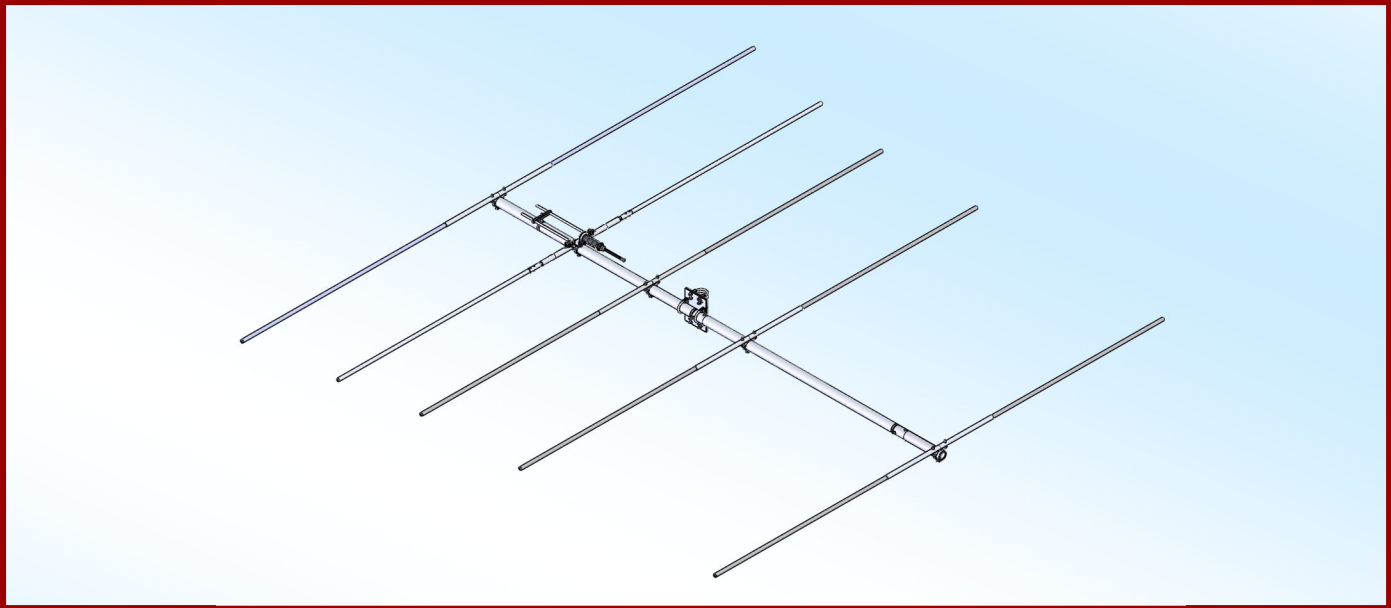




M2 Antenna Systems, Inc. Model No: 47.6-5



SPECIFICATIONS:

Model	47.6-5	Boom Length / Dia.....	19' 7" / 2"
Frequency Range.....	47.4 to 47.8 MHz	Maximum Element Length.....	290" / 7/8"-3/4"
*Gain	14.19 dBi	Turning Radius:	Call
Front to back	18 dB Typical	Stacking Distance.....	Call
Feed type	"T" Match	Mast Size.....	2" Nom.
Feed Impedance	50 Ohms Unbalanced	Wind area / Survival	3.2 Sq. Ft. / 100 MPH
Maximum VSWR.....	1.5:1 Max	Weight / Ship Wt.....	55 Lbs. / 65 Lbs.
Input Connector.....	"N" Female		
Power Handling.....	1.5 kW		

***Subtract 2.14 from dBi for dBd**

FEATURES:

The 47.6-5 has been computer optimized from the ground up for gain and pattern covering 47.4-47.8 MHz. The original design was for Meteor Scatter, but can be used for Monitoring systems. The custom 4:1 balun and low loss "T" match help maintain high efficiency. Element ring clamps and other important components are CNC machined for maximum strength and electrical integrity. All antenna hardware is stainless steel and the U-bolts for mounting are zinc plated.

M2 Antenna Systems, Inc. has well over 30 designs for Meteor Scatter applications covering from 39 MHz to 50 MHz. If you have a specific requirement, please contact us for more details.

47.6-5 ASSEMBLY MANUAL

TOOLS REQUIRED: 1/2" and 7/16" end wrenches or deep sockets, flat blade screwdriver, 11/32" nut driver or end wrench, knife or large diagonal cutters.

1. Begin by laying out the boom sections in order according to the DIMENSION SHEET.

NOTE: THE RING CLAMPS FOR ELEMENT MOUNTING MUST BE PUT ON THE BOOM PRIOR TO ASSEMBLING THE BOOM JOINTS.

2. Locate the rear boom section and install the two, 2" ring clamps on hat section according to the dimension sheet. USE A FLAT BLADE SCREWDRIVER slipped in the slot of the ring clamp to spread it slightly allowing it to slide along the boom. Remove the screwdriver when the clamp is at the approximate dimension.

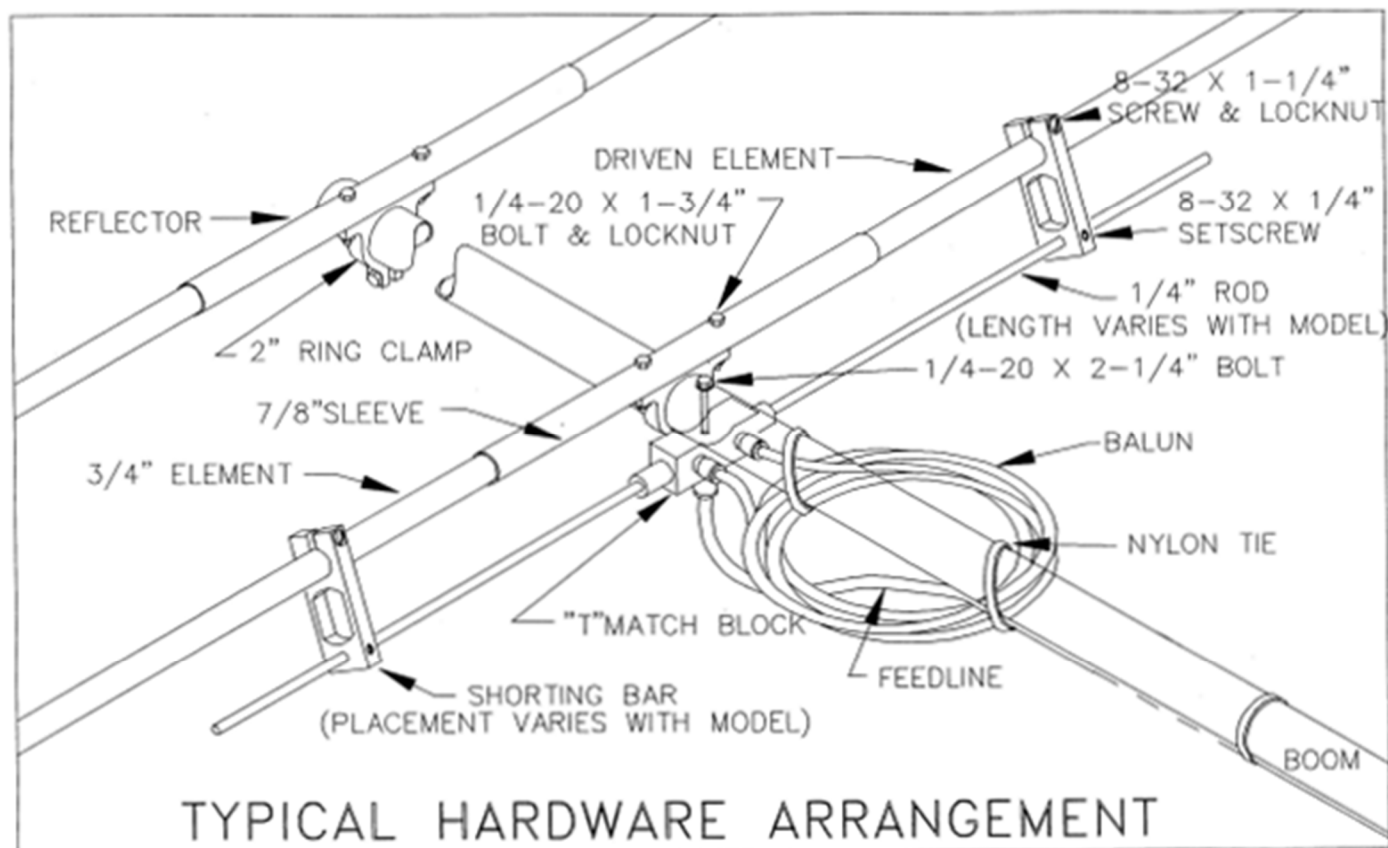
3. Continue installing ring clamps on the individual boom sections, positioning them according to the dimension sheet.

4. Now assemble the boom using the hardware called out on the dimension sheet. Use 1/4-20 locknuts and tighten securely.

5. Next mount the "T" match section to the "bottom" side of the boom using the 1/4-20 x 2-1/4" bolt. The two small connectors for the balun should face the FRONT of the boom. Now slide the ring clamp for the DRIVEN ELEMENT up against the access cap on the "T" match block. Rotate the ring clamp so the element channel side is on the opposite (top) side of the boom from the "T" block.

6. Align the rest of the ring clamps with the driven element ring clamp.

7. Layout the element pairs according to length, longest (REFLECTOR) to the shortest (FRONT DIRECTOR).



47.6-5 ASSEMBLY MANUAL

8. Starting with the longest element (REFLECTOR), insert one element section halfway into a 7/8" x 30" sleeve. Align the holes and drop a 1/4-20 x 1-3/4" bolt through to hold it in position. Insert the second element half and install the second bolt.
9. Now place this assembly into the element channel on the rear (REFLECTOR) ring clamp, add two 1/4-20 locknuts, and tighten until no rotation or movement of the inner 3/4" tube can be felt.
10. Now install the DRIVEN ELEMENT in the same manner, using the single 7/8" x 19" sleeve. Then slide on the "T" match shorting bars and position them on the 3/8" diameter "T" sections on each side according to the DIMENSION SHEET. Install the 8-32 x 1-1/4" screw and locknut on each side, align the shorting bars with each other and tighten in position. Add two 8-32 x 1/4" set screws to each side and tighten with the 5/64" Allen wrench provided. Add a black plastic 3/8" cap to tips of the "T" match tubes.
11. Continue element assembly until all are mounted on the boom. Re-check the element spacing according to the dimension sheet and re-adjust the positions if necessary. Now carefully align the elements parallel with the DRIVEN ELEMENT, add a 1/4-20 x 1" bolt and locknut to each clamp and tighten each clamp in place.
12. Pick up the antenna and find the balance point. Mount the BOOM TO MAST PLATE at or near this point keeping the antenna just slightly FRONT HEAVY to offset the feedline weight (added later). IMPORTANT: If this is a part of a phased array, then all the mast mounting plates must be mounted at the same distance from the driven element to maintain proper phase.
13. NOTE: HIGH POWER VERSIONS USE BALUNS WITH TYPE "N" CONNECTORS. On the smaller "F" type connectors install the balun on the "T" match block. When tightening the smaller "F" type connectors, use a 7/16" and gently tighten the connectors. Then using a 1/2" end wrench, GENTLY tighten the nut seals up against the face of the male connectors. Use of weatherizing with COAX-SEAL or equivalent is OPTIONAL. Add the main feedline providing a 6 to 8 inch drip loop before fastenting the feedline to the boom with the large cable ties provided.

THIS COMPLETES THE ANTENNA ASSEMBLY.

47.6-5 PARTS & HARDWARE

DESCRIPTION	QTY
BOOM SECTION, 2" X .058 X 82" SOE.....	1
BOOM SECTION, 2" X .058 X 84" SOE.....	1
BOOM SECTION, 2" X .058 X 79" STR.....	1
ELEMENT HALF, 3/4" X .049 X SEE DIMENSION SHEET	10
CENTER SLEEVE, 7/8" X .058 X 30".....	4
CENTER SLEEVE, 7/8" X .058 X 19".....	1
BOOM TO MAST PLATE.....	1
DRIVEN ELEMENT ASSEMBLY	1
BALUN, RG-6.....	1
ASSEMBLY MANUAL.....	1

IN HARDWARE BAG

SHORTING BARS.....	2
RING CLAMP, 2".....	5
NUT, 5/16-18 SS.....	8
LOCKWASHER, 5/16 SPLIT RING SS	8
U-BOLT, 2".....	4
BOLT, 1/4-20 X 2-1/2" SS	4
BOLT, 1/4-20 X 2-1/4" SS	1
BOLT, 1/4-20 X 2" SS	10
BOLT, 1/4-20 X 1" SS	5
NYLOCK NUT, 1/4-20 SS	27
SCREW, 8-32 X 1-1/4" SS	2
SET SCREW, 8-32 X 1/4" SS	4
NYLOCK NUT, 8-32 SS	2
NYLON TIE, 14".....	4
PENETROX PASTE, 1 OZ.....	1
TIP CAP, 3/8".....	2
ALLEN WRENCH, 5/64".....	1

Carefully Manufactured By
M2 Antenna Systems, Inc.
4402 N. Selland Ave.
Fresno, CA 93722
(559) 432-8873 FAX: (559) 432-3059
www.m2inc.com Email: sales@m2inc.com