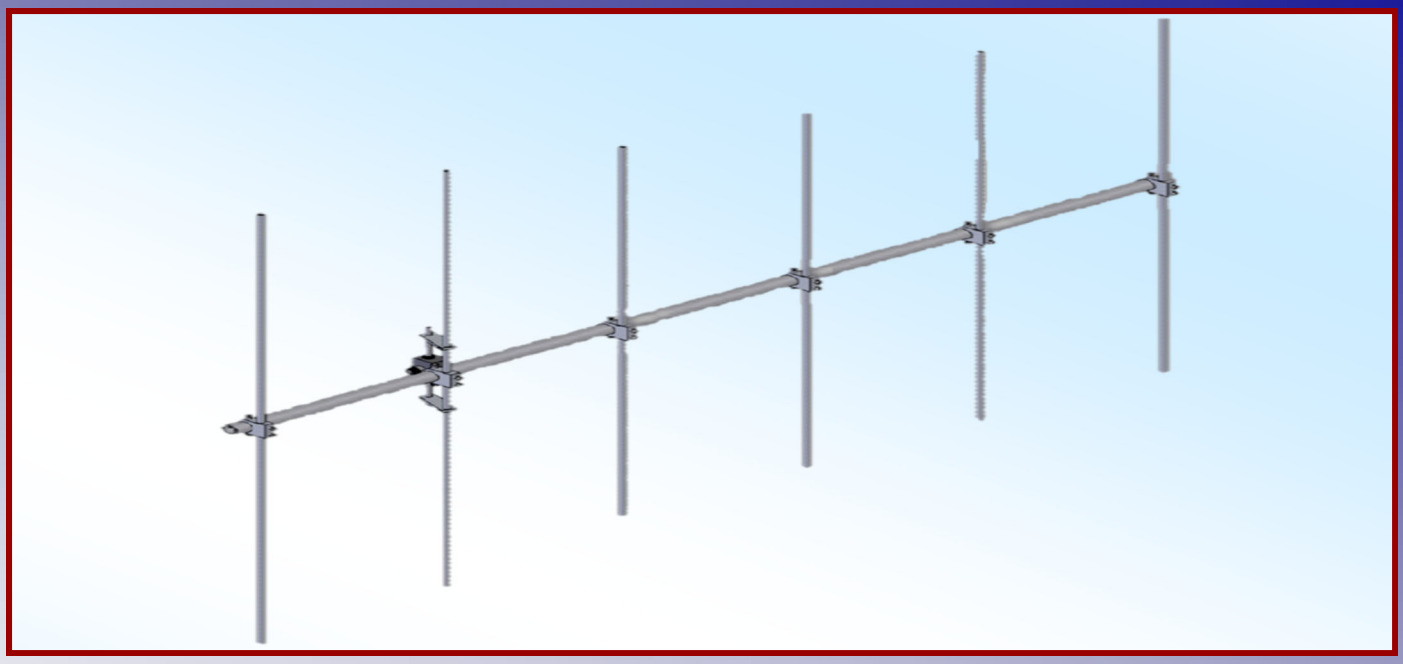
M2 Antenna Systems, Inc.
Model No: 100.7-6



SPECIFICATIONS:

Model	100.7-6
Frequency Range	99.3 to 101 MHz
*Gain, (FS)	14.48 dBi
Front to back	13 dB Typical
Feed type	“T” Match Assembly
Feed Impedance.	50 Ohms Unbalanced
Maximum VSWR	1.5:1 Typical
Input Connector	“N” Female
Power Handling	1.5 kW
Boom Length / Dia	117” / 2”
Maximum Element Length	91”
Turning Radius:	Call
Stacking Distance	Call
Mounting	1-1/2” to 2” Nom.
Wind area / Survival	2.9 Sq. Ft. / 100 MPH
Weight / Ship Wt.	15 Lbs. / 17 Lbs.

***Subtract 2.14 from dBi for dBd / FS = Free Space**

FEATURES:

Performance has been computer optimized to meet your application. Physical construction emphasizes long term electrical and mechanical durability. Elements are 3/16” 6061-T6 aluminum rod, mounted through the boom on UV stabilized polyethylene button insulators, and locked in position with stainless steel shaft retainers. The “T” Match driven element, uses a CNC machined central block with O-ring sealed connectors. Internal connections are encapsulated in a silicone gel with a dielectric strength 3.7 times greater than air for enhanced power handling. Balun connectors are triple O-ring sealed to the coax.

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Rev.01

100.7-6 ASSEMBLY MANUAL

NOTE: A cup of zinc paste (PENETROX, NOALOX or equivalent) has been provided to enhance the quality of all of the electrical joints in this antenna. Apply a thin coat wherever two pieces of aluminum come in contact.

1. Refer to Dimension Sheet. Note the approximate position of each element. Slide the 2" RING CLAMPS into their approximate positions on the boom, element channels to top. If necessary, spread the ring clamp fingers with a flat blade screwdriver to ease movement on the boom. Loosely add a 1/4-20 x 1" bolt and locknut to fingers of all clamps.

2. Mount the "T" MATCH ASSEMBLY BLOCK to the underside of the boom using the 1/4" hole. From the rear of the antenna, secure with a single 1/4-20 x 2-1/4" bolt. Orient the two connectors towards the rear. Make sure the Driven Element ring clamp is FORWARD of the "T" match block. Now slide the ring clamp up against the "T" match block and tighten the 1/4-20 x 1" bolt and locknut to hold the clamp in position.

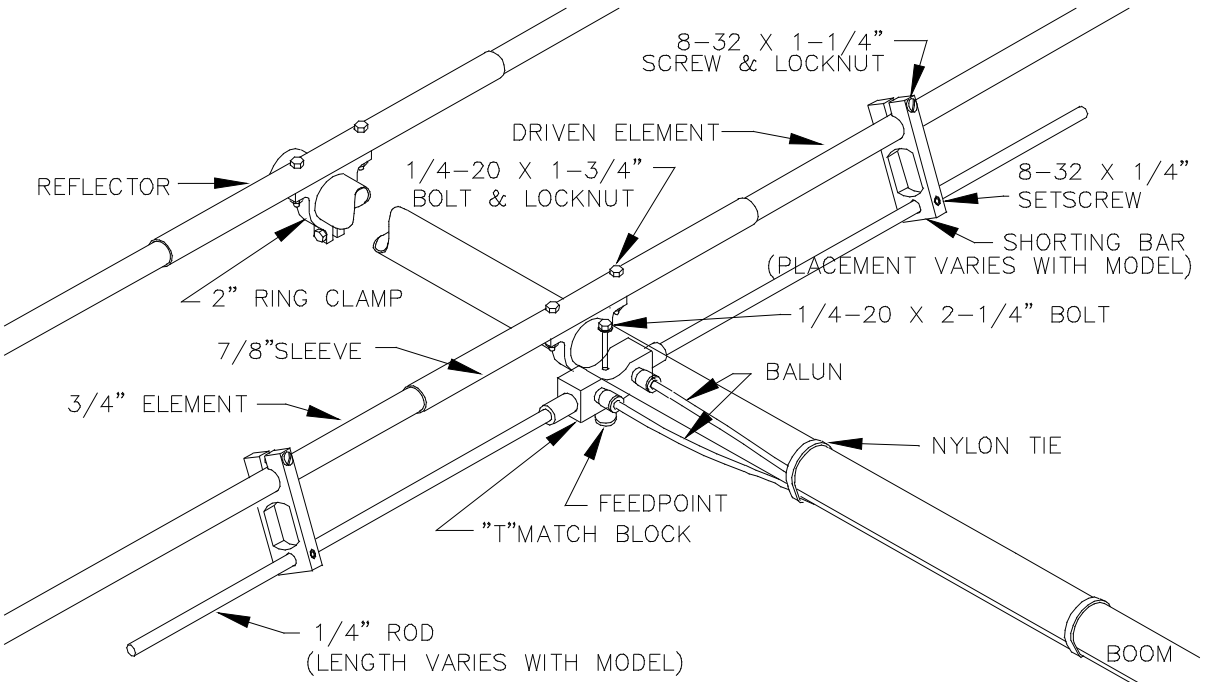
3. Select two 3/4" x 29.5" ELEMENT SECTIONS and slide the 4-3/8" long SHORTING BARS onto the outer un-drilled ends. Slide them down the elements to about the middle.

4. Slide the butt end (with hole) of each 3/4" x 29.5" ELEMENT SECTION halfway into a 7/8" x 15" CENTER SLEEVE and line up the holes. Slide a 1/4-20 x 1-3/4" bolt through each hole and place this assembly into the Driven Element ring clamp channel. Add the 1/4" locknuts and tighten.

5. Add the 8-32 x 1-1/4" screw and locknut and the two 8-32 x 1/4" set screws to each shorting block. Slide the SHORTING BARS down onto the "T" MATCH rods and position the according to the Dimension Sheet. Align the rods parallel with the element sections and tighten the hardware. A 5/64" Allen wrench has been provided for the set screws.

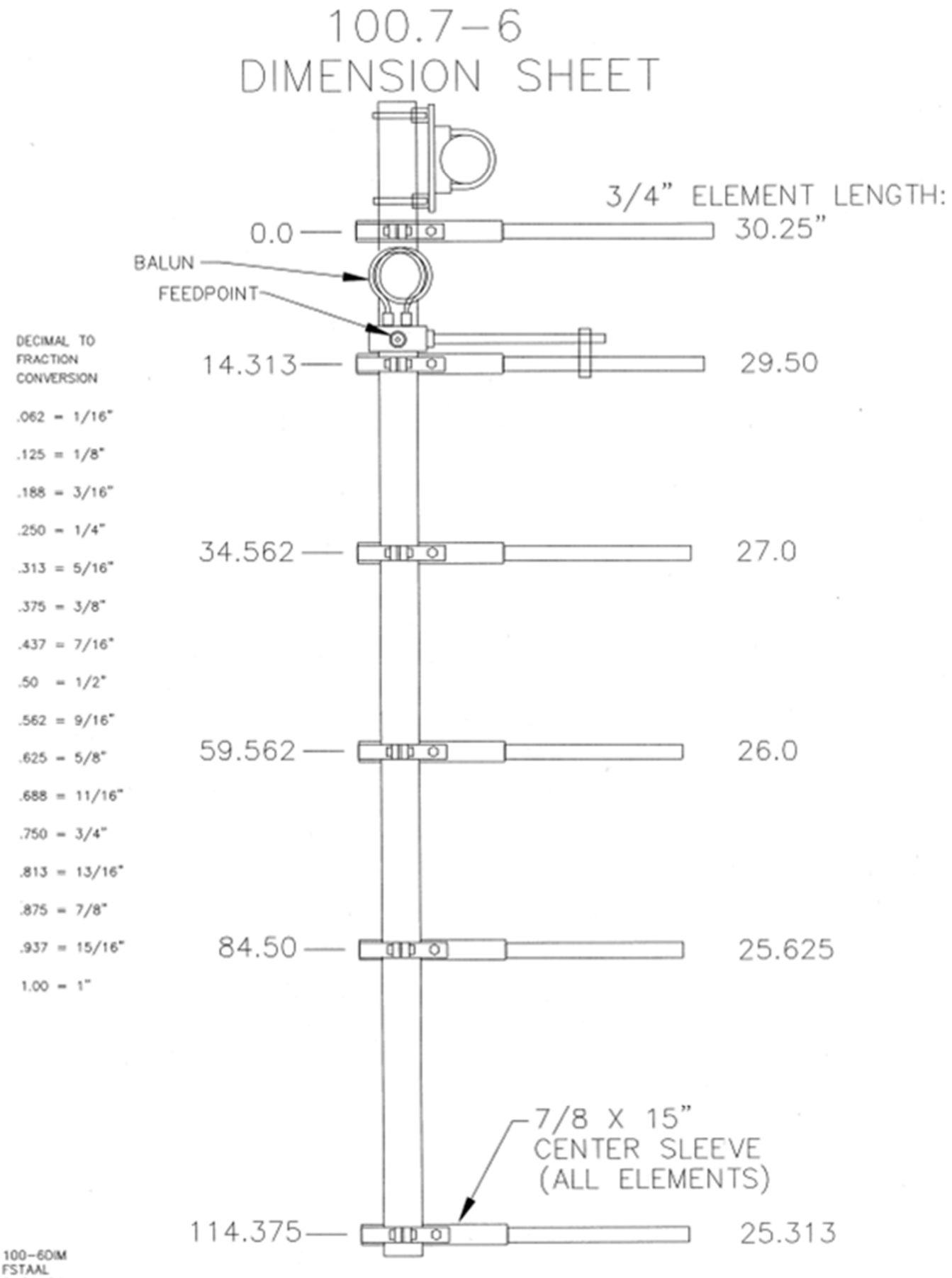
6. Pair up the remaining 3/4" element sections and 7/8" x 30" sleeves and mount to the ring clamps as in step #4, following the Dimension Sheet for length.

7. Now adjust ELEMENT SPACING to match the Dimension Sheet. Since the Driven element is fixed, use it as the reference for setting the position of the Reflector, 14.313" to the rear.



TYPICAL HARDWARE ARRANGEMENT
(ONE POLARITY ONLY)

100.7-6 DIMENSION SHEET



100.7-6 ASSEMBLY MANUAL

Then space all remaining elements ***using the Reflector as the 0.0 reference.*** Dimensions given are “Center to Center” and can also be used “edge to edge” when working with a measuring tape. After setting spacing of each element, align it with it’s Driven Element and tight the 1/4-20 x 1” bolt.

8. Attach the balun coil to the pair connectors o nthe “T” Match block. If possible, install the feedline cable at this time. Secure balun and feedline with the nylon ties supplied (ties should be snug, but not crushing the cable).

9. Attach the BOOM TO MAST PLATE to the rea of the boom, 8” length horizontal and secure with two 2” U-bolts, cradles, stainless lockwashers and nuts. Two 4” U-bolts are supplied for attaching the antenna ot the mast.

10. This completes the ASSEMBLY. When the antenna is installed in position on the mast, the main feedline can be attached. REMEMBER to support the feedline at the antenna boom exit point and on the mast.

Carefully designed and manufactured by:
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100.7-6 PARTS & HARDWARE

DESCRIPTION	QTY
BOOM SECTION, 2” x .125 X 143.75” STR	1
ELEMENT SET, 3/4” X .049 X 30”	6
DRIVEN ELEMENT ASSEMBLY	1
BALUN, RG-6	1
BOOM TO MAST PLATE, .188” X 4” X 6”	1
RING CLAMP, 2”	6
SHORTING BARS	2
U-BOLT AND CRADLE, 1-1/2”	2
U-BOLT AND CRADLE, 2”	2

IN HARDWARE BAG

NUT, NYLOCK 8-32 SS	4
SET SCREW, 8-32 X 1/4” SS	4
NUT, 5/16-18” SS	8
LOCKWASHER, 5/16” SPLIT RING SS	8
NUT SEAL, 3/8-32	2
ALLEN WRENCH, 5/64”	1
NYLON TIE, 7”	4

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