

# DIAMOND ANTENNA

## F718A

### Base Station/Repeater Antenna

#### Description

- The F-718 is the U.S. version of the F-718 UHF Base Station/Repeater Antenna.
- This antenna has been optimized for the U.S. Amateur Band.
- Eighteen 1/2 wavelength elements are phased to develop 11.5 db gain.
- Two water tight joint assemblies connect three antenna sections into one ridged assembly.
- The resulting antenna has the same strength as a one piece structure.
- Protection from moisture is achieved by use of ring gaskets in each joint.

#### Assembly

1. Remove antenna sections from packaging and note how the sections are tapered and fit together with metal joints. Straighten inner coaxial element, laying the sections in a straight line.

2. Slide Upper fiberglass section into Center section. Tighten Joint Coupler with tow wrenches as in Figure 3.

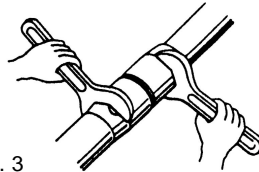


Fig. 3

**NOTE:** Gasket holders are placed at marked locations 10 cm from the lower end of Center Section and 8 cm from the lower end of Upper Section, they may have moved during shipment. Be sure they are correct before assembly.

3. Slide Center Section into Lower Section. Tighten Joint Coupler with two wrenches. Verify proper placement of gasket holder as was done above.

4. Fasten Radials and secure lock nuts. (Figure 4.)

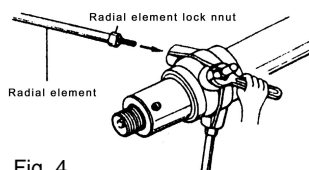


Fig. 4

5. Attach mast brackets to Antenna Support Pipe. Pass coaxial cable through bottom of support pipe. Connect coaxial cable to connector at bottom of F-718A. (Figure 5.) Align threaded hole at the bottom of antenna with hole at top of Antenna Support Pipe. Fasten Antenna Support Pipe with screw and washer. (See Figure 5.)

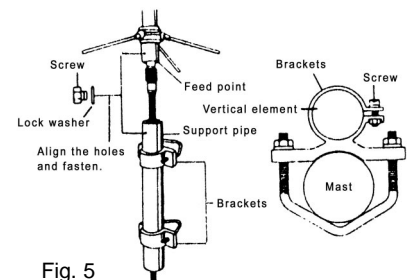


Fig. 5

6. Attach F-718A to antenna mast using brackets and hardware. (Figure 6.) We suggest mounting a one turn choke coil beneath the antenna. Coil diameter is not critical. NOTE: Some cables require a larger diameter coil to prevent movement of center conductor. Tape coil to mast. (See Figure 6.)

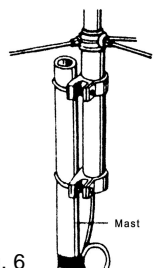


Fig. 6

## F718A Specifications

FREQUENCY: 440-450 MHz

GAIN : 11.5 dB

POWER : 250 Watts

ELEMENT  
PHASING : 18-1/2λ

RADIALS : Three

GROUNDING : Antenna element &  
radials connected to  
mounting pipe

IMPEDANCE : 50 Ohms

VSWR : 1.5:1 (typical)

MAX WIND  
RESISTANCE : (90 MPH)

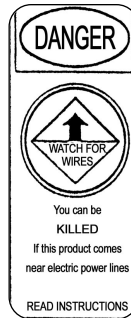
MAST DIAMETER  
ACCEPTED : 1.2" to 2.4"

LENGTH : 15'

WEIGHT : 4 lbs.

CONNECTOR : Type-N Female

WARRANTY : 90 days against  
defects in material  
or workmanship.



### For Your Safety

Please read the following safety precautions before antenna assembly.

- 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 to a dangerous accident. Always ask your friends or a professional 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 an electric power line. 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, or 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 are 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 a professional for help.
- Do not attempt to install the antenna at a location where it 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 a 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.

