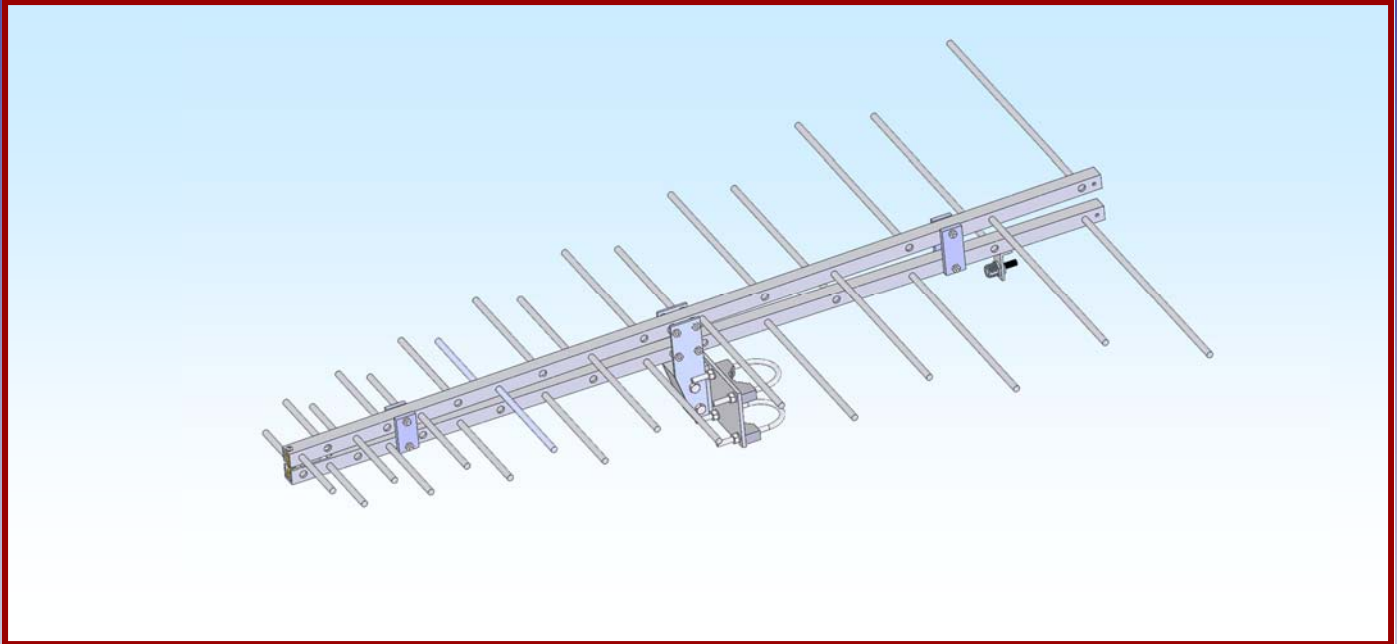




# M2 Antenna Systems, Inc. Model No: 215-470LP16



## SPECIFICATIONS:

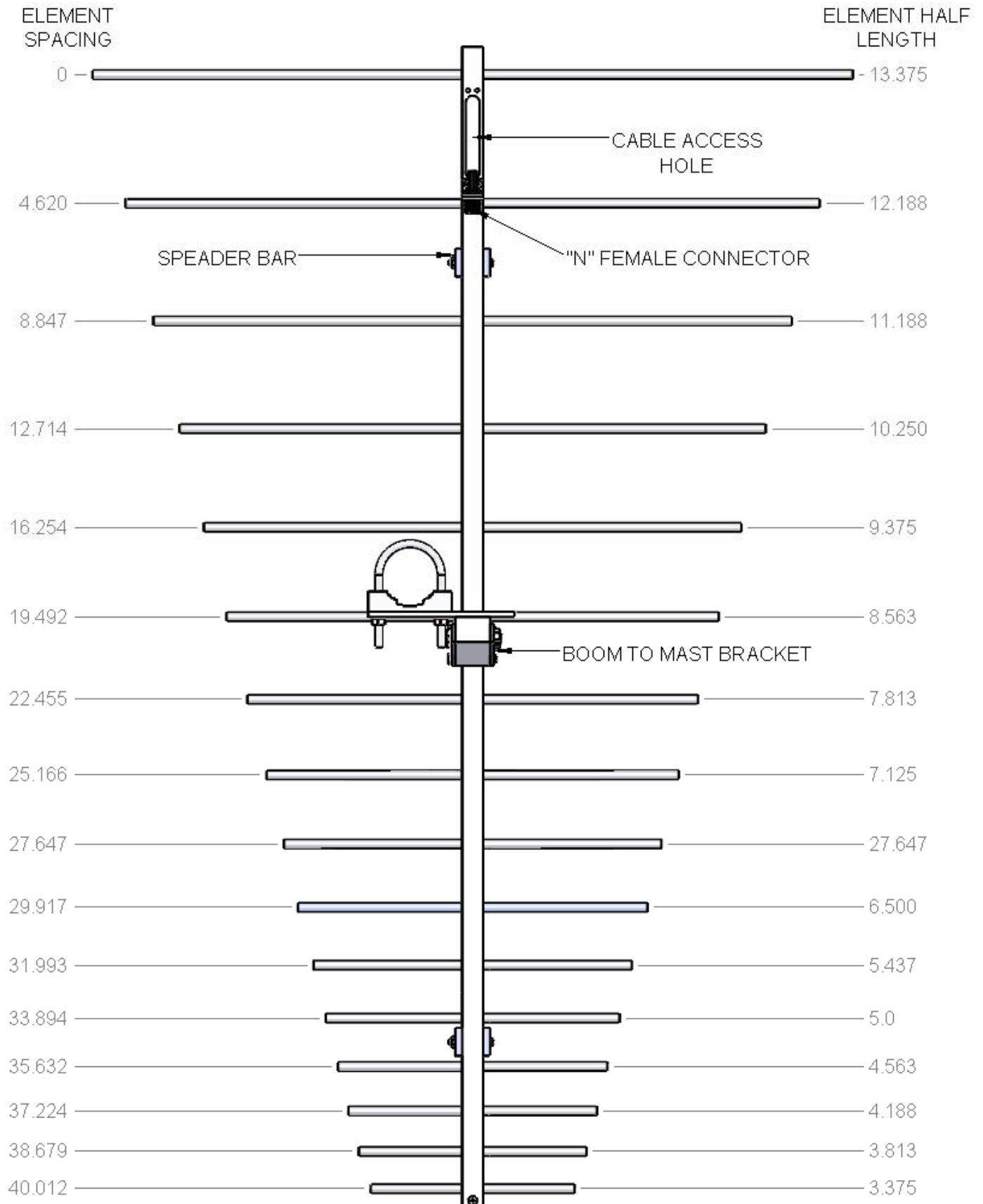
Model .....	215-470LP16	Maximum VSWR .....	>1.5:1 AVG.
Frequency Range.....	215-470 MHz Cont.	Mounting Polarity.....	Horizontal or Vertical
*Gain .....	8.5 dBi Typical Average	Mast.....	1.5-2.0 Dia
Front to back .....	27 dB Typical Average	Input Connector .....	"N" Female
Beamwidth.....	@ 230MHz E=61°/H=92°	Power Handling .....	250 Watts
Beamwidth.....	@ 350MHz E=58°/H=89°	Boom Length / Dia.....	42" / 3/4" SQ
Beamwidth.....	@ 450MHZ E=59°/H=90°	Turning Radius: .....	21"
Feed Impedance. ....	50 Ohms Unbalanced	Wind area / Survival .....	0.8 Sq. Ft. / 125 MPH
		Weight / Ship Wt.....	14 lbs. / 16 lbs.

**\*Subtract 2.14 from dBi for dBd**

## FEATURES:

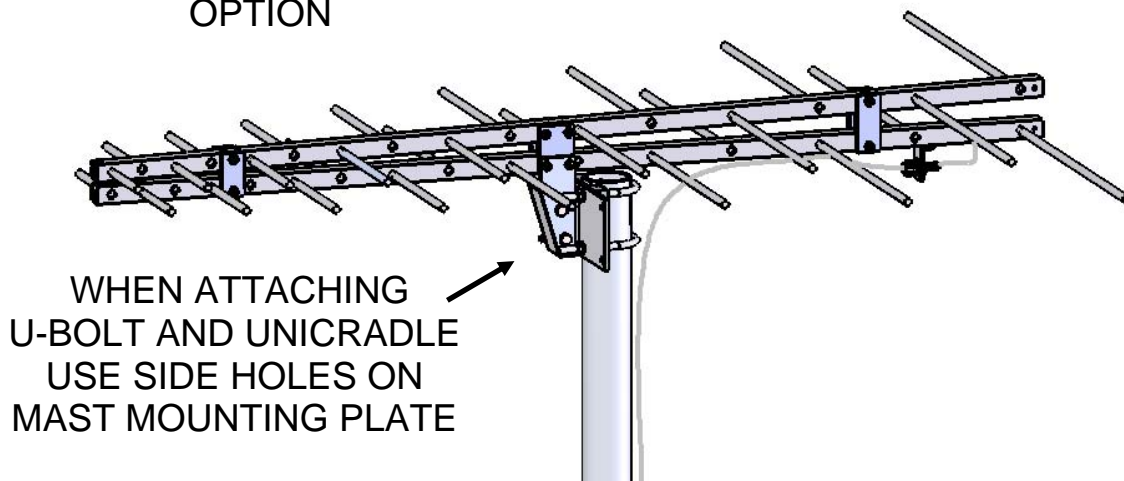
The 215-470LP16 is a dual boom log periodic with more elements than many conventional designs. The extra elements help in lowering VSWR and produces higher gains across the working frequency range. The result is a high quality commercial broad band VHF antenna. Built for extreme environmental conditions, this design uses 6061-t6 aluminum and all stainless hardware and UV stabilized acetyl insulation. Internal stainless screws secure the elements in place. Optional models are available with welded elements for corrosive environments or extreme conditions. The 215-470LP16 antenna can be ordered with many finishes, anodized, chem filmed, or a combination chem film and paint, with many colors available.

# 215-470LP16 DIMENSION SHEET



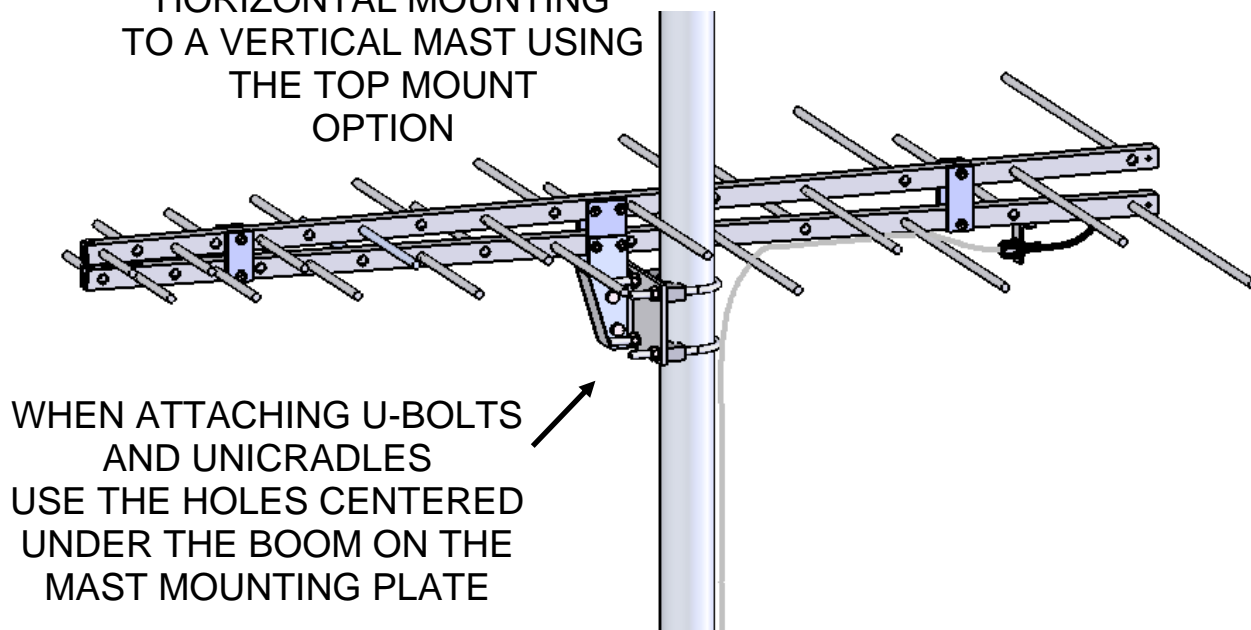
# 215-470LP16 HORIZONTAL MOUNTING

HORIZONTAL MOUNTING  
TO A VERTICAL MAST USING  
THE SIDE MOUNT  
OPTION



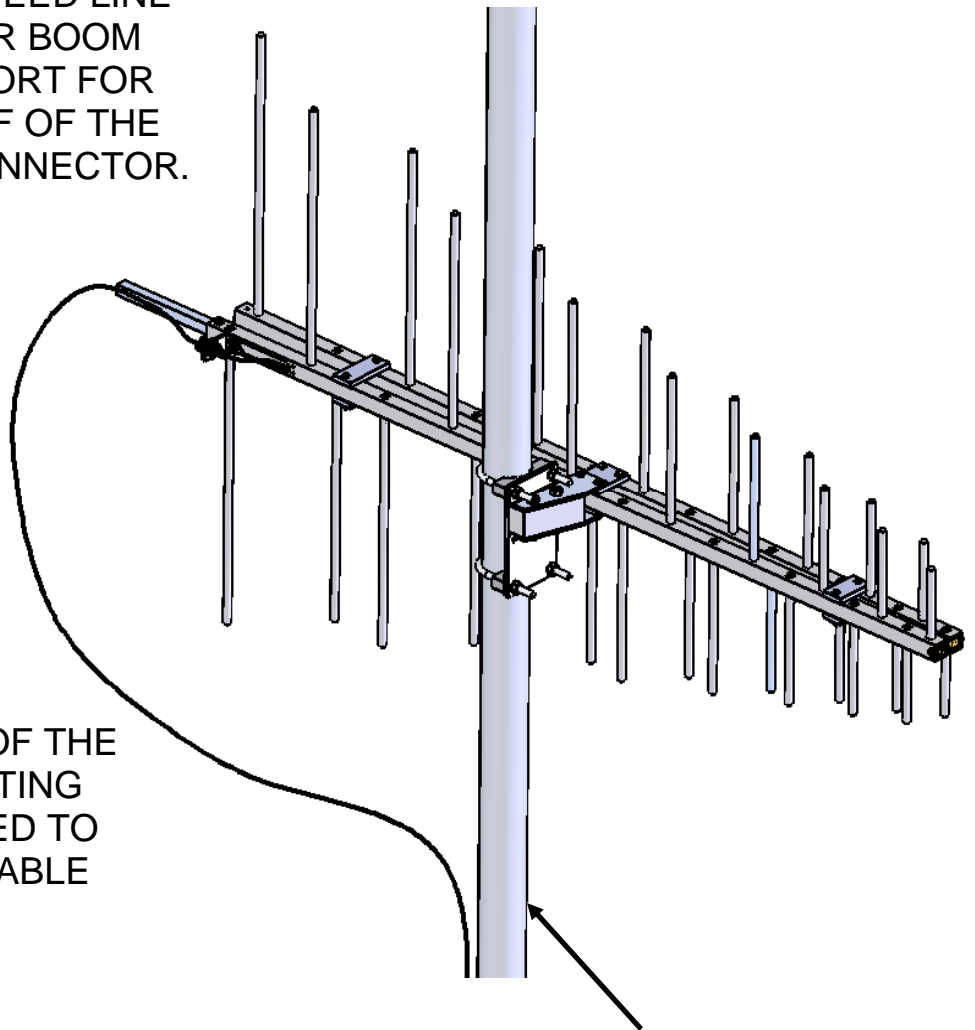
WITH HORIZONTAL  
MOUNTING THE FEED  
LINE CAN BE ATTACHED  
TO THE LOWER BOOM  
SECTION AND DOWN  
THE MAST

HORIZONTAL MOUNTING  
TO A VERTICAL MAST USING  
THE TOP MOUNT  
OPTION



# 215-470LP16 VERTICAL MOUNTING

ATTACH THE FEED LINE  
TO THE REAR BOOM  
CABLE SUPPORT FOR  
STRAN RELIEF OF THE  
CABLE AND CONNECTOR.



NOTE THE POSITION OF THE  
CONNECTOR MOUNTING  
BRACKET, IT IS MOVED TO  
THE REAR OF THE CABLE  
ACCESS SLOT

NON METALLIC MAST

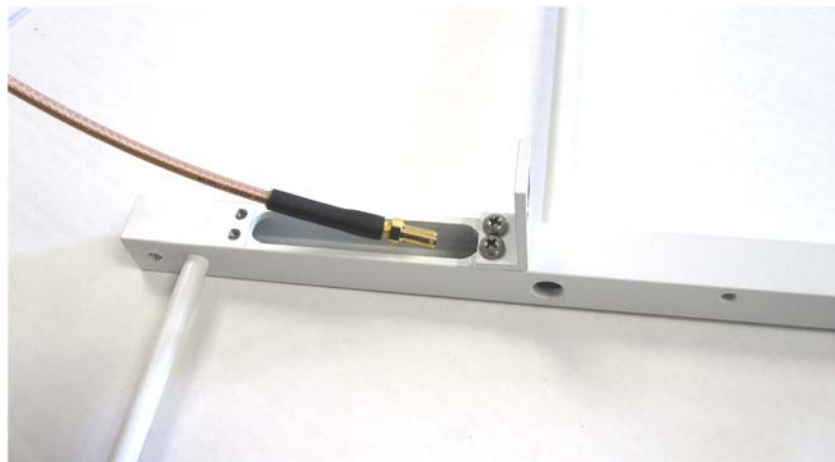
WHEN CENTER MOUNTING ANTENNAS VERTICALLY POLARIZED IT IS NECESSARY TO MOUNT YOUR ANTENNAS ON A NON METALLIC MAST, AND FEED LINES NEED TO BE ROUTED OFF THE REAR OF THE ANTENNA, BEHIND AND BELOW THE ELEMENTS AT LEAST 12" FAILURE TO FOLLOW THIS PRACTICE CAN SEVERELY DEGRADE THE PERFORMANCE OF THE ANTENNA.

# 215-470LP16 ASSMBLY

1. Find the lower boom assembly with the cable access slot. Add the connector mount bracket. Refer to the horizontal or vertical mounting options pages to chose connector mount bracket location.



2. locate the Feedline RG-303 with connectors. Feed the SMA female connector end of the cable inside the boom starting from the cable access slot. Feed the cable thru past the front of the boom by 6”.



# 215-470LP16 ASSMBLY

3. Note the picture of the feed nose assembly, locate the grounded side of the feed nose assembly. **Warning** The feed nose assembly when unattached is fragile, after complete installation it will be very durable. Care must be taken during the following steps.

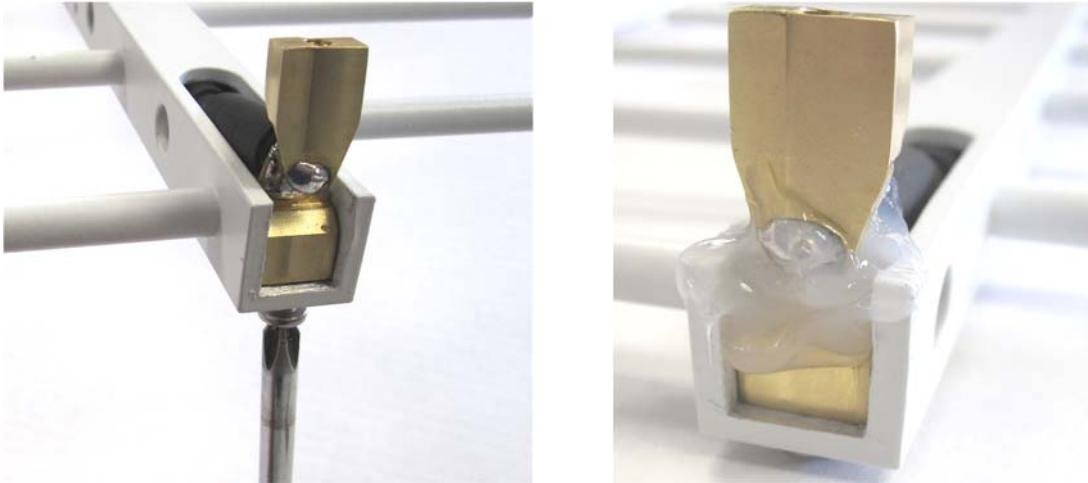


4. Slide on the supplied 1/2 shrink tube onto the cable. Attach the feed nose assembly to the end of the cable, slide the shrink tube over the mating SMA connectors and shrink.



# 215-470LP16 ASSMBLY

5. Carefully slide the cable and feed nose assembly back into the boom assembly, align the grounded side of the feed nose assembly with the hole in the front of the boom assembly and add the 8-32 x 3/8 screw.



6. Add silicone sealant or equivalent around the feed nose and solder connections as to seal for long term installation. Use appropriate topography sealing techniques for long term installation.

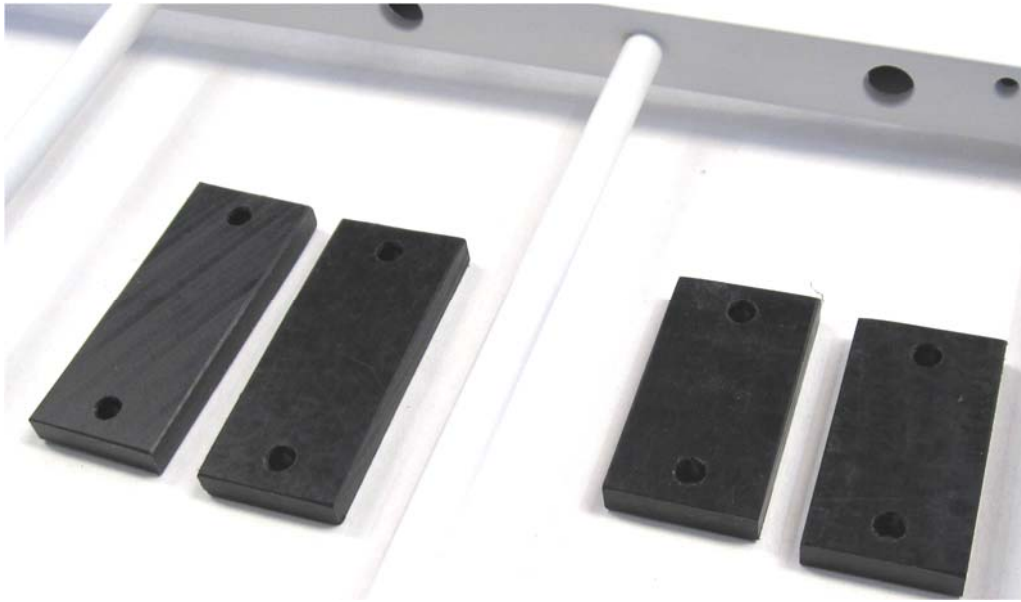


5. Route the N connector thru the connector mount bracket, add lock washer and nut and tighten.

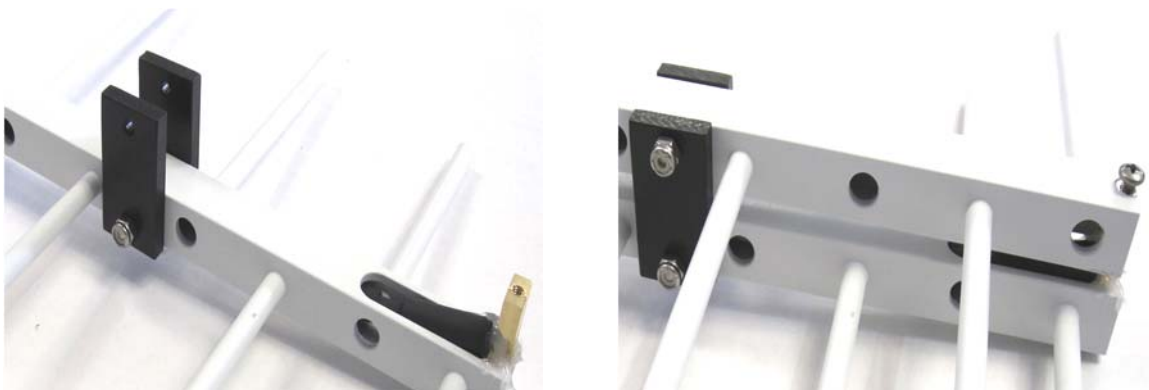


# 215-470LP16 ASSMBLY

6. locate the front and rear delrin spreader bars. Add the both smaller front spreader bars to either side of the boom assembly add the 8-32 screw thru the boom and add the nut. Repeat for the rear end of the boom assembly.



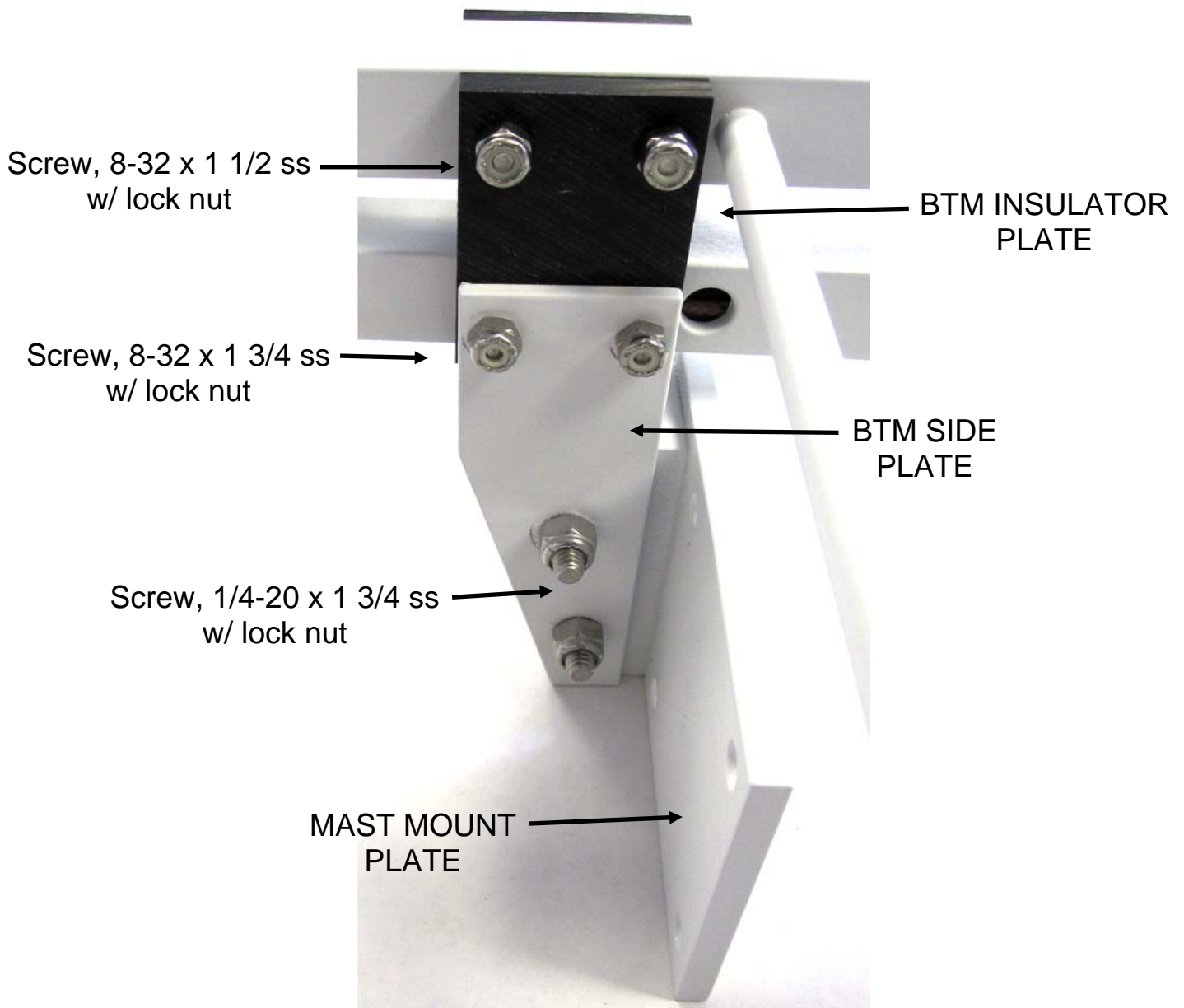
7. Find the upper boom section and attach to the open holes of the rear spreader bars. Carefully bring the nose of the upper boom assembly closer to the nose of the lower boom assembly, slide the center conductor side of the feed nose assembly into the nose of the upper boom assembly and add the 8-32 x 3/3 screw and tighten. Add the 8-32 screws to the front spreader bars, add the nuts and tighten all the hardware.





# 215-470LP16 ASSMBLY

8. Locate the BTM side plate, BTM block and mast mount plate. See the picture and assemble the BTM bracket. Add the u-bolts and uni-cradles for your mounting style, horizontal or vertical polarity. Be sure to tighten all hardware before installation. Always use good low loss coax for feed line. Seal all exposed connectors with the appropriate sealing techniques for your particular topography.



# 215-470LP16 PARTS & HARDWARE

DESCRIPTION .....	QTY
BOOM ASSEMBLY W/ ELEMENTS, UPPER.....	1
BOOM ASSEMBLY W/ ELEMENTS, LOWER .....	1
FEED NOSE ASSEMBLY .....	1
FEED LINE, RG-303 W/ SMA FEMALE TO N FEMALE .....	1
CONNECTOR MOUNT BRACKET .....	1
REAR BOOM CABLE SUPPORT .....	1
BTM SIDE PLATE .....	2
BTM BLOCK.....	1
MAST MOUNT PLATE .....	1
BTM INSULATOR PLATE .....	2
FRONT SPREADER BAR, DELRIN .....	2
REAR SPREADER BAR, DELRIN .....	2
UNICRADLE, (M2AMC0076) .....	2
U-BOLT, 2" SS HINDLEY.....	2
PENETROX / ZINC PASTE CUP .....	1
ASSEMBLY MANUAL .....	1

## HARDWARE:

NUT, 1/4-20 SS .....	4
LOCKNUT, 1/4-20 SS .....	2
LOCKWASHERS, 1/4 SS.....	4
BOLT, 1/4-20X1/2, FH SCKT, SS .....	4
BOLT, 1/4-20X1-3/4" SS .....	2
SCREW, 8-32 X 1-3/4" SS .....	2
SCREW, 8-32 X 1-1/2 SS.....	6
SCREW, 8-32 X 1" SS.....	1
SCREW, 8-32 X 3/8" SS.....	4
LOCKWASER, #8 SS.....	4
LOCKNUT, 8-32 SS .....	9
CABLE TIE, 8" NYLON.....	4
SHRINK TUBE, 1/2 W/ SEALANT X 1 1/2" .....	1
ALLEN WRENCH, 5/32 .....	1

## M<sup>2</sup> ANTENNA SYSTEMS, INC.

4402 N. SELLAND AVE.

FRESNO, CA 93722

(559) 432-8873 FAX: 432-3059

[www.m2inc.com](http://www.m2inc.com) Email: [sales@m2inc.com](mailto:sales@m2inc.com)