

*PARA MEU AMIGO RY5-BOY  
 RY5-AMJ-GÓMEZ.*

## 436CP30 SPECIFICATIONS

Model Number	436-CP30
Frequency Range	430-440 MHz
Gain	14.5 dBdc
Beamwidth	30 Degrees
Polarity	Circular RHC OR LHC
Front to Back	22 dB Typical
Ellipticity	1.5 dB Typical
VSWR	1.4:1 Max
Feed Impedance	50 OHMS, Unbalanced
Connector	'N' Female
Power Handling	600 WATTS
Spacing	48 inches max.
Turning radius	68 inches typical
Boom Length / Dia	117 Inches / 1" Dia
Parasitic Elements	3/16" ROD Thru Boom Insul.
Wind Area	1 SQ. FT.
Mast Size	1-1/2- 2 Inch
Weight / Shipping Weight	5 LBS 7 LBS 2 X 4 X 60 " UPS

### FEATURES

The 436-CP30 is a practical size yet high performance circular polarized antenna with a remarkably clean pattern. The pattern is important in order to match the antennas noise temperature with todays low noise preamps. This antenna is ideal for satellite work but is also excellent for terrestrial uses like ATV, repeater operation and long haul tropo DX.

Sealed, weather tight driven element assemblies and phasing elements mean low maintenance and long term peak performance. Elements are centered to minimize element interaction and maintain good ellipticity. Elements are insulated from the boom and locked in place with stainless keepers. Elements are 6061-T6 and boom material is 6063-T832 aluminum.

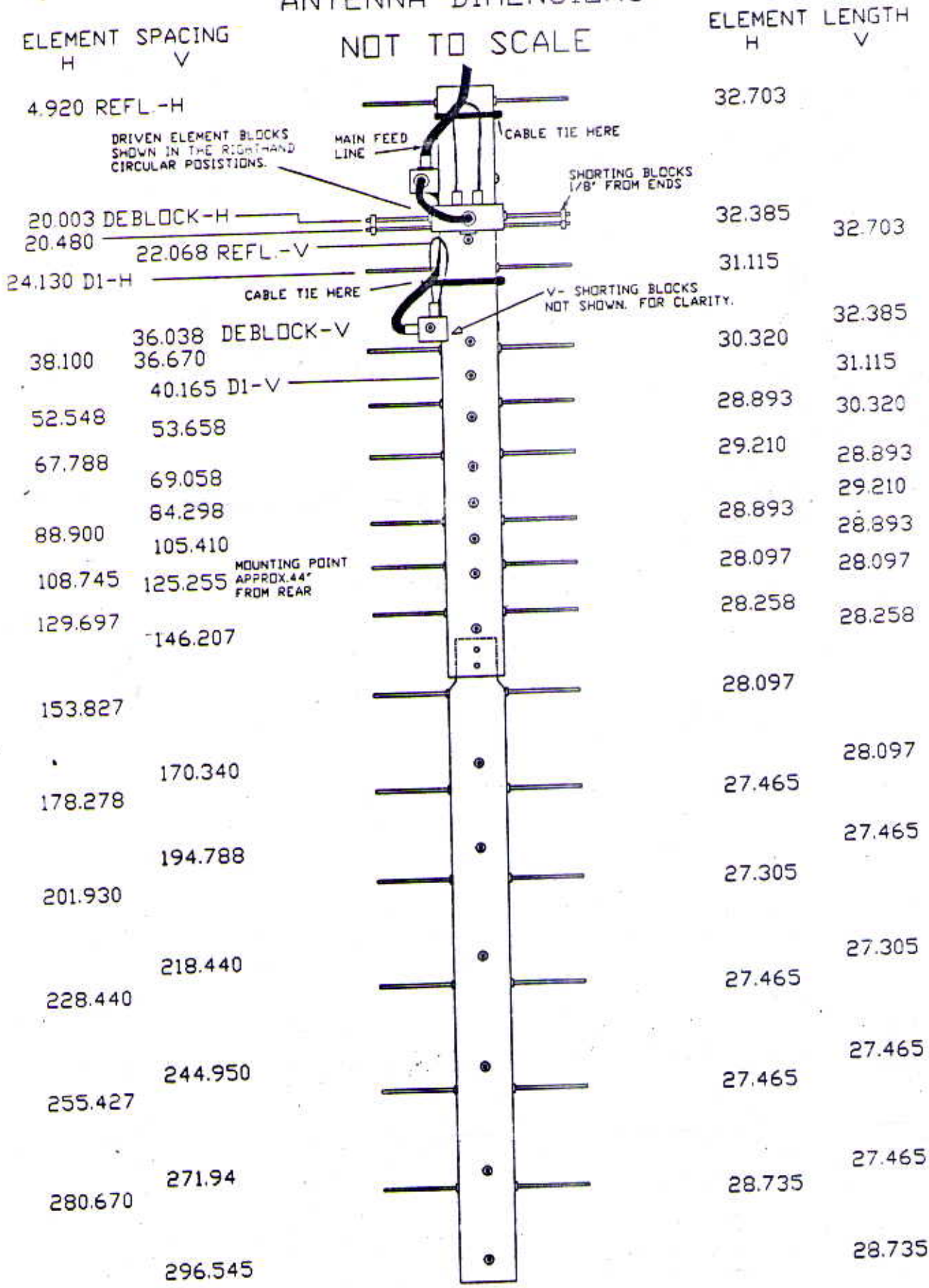
M<sup>2</sup> Enterprises 7560 N. Del Mar Fresno, CA 93711 (209) 432-8873 FAX 432-3059

## 436-CP30 PARTS LIST

DESCRIPTION	QTY.
Boom section, 1 x .058 x 60" PLAIN	1
Boom section, 1 x .058 x 58-7/8" SOE	1
Boom to mast plate, 4 x 4 x .125"	1
Elements, 3/16" alum. rod x (see dims.)	30
Driven element assembly, top half	2
"T" Block assembly	1
Balun, RG-6U halfwave length	2
Phasing line, RG6-U quarterwave length	1
Phasing line, RG6-U three quarterwave length	1
U-bolt and cradle, 1-1/2"	2
U-bolt, 1" no cradle	2
Assembly instructions	1
<b>IN HARDWARE BAG</b>	
Shorting bars, .75 x 1.532 x .250" mach. alum.	4
Button insulators, 3/16" black	60
Keepers, 3/16" ss	60
Nut, 5/16-18 ss	4
Lockwasher, 5/16" ss	4
Screw, 8-32 x 1-1/4" panhead	5
Set screw, 8-32 x 3/16"	8
Locknut, 8-32 ss	2
Nuts, 1/4-20 ss	4
Lockwasher, 1/4-20 ss	4
Allen wrench, 5/64"	1
Push tube, 3/8 x 3" (for keeper installation)	1
Cable ties, 8"	4

# 436-CP30 ANTENNA DIMENSIONS

NOT TO SCALE



NOTE: DIMENSIONS IN cm

REV. 4-30-90

M2 ENTERPRISES  
4/13/90  
DIMS

## ASSEMBLY INSTRUCTIONS

### 436-CP30 CROSSPOLARIZED YAGI

1. Assemble the two boom sections, align the holes and fasten with two 8-32 x 1-1/4" screws and locknuts.
2. To avoid confusion it helps to assemble one plane of elements at a time. Separate the elements into two identical sets. Begin with the longest element (REFLECTOR) by pushing on one black button insulator to about center. Consult the dimension sheet and insert the element through the first hole in the boom and add the second button insulator. Don't center at this time. It is quicker to center all the elements in this plane once they are all in place.
3. Move the next element forward of the reflector (DRIVEN ELEMENT) and install the bottom half of the dipole through the boom as in step one. Continue installing the rest of the DIRECTORS per the DIMENSION SHEET.
4. Now center each element to within 1/32 inch by simply equalizing the amount of element that protrudes from each side. When centering of this plane is complete, sight down the tips of one side to check for major irregularities. Correct if found.
5. Next using the 3" x 3/8" diameter tube provided, install the element keepers. Hold each element firmly in the boom during this operation to avoid pushing the element off center.
6. Repeat the above steps for the other plane of elements. NOTE: The second set of elements are shifted forward 1/4 wavelength (about 7 inches). This technique increases isolation between planes improving circularity and making it easier to phase and match the two sets of elements.
7. Refer to the assembly sketch of the complete antenna and mount the two driven element top halves using an 8-32 x 1-1/4" screw. Be sure to duplicate the position and direction of each driven element block to preserve RIGHT HAND CIRCULAR phasing. Install the FOLDED DIPOLE shorting blocks and add the set screws. Tighten in position using the 5/64 Allen wrench provided. NOTE: to generate LEFT HAND CIRCULAR polarity, mount the front driven element block on the opposite side of the boom ( rotated 180 degrees from the RHC position).
8. Add the Balun cables (2 equal length cables) to each driven element block. Hold the body of each connector with a 7/16" end wrench or pliers while gently tightening each connector nut. This gentle tightening locks the water seal on each connector.
9. Now again referring to the assembly sketch, add the 'T' BLOCK using another 8-32 x 1-1/4" screw. Carefully add the two phasing cables (short one on the rear dipole) and tighten as before. Form the cables carefully as tight against the boom as possible and secure with two black nylon ties as shown.
10. Add the boom to mast plate per the dimension sheet using two 1 inch U-bolts four lockwashers and nuts. tighten gently at this time. Final rotational alignment will be done during installation on the 1-1/2" fiberglass mast or boom.
11. Attach the main feedline to the female 'N' connector on the 'T' block, routing the cable toward the rear of the boom and securing it with another black nylon tie or two. Break away from the boom at right angles from the rearmost reflector to prevent feedline interaction with the antenna.

**THIS COMPLETES THE ASSEMBLY.**

**RECOMMENDED FEEDLINE** in order of preference: Andrews or Celwave 1/2" hardline, Belden 9913, Times FM-8 or Belden 8214. Try to keep the cable run under 100 feet (30 meters) to prevent excessive signal loss.

For stacking two or more 436-CP30 antennas, refer to the specifications for the recommended stacking separation.

To maintain proper phasing when stacking more than one antenna, mount each antenna with the same orientation. **DO NOT MOUNT MIRROR IMAGE.** For further information consult M2 Enterprises.

**CAREFULLY DESIGNED AND MANUFACTURED BY:**

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