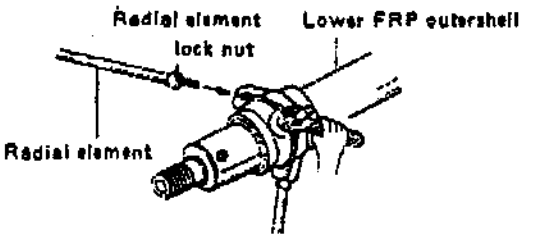
③ Tighten upper joint bracket with such devices as crescent adjustable wrenches until there is no gap between upper and lower joint brackets.



④ Adjust 6m radial element at the length where approximately 7cm(2.76") of element rod is being put into the element. Center frequency is being set at around 51 MHz.

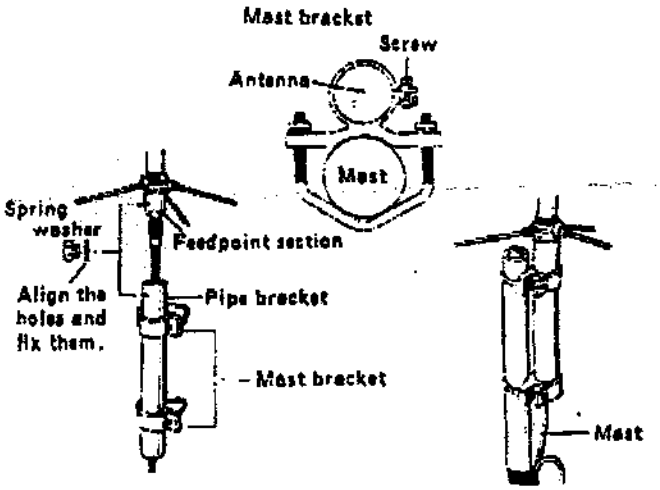


⑤ Attach three radial elements as shown in the following figure. One for 6m radial element.



⑥ Attach mast brackets on support pipe and fix them. Then connect coaxial cable to feedpoint section through support pipe. Fix support pipe and feedpoint section of the antenna with lock screw by aligning the holes at the bottom of feedpoint section and upper part of the pipe.

⑦ Attach assembled antenna on mast by whole balance into account as shown in the following figure.



●Adjustment

Though The V-2000 antenna is adjustment free in all practical purpose, center frequency of the 6m band can only be altered slightly. If center frequency of the antenna has to be altered, it can be adjusted by loosening radial element adjustment screw and put radial rod in and out from radial element. Center frequency can be lowered if the rod is put out from the element and raised if the rod is put into the element. Note that this adjustment is nothing to do with 2m and 70cm performance.
If vswr of the antenna is extraordinary high, confirm each contacting section. Most likely, it is due to coaxial cable and connector contact, or connector soldering problem. And be sure to use 50Ω coaxial cable to feed the antenna.

●Note

Though the V-2000 is DC ground structure, circuit across the inner conductor and outer conductor is open-circuit when measured by a volt-ohm meter. If it is close-circuit, confirm coaxial cable connections well.

●Part name (number)

16001	Upper FRP outershell
16002	Upper joint bracket
16003	Gasket holder
16004	Gasket
16005	Center element bracket
16006	Set screw
16009	Lower FRP outershell
16010	Radial element lock nut
16011	Radial element
16012	6m radial element
16013	Support pipe
16014	Hex-head screw
16015	Mast bracket
16016	V-Bolt with nut

●Specifications

Frequency	50-52MHz 144-148MHz 430-440MHz
Gain	2.15dBi (50MHz) 6.2dB (144MHz) 8.4dB (430MHz)
Max. power rating	150W
Impedance	50ohms
VSWR	Less than 1.5:1
Max. wind resistance	50m/sec.(112.5MPH)
Mast diameter accepted	30-52φ (1.18" to 2.44" φ)
Length	2.5m(98.4")
Weight	1.2kg (2.65lbs.)
Connector	UHF
Type	1/2 wave C-Load antenna (50MHz) 5/8 wave two-element C-Load antenna (144MHz) 5/8 wave four-element C-Load antenna (430MHz)- repeater frequency compatible.

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 ACCIDENT

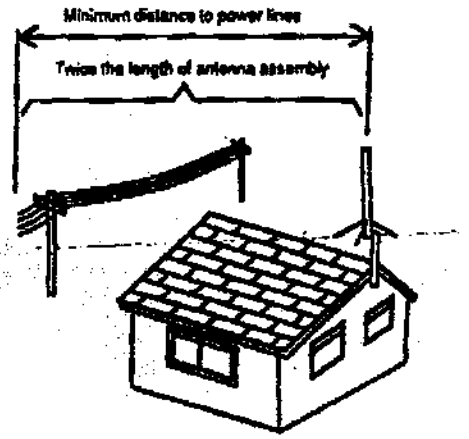
- Do not attempt to sustain the antenna, or any part of support structure if it begins to fall down. Let it fall by itself.
- Do not attempt to remove or restore the antenna or any part of support structure if it touches a electric power line by chance. Let it be as it is, do not touch it, and call your 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 eletric 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 experiance 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 1/10' section if you install the antenna on iron plumber's pipe. Attach guy wire if multiple pipes are used to install the antenna.

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