

**INTRODUCTION:**

The MFJ-1754 is designed for use on the 2 meter and the 70 centimeter bands. On the 2 meter band the MFJ-1754 behaves as a vertical 1/4 wave antenna, however on 70 centimeter band the MFJ-1754 is a gain antenna. It is constructed of a 1/2 wave over a 1/4 wave antennas, which gives it a higher gain for extra long range. The MFJ-1754 uses a sloped ground plane to ensure a low SWR across both bands and, to minimize the feed line radiation which can result in pattern distortion and skewing.

**CHOOSING A LOCATION FOR THE ANTENNA**

The MFJ-1754 can be mounted on any 1" to 1 1/2" mast (*conductive or non conductive.*)

The best performance on receiving and transmitting will be obtained by mounting the antenna as high as possible in a clear location above or away from buildings, feed lines, utility wires, and other antennas. While your ingenuity and particular circumstances will determine the final mounting method.

**MFJ-1754 PARTS LIST**

The MFJ-1754 is shipped partially assembled. The following parts should be in the package:

<u>ITEM</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
A	3	Radials
B	1	Chassis
C	3	6-32 X 1/2 Screws, & nuts
D	1	U-Clamp Assembly

**TOOLS REQUIRED**

- [ ] - 7/16" Open End Wrench
- [ ] - #1 Screwdriver
- [ ] - 5/64" Allen Wrench (*Provided*)

**SAFETY PRECAUTIONS**

**WARNING !**

- Always mount this antenna so that it is out of reach of adults as well as children. The radiator and the ground plane can cause injury and or severe RF burns.
- Always wear eye protection when working with antenna
- You can be killed if the antenna, feed line, or the equipment used to install the antenna accidentally contact any utility lines. Never install an antenna near power lines.

## ASSEMBLY AND INSTALLATION PROCEDURE

During assembly of this antenna refer to the figures in this manual and the picture on page 1. After the antenna is assembled it must be checked and adjusted for resonant frequency and SWR.

**NOTE:** *Wear safety glasses whenever working near or on this antenna*

## STEP BY STEP PROCEDURE

- 1- Insert a 6-32 x 1/2" screws through hole #1 with thread toward the inside of the chassis. Start a 3/8" nut on the tip of this screw (*see Figure 1*).
- 2- Install the remaining two 6-32 x 1/2" screws and 3/8" nuts into hole #2 and hole #3 as was done in step 1
- 3- Insert a radial into hole A, straight end first (*see figure 2*). Sandwich the hooked end of radial between the chassis and the 3/8" nut of the screw in hole #1. Secure the radial by tightening the 6-32 screw .
- 4- Install the remaining radials in the same manner. One radial should be inserted through hole B and secured with screw in hole #2, the other through hole C and secured with screw in hole #3.
- 5- Assemble the U-Clamp in the chassis as shown in figure 2.
- 6- The antenna assembly is completed now. Antenna can be tested for frequency and SWR using an analyzer or a transceiver on low power, then fine tuned before mounting it on a permanent location.

## TUNING THE ANTENNA

The antenna is pre-tuned for low SWR on both the 2 meter and the 440 MHz bands. However, the SWR can change from location to an other. In this case some minor adjustment is perhaps necessary.

Adjustment on this antenna is done by losing the set screw (*see figure 1*) and increase or decrease the length of the radiator element to lower or increase the frequency respectively.

If a high frequency is desired and can not be obtained at the minimum setting of radiator length. Approximately 1/4 inch off the radiator bottom end can be cut to increase the frequency resonance of the antenna.

If the SWR of the antenna can not be adjusted using the radiator, it is possible to slightly bend the radials (only a few degrees) up or down, one at a time to achieve a minimum SWR.

## MAINTENANCE

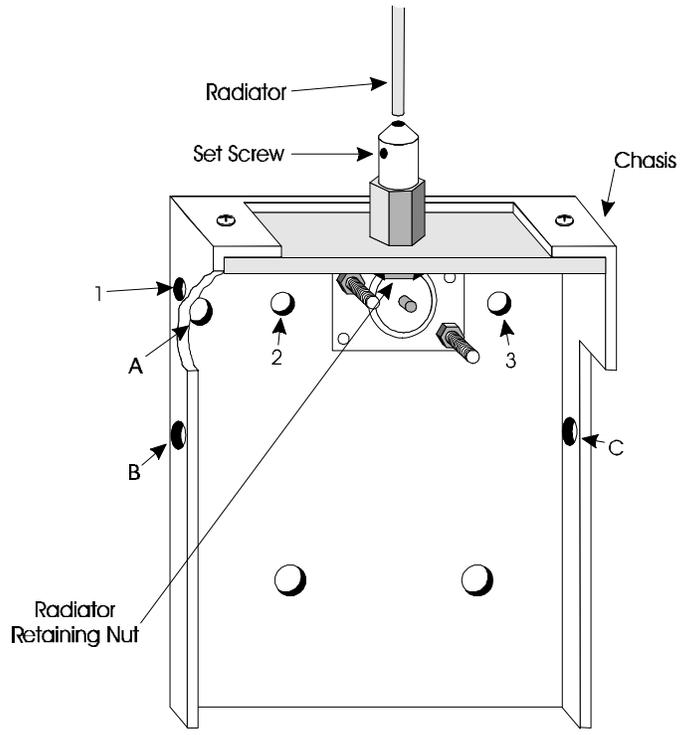
MFJ-1754 is constructed of heavy duty non corrosive materials (aluminum and stainless steel hardware) and should withstand normal climates for many years. The use of some type of coaxial connector moisture protections recommended at the coax connection, especially in coastal areas where salty mist is common.

GE makes "**SILICON DIELECTRIC COMPOUND**" which are good material for this application.

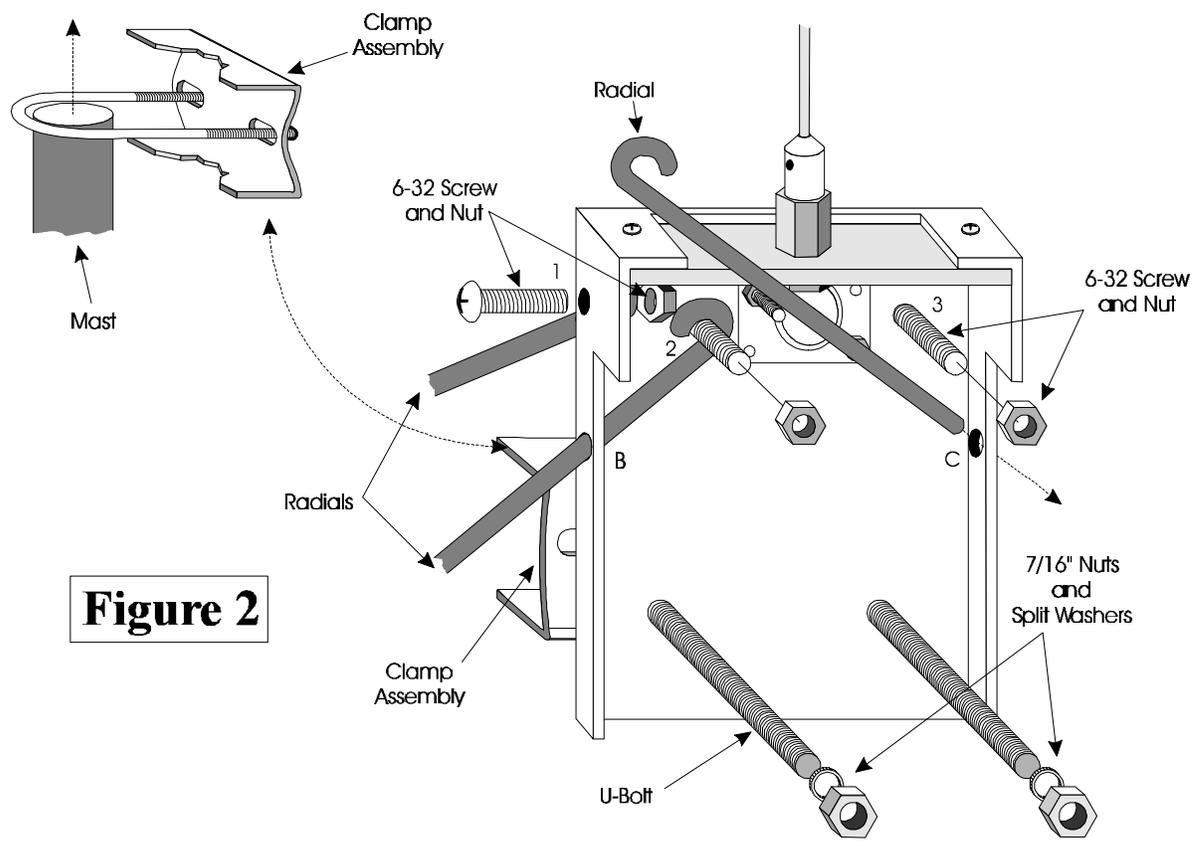
## TECHNICAL ASSISTANCE

If you have any problem with this unit first check the appropriate section of this manual. If your problem is not solved by following the manual you may call **MFJ toll-free** at 1-800-647-TECH (83424) or **FAX** to 601-323-6551, or **Internet:** 76206.1763@Compuserve.com. Outside the continental U.S.A. 601-323-5869. You will be best served if you have your unit, manual, and all information on your station handy so you can answer any question the technician may ask.

You can also send questions to **MFJ Enterprises, Inc., P. O. Box 494, Mississippi State, MS 39759**. Send a complete description of your problem, an explanation of exactly how you are using your unit and a complete description of your station.



**Figure 1**



**Figure 2**

**FULL 12 MONTH WARRANTY**

MFJ Enterprises, Inc. warrants to the original owner of this product, if manufactured by MFJ Enterprises, Inc. and purchased from an authorized dealer or directly from MFJ Enterprises, Inc. to be free from defects in material and workmanship for a period of 12 months from date of purchase provided the following terms of this warranty are satisfied.

1. The purchaser must retain the dated proof-of-purchase (bill of sale, canceled check, credit card or money order receipt, etc.) describing the product to establish the validity of the warranty claim and submit the original or machine reproduction of such proof of purchase to MFJ Enterprises, Inc. at the time of warranty service. MFJ Enterprises, Inc. shall have the discretion to deny warranty without dated proof-of-purchase. Any evidence of alteration, erasure, of forgery shall be cause to void any and all warranty terms immediately.
2. MFJ Enterprises, Inc. agrees to repair or replace at MFJ's option without charge to the original owner any defective product provided the product is returned postage prepaid to MFJ Enterprises, Inc. with a personal check, cashiers check, or money order for **\$7.00** covering postage and handling.
3. MFJ Enterprises, Inc. will supply replacement parts free of charge for any MFJ product under warranty upon request. A dated proof of purchase and a **\$5.00** personal check, cashiers check, or money order must be provided to cover postage and handling.
4. This warranty is **NOT** void for owners who attempt to repair defective units. Technical consultation is available by calling (601) 323-5869.
5. This warranty does not apply to kits sold by or manufactured by MFJ Enterprises, Inc.
6. Wired and tested PC board products are covered by this warranty provided **only the wired and tested PC board product is returned**. Wired and tested PC boards installed in the owner's cabinet or connected to switches, jacks, or cables, etc. sent to MFJ Enterprises, Inc. will be returned at the owner's expense unrepaired.
7. Under no circumstances is MFJ Enterprises, Inc. liable for consequential damages to person or property by the use of any MFJ products.
8. **Out-of-Warranty Service:** MFJ Enterprises, Inc. will repair any out-of-warranty product provided the unit is shipped prepaid. All repaired units will be shipped COD to the owner. Repair charges will be added to the COD fee unless other arrangements are made.
9. This warranty is given in lieu of any other warranty expressed or implied.
10. MFJ Enterprises, Inc. reserves the right to make changes or improvements in design or manufacture without incurring any obligation to install such changes upon any of the products previously manufactured.
11. All MFJ products to be serviced in-warranty or out-of-warranty should be addressed to **MFJ Enterprises, Inc., 921A Louisville Road, Starkville, Mississippi 39759, USA** and must be accompanied by a letter describing the problem in detail along with a copy of your dated proof-of-purchase.
12. This warranty gives you specific rights, and you may also have other rights which vary from state to state.