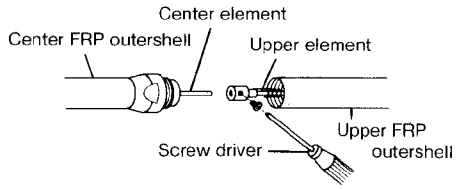
2m/70cm/23cm Tri-band High Performance Gain Vertical Base Station Antenna Series FRP Outershell. DC Ground structure. Direct joint structure.

Assembling the X7000/X7000W

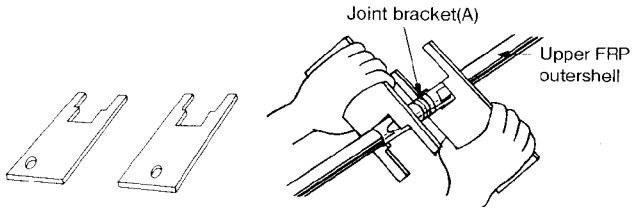
Note ; Be sure to assemble the antenna from upper element. If the antenna is being assembled from lower element, the element can not be pulled out and can not be fasten properly.

1. Connect upper and center elements. To pull out element joint bracket on the top part of center element, make upper part of the element down and shake lightly.

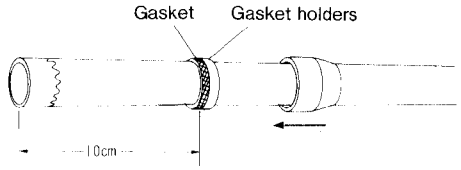
Protection foam rubber is inserted in the FRP outershell to avoid element vibration. Do not remove the rubber during assembly.



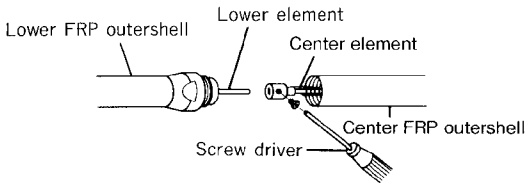
2. After connecting these elements with a screw, push back center element downward in advance to connect upper and center outershells at upper part of joint bracket (A).
3. Fasten upper part of joint bracket (A) with a special wrenches attached by holding lower part of joint bracket (A) firmly with the wrenches. Use narrow gap section of the wrench to fasten and hold each part of the bracket. For perfect waterproof, fasten the bracket until there is no gap between each part.



Note ; Be sure to fasten the bracket firmly, otherwise it may lead water leakage problem.
Adhesive NOTE seal is being attached on the bracket. Remove the seal before installing the antenna. And, gasket and gasket holders have to be placed at 10cm (3.9″) from the edge of FRP outer shell.



4. Connect center and lower elements.



Note ; Do not pull out lower element.

5. Fasten upper part of joint bracket (B) just as the same way as joint braket (A) with special wrenches attached. Use wide gap section of the wrench to fasten and hold each part of the bracket. For perfect waterproof, fasten the bracket until there is no gap between each part.

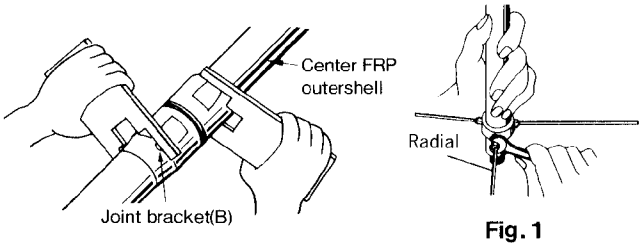


Fig. 1

Note ; Be sure to fasten the bracket firmly, otherwise it may lead to water leakage problem.

6. Attach three radial elements as shown in Fig.1.
7. Attach two mast brackets on support pipe and fix them. Then connect a coaxial cable (with N connector) to the feedpoint section through the pipe.

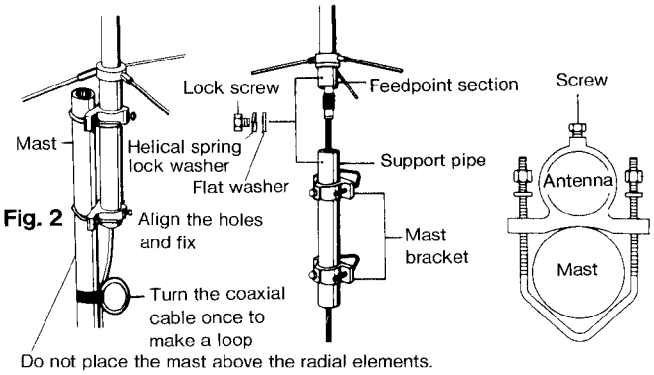


Fig. 2

8. Fix support pipe and feedpoint section of the antenna with a lock screw by aligning the holes at the bottom of feedpoint section and upper part of the pipe.
9. Attach assembled antenna on a mast by taking whole balance into account as shown in Fig.2. Turn coaxial cable once to make a loop at right bellow the antenna to escape excess load from the cable.

Note ; Though acceptable mast diameter is from 30mm (1.18″), it is recommended to use larger diameter mast as possible because the antenna is relatively large and heavy.

Notice

Though the antennas employ DC ground structure, circuit across center conductor and ground section of the connector is not conducted if it is measured by a volt-ohm meter. If it is conducted, check to see coaxial cable and/or connector thoroughly.

Be sure to install the antenna vertically. Maximum performance of the antenna can be guaranteed only if it is installed vertically.

Since N connector has relatively complicated structure compared with conventional UHF type connector, utmost care has to be taken to handle the connector and coaxial cable connection.

It is recommended to practice test transmission for adjustment as short and least RF power as possible.

Warning

Do not touch or come close to the antenna during transmission.

Do not install the antenna where is easily reachable by the children.

● Speifications

Frequency : 144-146MHz, 430-440MHz, 1270-1300MHz
Gain : 8.3dB(2m), 11.7dB(70cm), 13.7dB(23cm)
Impedance : 50 ohms
VSWR : Less than 1.5 : 1
Max. power rating : 100W(2m/70cm), 60W(23cm)
Rated wind velocity : 40m/sec.(90MPH)
Mast diameter accepted : 30–62mm (1 1/5″ to 2 2/5″)
Length : 5.0m (196.9″)
Radial length : approx. 52cm (20.5″)
Weight : 2.2kg (4.84lbs.)
Connector : N
Type : Three 5/8-wavelength C-Load phased-vertical (2m),
Eight 5/8-wavelength C-Load phased-vertical (70cm),
Fourteen 5/8-wavelength C-Load phased-vertical (23cm)

● Part name (number)

70101	Upper FRP outershell with vertical element and top cap (X7000)
70102	Joint bracket (A)
70103	Gasket holder (A)
70104	Gasket (A)
70105	Center FRP outershell with vertical element
70106	Joint bracket (B)
70107	Gasket holder (B)
70108	Gasket (B)
70109	Lower FRP outershell with vertical element and feedpoint section (X7000)
70110	Lower FRP outershell with vertical element and feedpoint section (X7000W)
70111	Lock screw with helical spring lock washer and flat washer.
70112	Radial element with nut
70113	Mast bracket with screw
70114	V bolt assembly (including nut and washer)
70115	Upper FRP outershell with vertical element and top cap (X7000W)
70116	Center FRP outershell with vertical element

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

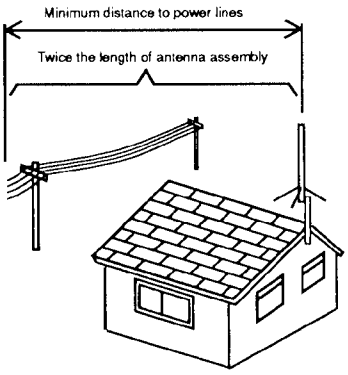
- Do not attempt to sustain the antenna, or any part of support structure if it begins to fall down. Let it fall by itself.
- Do not attempt to remove or restore the antenna or any part of support structure if it touches a electric power line by chance. Let it be as it is, do not touch it, and call your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

DIAMOND ANTENNA CORPORATION
15-1, 1-chome, Sugamo Toshimaku, Tokyo 170, Japan Phone : (03) 3947-1411 Telex : 272 2420 DIATNA J Cable Address : DIANTNA

Printed in Japan