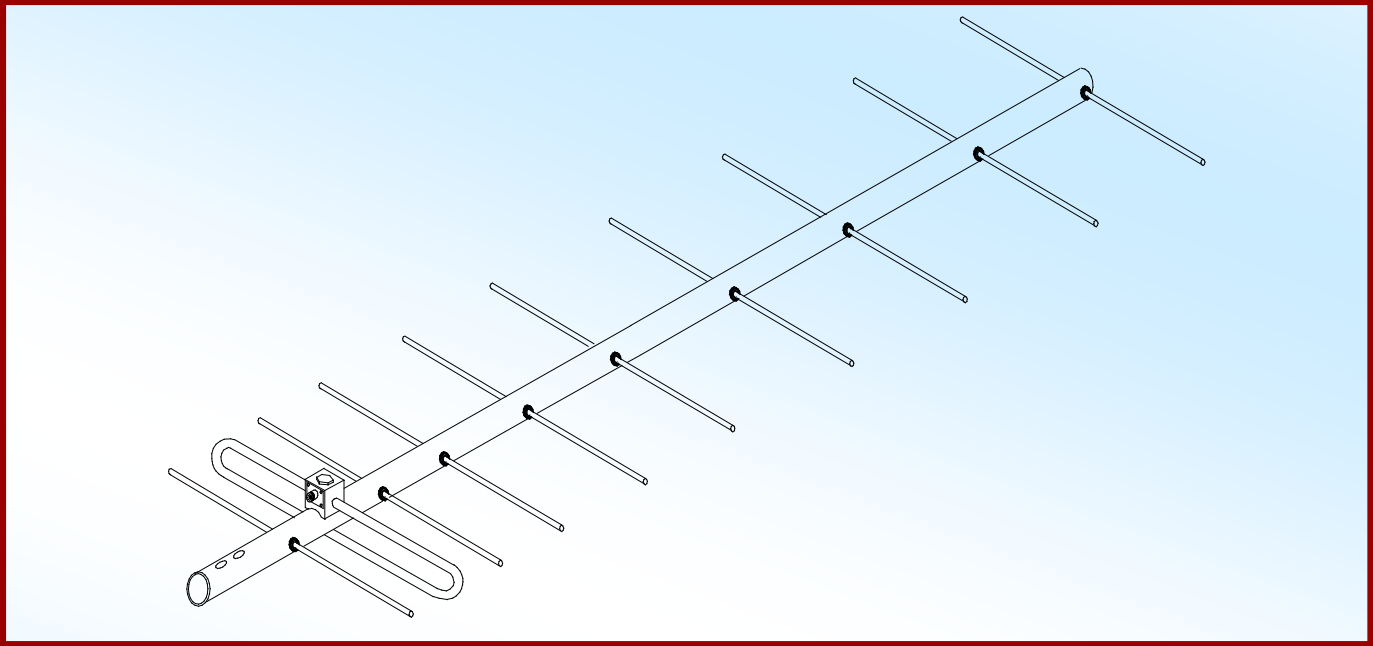




M2 Antenna Systems, Inc.

Model No: 420-450-11HP



SPECIFICATIONS:

| | | | |
|----------------------|--------------------|-----------------------------|-----------------------|
| Model | 420-450-11HP | Input Connector | "N" Female |
| Frequency Range..... | 420 to 450 MHz | Power Handling | 3 kW |
| *Gain | 13.44 dBi | Boom Length / Dia..... | 60" / 1-1/2" |
| Front to back | 20 dB Typical | Maximum Element Length..... | 40-5/8" |
| Beamwidth | E=34° H=43° | Stacking Distance..... | 28" |
| Feed type | Folded Dipole | Mounting..... | 1-1/2" to 2" Nom. |
| Feed Impedance..... | 50 Ohms Unbalanced | Wind area / Survival | 0.1 Sq. Ft. / 125 MPH |
| Maximum VSWR..... | 1.2:1 | Weight / Ship Wt..... | 6 Lbs. / 7 Lbs. |

***Subtract 2.14 from dBi for dBd**

FEATURES:

The 420-450-11HP is the high powered version of the standard model 420-450-11. The driven element has been engineered to handle up to 3 kW PEP. Computer optimization has allowed the antenna to cover the entire amateur 70CM band. It is ideal for repeater linking or any point to point application. Comparing it to a common reference, the KLM 420-450-11, it has the same usable bandwidth with a full on dB more gain and the pattern is much cleaner. Clean patterns in most applications provide more reliable communications with less inter-mod. An optional stacking harness is available when more than one antenna is required for reduced beamwidth or additional gain. Because the antenna covers the whole band, many users fit it a natural for ATV and general repeater use. Users are surprised by the performance of this compact but potent antenna.

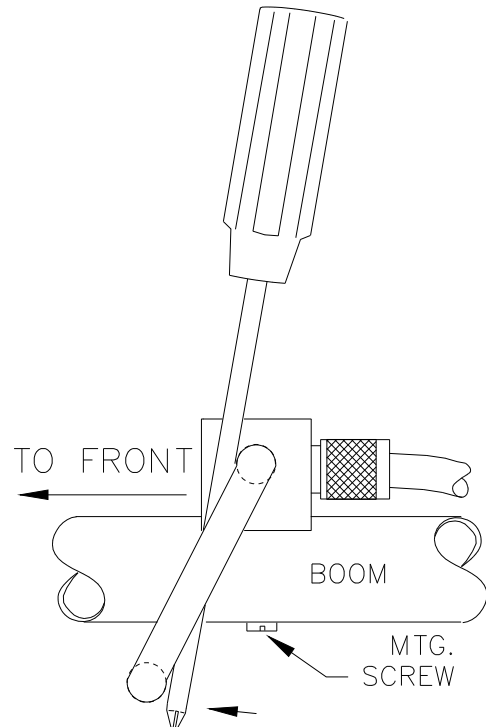
Construction is classic M2 for long term electrical and mechanical integrity. Elements are 3/16" 6061-T6 rod, mounted through the boom on UV stabilized insulators and locked in place with stainless steel shaft retainers. The driven element module is CNC machined and all connectors are O-ring sealed. Internal connections are encapsulated in a space-age silicone gel.

420-450-11HP ASSEMBLY MANUAL

ASSEMBLY INSTRUCTIONS

Tools required: phillips #2 screwdriver, tape measure or scale.

1. Lay out the ten 3/16" rod elements and arrange them according to the lengths on the Dimension sheet from REFLECTOR (rear most) to FRONT DIRECTOR (front most).
2. The 5/16" polyethelene, black button insulators are provided for element mounting. ASSEMBLY TIPS: A. Using a pocket or deburring too, lightly champher each hole to remove the sharp edge left from the drilling operation. This deburring will make the insulators slide in easier.
3. Starting with the REFLECTOR element, push the rod half way through an insulator. Insert the smaller diameter side of the insulator in the rear hole of the boom and push in until the insulator shoulder is against the boom. Now add the second insulator on the other side of the rod and push it tight against the boom.
4. Continue adding elements to the boom until all are in place except for the DRIVEN ELEMENT FOLDED DIPOLE. Now center the elements carefully to within at least 1/16" using a tape measure or scale.
5. Using the provided 3/8" aluminum "push tube", install the element keepers on both sides of each element and push them tight against the button insulators.
6. Install driven element to boom and secure with two 8-32 x 1-1/4" screws and lockwashers. Orient the feed connector to the rear.
7. Provide strain relief to feedline connector by securing feedline to boom with the supplied cable ties. Tie feedline near driven element and again where it meets the mast. Ties should hold firmly but not crush or kink feedline .
8. As shipped, the driven element tilts forward on the boom and best match is from 420 to 450 MHz. However, this match may vary from unit to unit, so a slight adjustment may be necessary. The match can be optimized simply by adjusting the tilt of the driven element tubes. To adjust, insert a screwdriver or similar tool through the loop, near the outer end, and rotate each side equally, in small increments, as shown in drawing.



**CAREFULLY DESIGNED AND 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

420-450-11HP PARTS LIST

| DESCRIPTION | QTY |
|---|-----|
| BOOM, 1.5 x 60", SLEEVED..... | 1 |
| PARASITIC ELEMENT, 3/16" ROD | 1 |
| x 13.75 | 1 |
| x 12.375 | 1 |
| x 11.813 | 1 |
| x 11.688 | 1 |
| x 11.437 | 2 |
| x 11.313 | 1 |
| x 11.062 | 1 |
| x 10.375 | 1 |
| x 10.313 | 1 |
| DRIVEN ELEMENT ASSY., HP, 420 - 450 MHz | 1 |
| ASSEMBLY MANUAL | 1 |
| IN HARDWARE BAG: | |
| SCREW, 8-32 X 1-1/4", SS | 2 |
| LOCKWASHER, 8-32, SS | 2 |
| 3/16" POLYETHELENE INSULATORS, BLK..... | 20 |
| 3/16" KEEPERS, (SHAFT RETAINERS), SS | 20 |
| PUSH TUBE, 3/8 x 3" | 1 |
| CABLE TIE, BLACK | 3 |

420-450-11HP System Parts List (Optional)

| DESCRIPTION | QTY |
|---|-----|
| EXTENSION TUBES, SPECIAL FOR PLATFORM ACCESS: | |
| REAR, 1" SQ. x 60" | 5 |
| FRONT, 1" SQ. x 51" | 5 |
| STANDARD EXTENSION TUBE, 1" SQ. x 60" | 55 |
| 420-450-11HP, YAGI ANTENNA..... | 60 |
| SYSTEM ASSEMBLY DRAWING | 1 |
| IN HARDWARE BAG: | |
| CAPTIVE QUICK RELEASE ASSEMBLY | 5 |
| BOLT, 1/4-20 x 1-1/2, SS..... | 120 |
| LOCKNUT, 1/4-20, SS..... | 120 |