

MFJ-2100



INSTRUCTION MANUAL

CAUTION: Read All Instructions
Before Operating Equipment

MFJ

300 Industrial Park Road
Starkville, MS 39759 USA
Tel: 662-323-5869 Fax: 662-323-6551

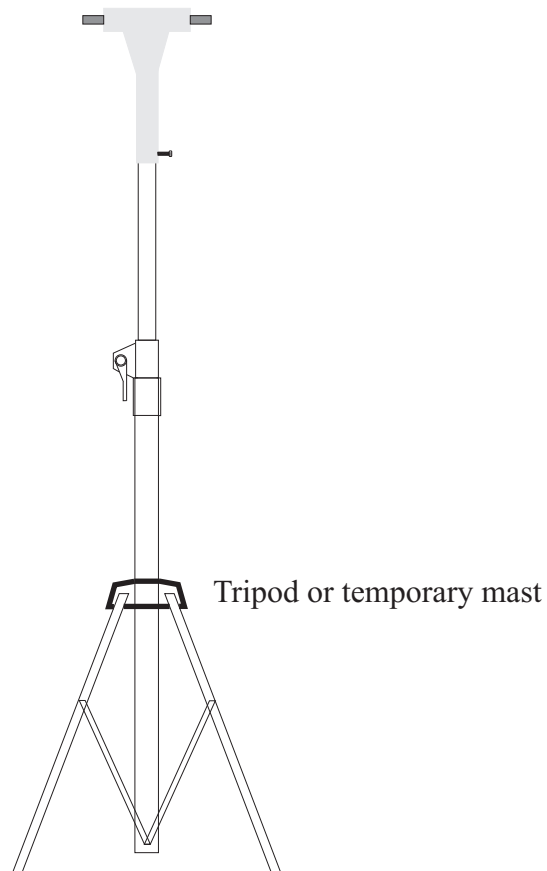
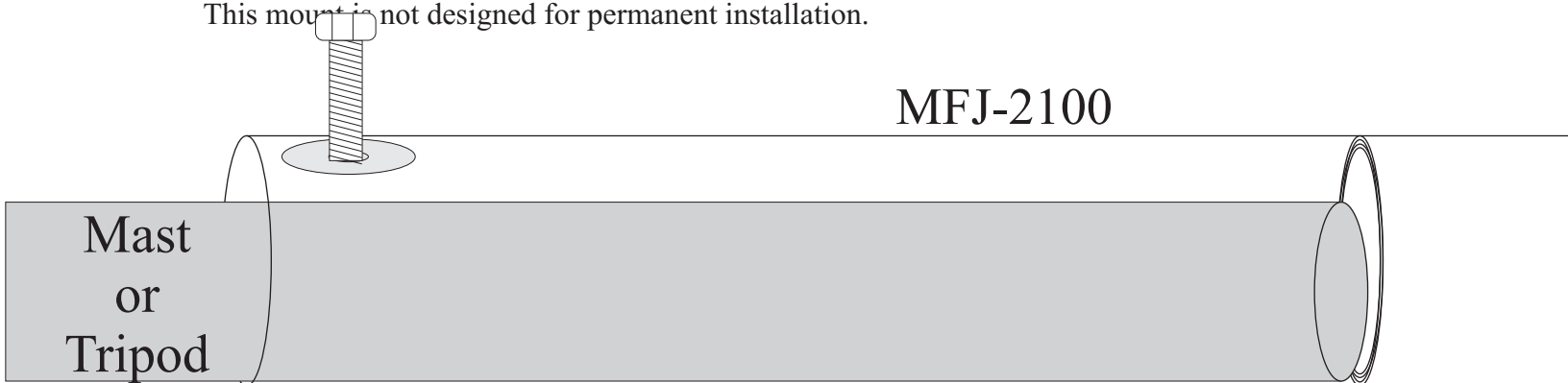
COPYRIGHT © 2015 MFJ Enterprises Inc.

Introduction

Thank you for purchasing your MFJ-2100 antenna. This antenna is excellent for portable operation. Eight hamstick antenna can be mounted to the MFJ-2100 for operation on four bands. Bands are determined by which hamstick you choose to mount to the bracket. The bracket is completely assembled with balun and is ready for operation once the hamsticks are installed.

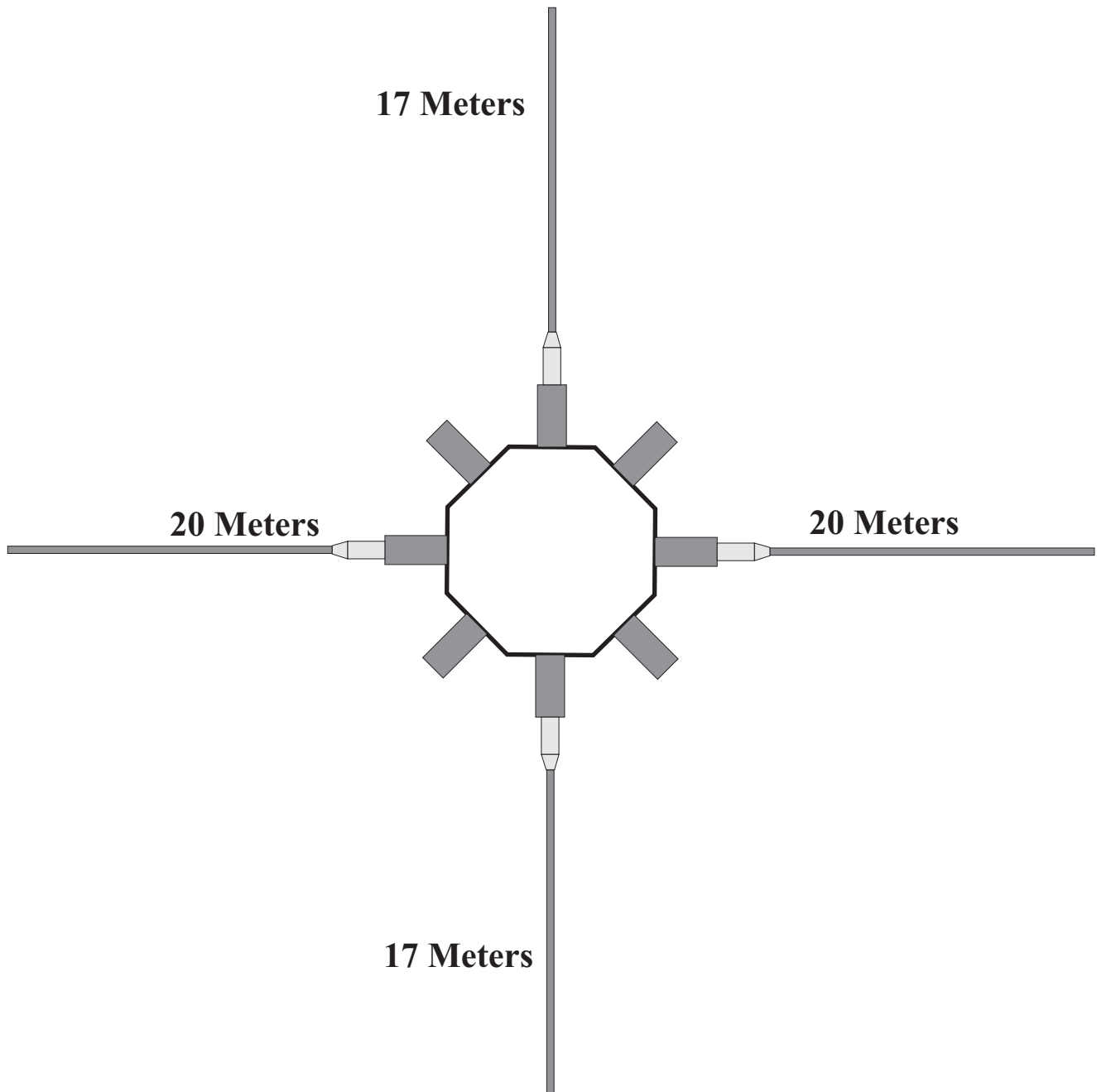
Mounting

Mounting the MFJ-2100 is simple and only requires a 7/16 wrench or socket. The mast (1 inch or less) should be inserted into the bottom tube until it contacts the smaller diameter tubes inside. The mast screw can then be tightened to secure it in place. Do not over-tighten as not much force is required to keep the mast in place. For portable use, hand tight is often enough. This mount is not designed for permanent installation.



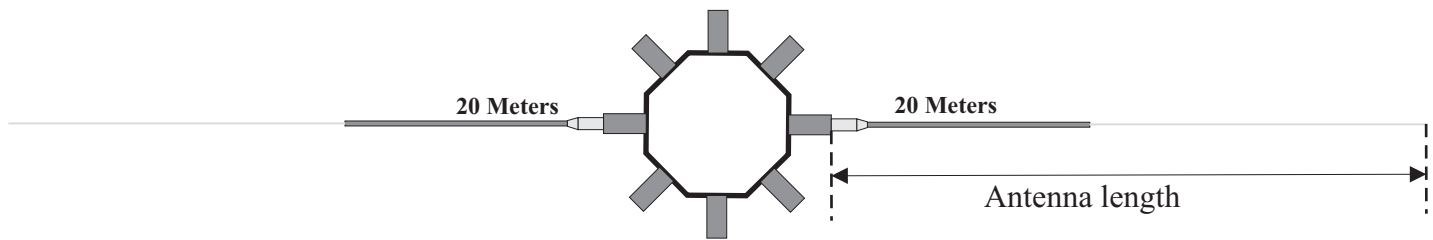
Connecting the Hamsticks

Screw the hamsticks into the 3/8x24 connectors on the bracket. Same band hamsticks should be opposite each other. Bands that are close in frequency to one another should be at right angles to each other. For example: 20 and 17 meters should not be mounted directly next to each other. If this is unavoidable, don't worry, it is only a precaution to prevent interference from one band to another. Coupling between the bands is unlikely and can usually be solved by moving one band to another location.

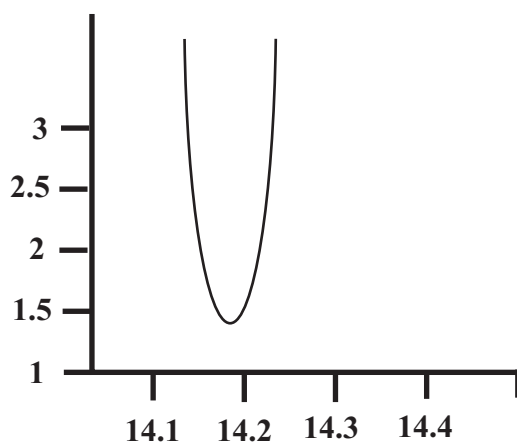


Tuning

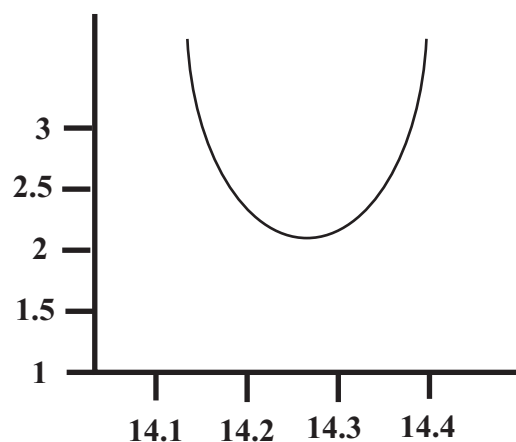
Tuning is best done with an antenna analyzer such as the MFJ-259. This antenna is basically four dipoles on one feed line. You will tune each band individually by moving the whip of that hamstick in or out of the tip of the antenna. Tune the antenna with all the hamsticks mounted. You may reference the tuning instructions that came with your hamsticks but they will tune a little differently in dipole form. Begin by tuning the lowest band on the antenna. We will use 20 meters as an example. First check to see where the swr dip is when the whips are fully extended. It should be below the band. Move the whips inward a little bit at a time and keep both whips the same length. As you shorten the antenna, the swr dip should move upward. Keep going until it reaches the frequency you wish to operate. Keep in mind that the height above ground will affect this. When you raise the antenna to its final height, the frequency may shift upward. 14MHz and down are most affected when raising the antenna. 40 and 80 meter swr dips will be narrow compared to the higher frequency bands. This is normal.



You should be able to tune the antenna to a low swr however sometimes the hamsticks may vary slightly in construction causing them to tune differently from one another. One 20 meter hamstick could tune to a different frequency than the other 20 meter hamstick even with the whips at the exact same length. If both antennas match, you will see a sharp dip below 1.5. If they are mismatched, you may see a wider dip that doesn't go as low. To correct this, move only one of the whips and see what happens. If you see the dip go lower, then you are headed in the correct direction. If not, go the other way. When you get a nice sharp dip, you should now be able to slide both whips in equal amounts to move the dip up and down the band.



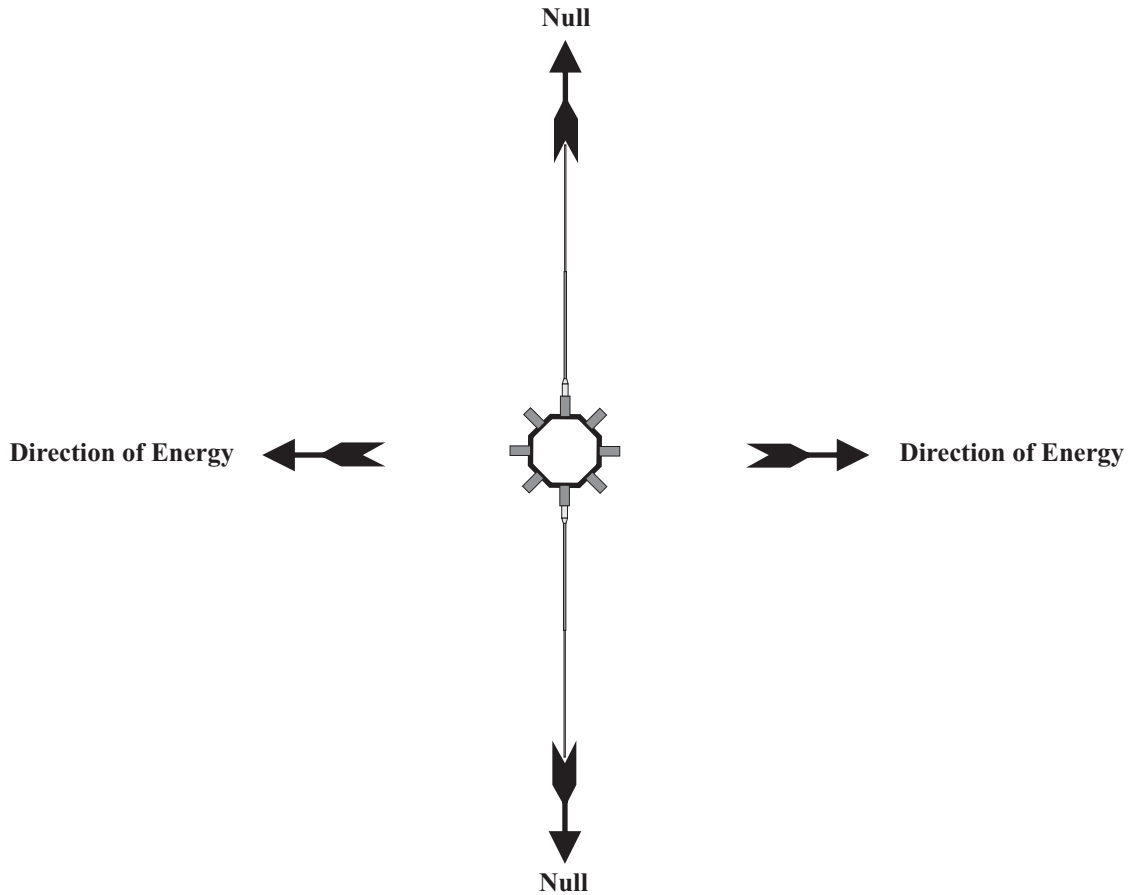
Good Sharp Dip



Poor Wide Dip

Operation

Since each hamstick is on a different angle, the direction the antenna is pointed is also different for each band. The radiation pattern is similar to that of a dipole, perpendicular to the antenna.



The power handling capability of this system is dependent of the power capabilities of the Hamsticks used. If they are limited to 300 watts then the system is also limited to 300 watts.

WARNING

KEEP THIS ANTENNA
AWAY FROM POWER LINES

Never mount or move any antenna where it can come into contact with power lines. If this antenna comes into contact with power lines, it can KILL you. Never mount any antenna where if it fell it could come into contact with power lines.

Replacement parts

610-2400	ADAPTOR, 3/8-24 (1-1/4 L) TO HEX NUT (7755)	8
720H-1250LF	LUG, SOLDER,INT.LOCK, FLAT, 3/8IDX1-1/8 L	8
463011	1-1/4 BASE Insulator	1
620-3016	COAX PIGTAIL, 2FT	1
412-4300	BEAD, FERRITE, .562 X .250 X 1.125, #43	5
745-2149	CABLE TIE, 4, NYLON	5
500098	1/4-20X1-1/2 HHMS FT SS	3
561177	WASHER, LOCK, 1/4 SPLIT, SS	3
554099	1/4-20 HEX NUT SS,	9
520064	SCREW, #8X1/2, self tap	2
737-2100	Mount Bracket, Hex Aluminum	1
12965	NUT-SC,PEM, 1/4-20 SS,PA, Mast lock nut	1
505266	SCREW, HHMS, 1/4-20 X 3/4, SS Mast lock bolt	1
	tube 1-1/4 x .058 x 7"	1
	tube 1-3/8 x .058 x 10	1
	tube 1-1/2 x .058 x 12	1

12 MONTH LIMITED 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, or 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 under warranty, 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 (662) 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., 300 Industrial Park 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.