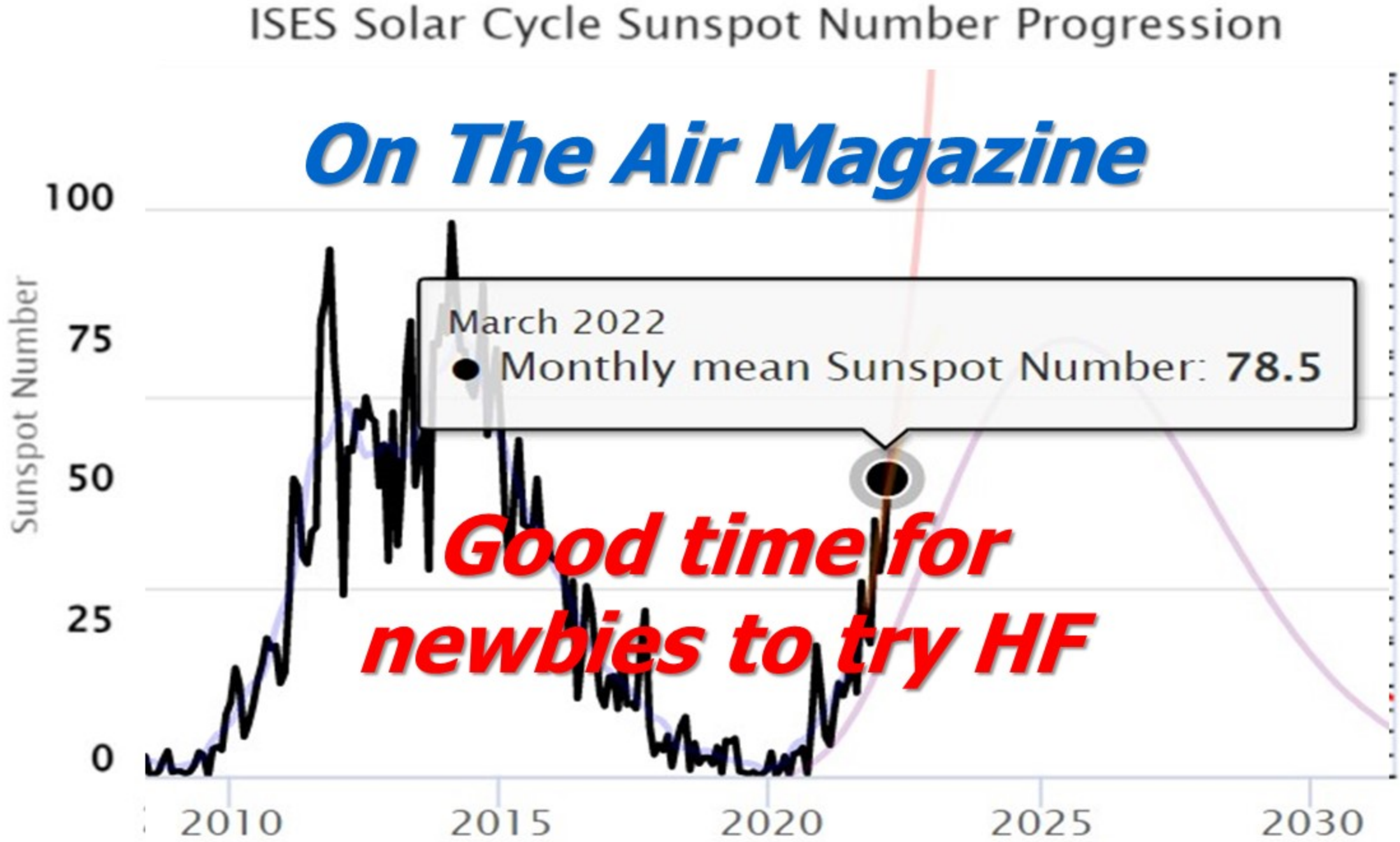
Build a 10-meter Moxon And for Other Bands

Article Requested by QST


ISES Solar Cycle Sunspot Number Progression
On The Air Magazine
Sunspot Number
100
75
50
25
0
March 2022
Monthly mean Sunspot Number: 78.5
Good time for
newbies to try HF
2010
2015
2020
2025
2030

PROJECT BUILD

Build a 10-Meter Moxon Antenna

John Portune, W6NBC, and
Jim Bailey, W6OEK

If you have a Technician-class ham license, you have privileges on the 10-meter band. With a basic HF transceiver and this Moxon antenna, you can make contacts around the world. This is a great antenna for taking advantage of the rise of Cycle 25.

The upswing of a solar cycle often offers spectacular worldwide communications on the higher HF bands, especially on 10 meters. Experts conservatively estimate that Cycle 25 will peak in 2025. The sun, however, has been showing early indications of peaking in 2023. Experienced hams are already enjoying improved propagation on 10 meters and the other top end HF bands as the number of sunspots grows.

Tools and Materials

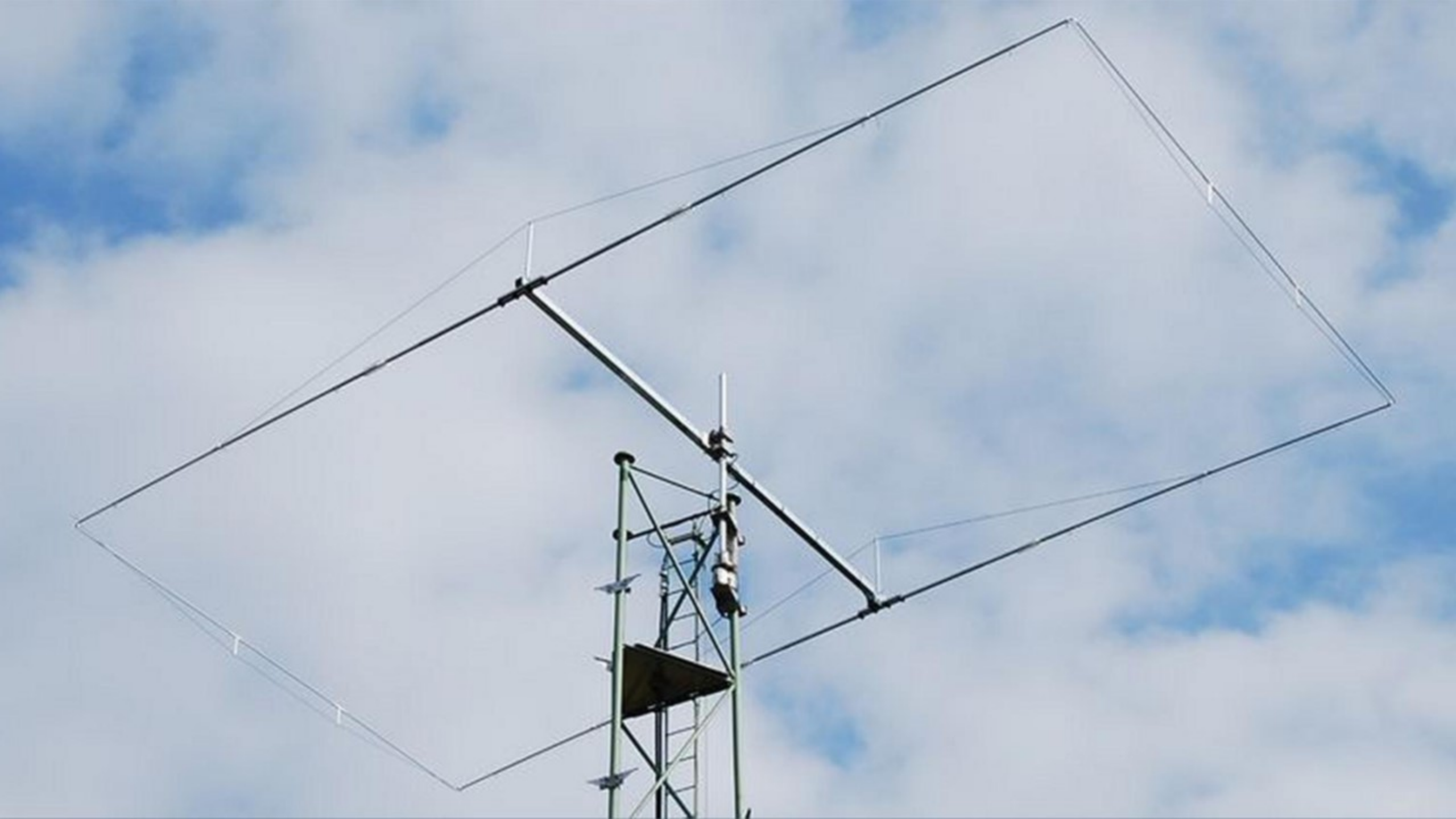
- Hacksaw
- Wire cutter
- Electric drill and bits
- Nut driver (for tightening stainless hose clamps)
- Wrenches
- (4) 48 in. ¾ in. pultruded fiberglass tubing
- (4) 48 in. ½ in. pultruded fiberglass tubing
- (4) Small stainless hose clamps, to fit ½ in. fiberglass tubing
- (2) 7/8 in. OD (0.058 in. wall) aluminum antenna tubing. Alternate: 3/4 in. EMT

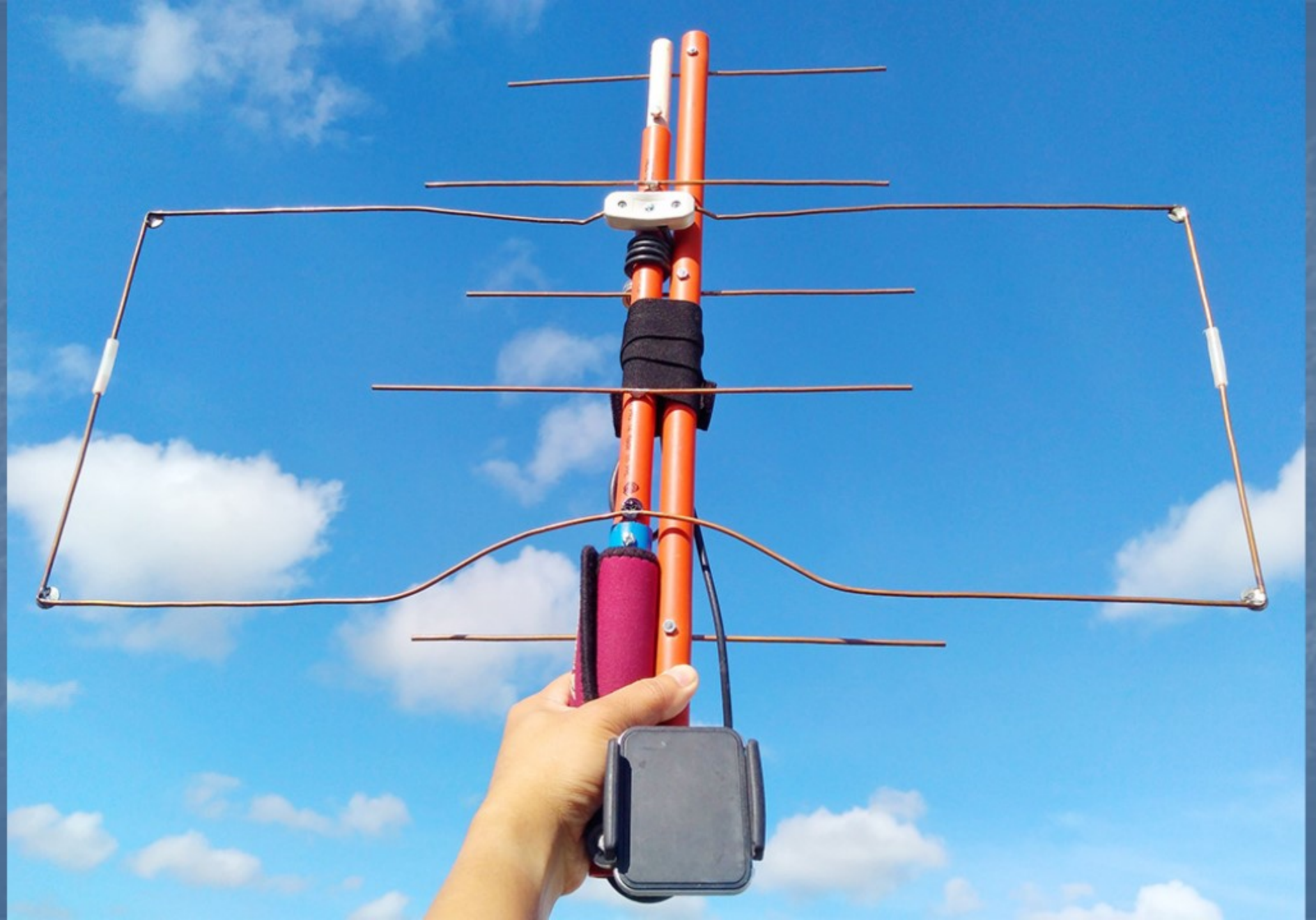
Les A. Moxon G6XN, 1993

"HF Antennas for All Locations"

RSGB ISBN 1-872309-15-1

W2FMI Jerry Sevick (sk 2009)





The UrbanBeam is excellent for use in high density population areas or properties with small lot sizes, where a full-sized Yagi may not be an option. The distinctive shape and small footprint (15.5 sq ft turning radius) of the UrbanBeam helps make neighbors and spouses happier, while still delivering the exceptional results you would expect of a SteppIR Yagi. The UrbanBeam is a high-performance, two element Yagi on 20m-6m and folded dipole on 40-30m. With features such as 180 degree direction change, bi-directional mode and full element retraction for stormy weather. You can enjoy all the features of a SteppIR Yagi while chasing low-sunspot-cycle DX or rag-chewing with your friends!

YAGI URBAN BEAM

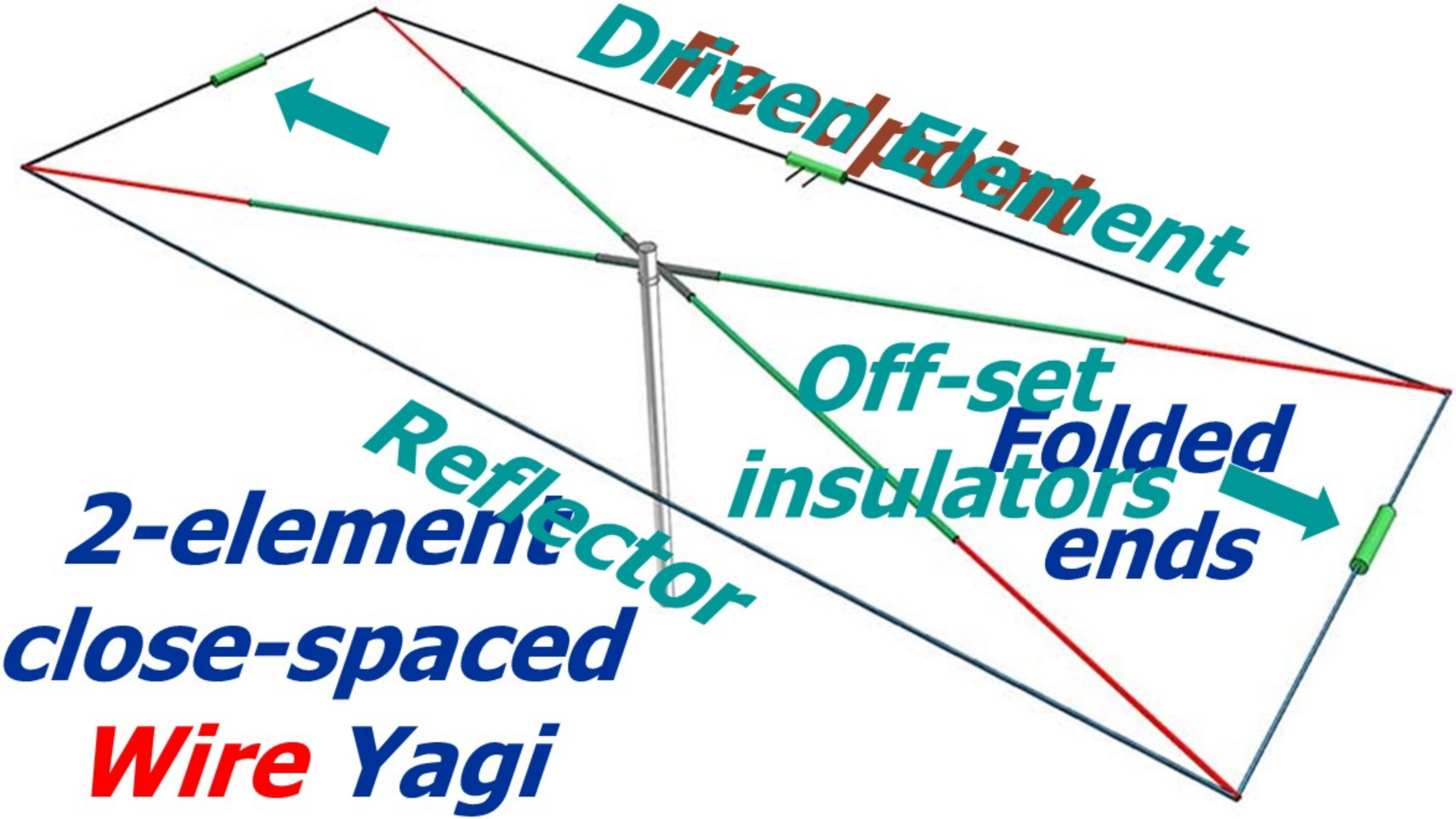
GO SMALL

steppIR
COMMUNICATION SYSTEMS

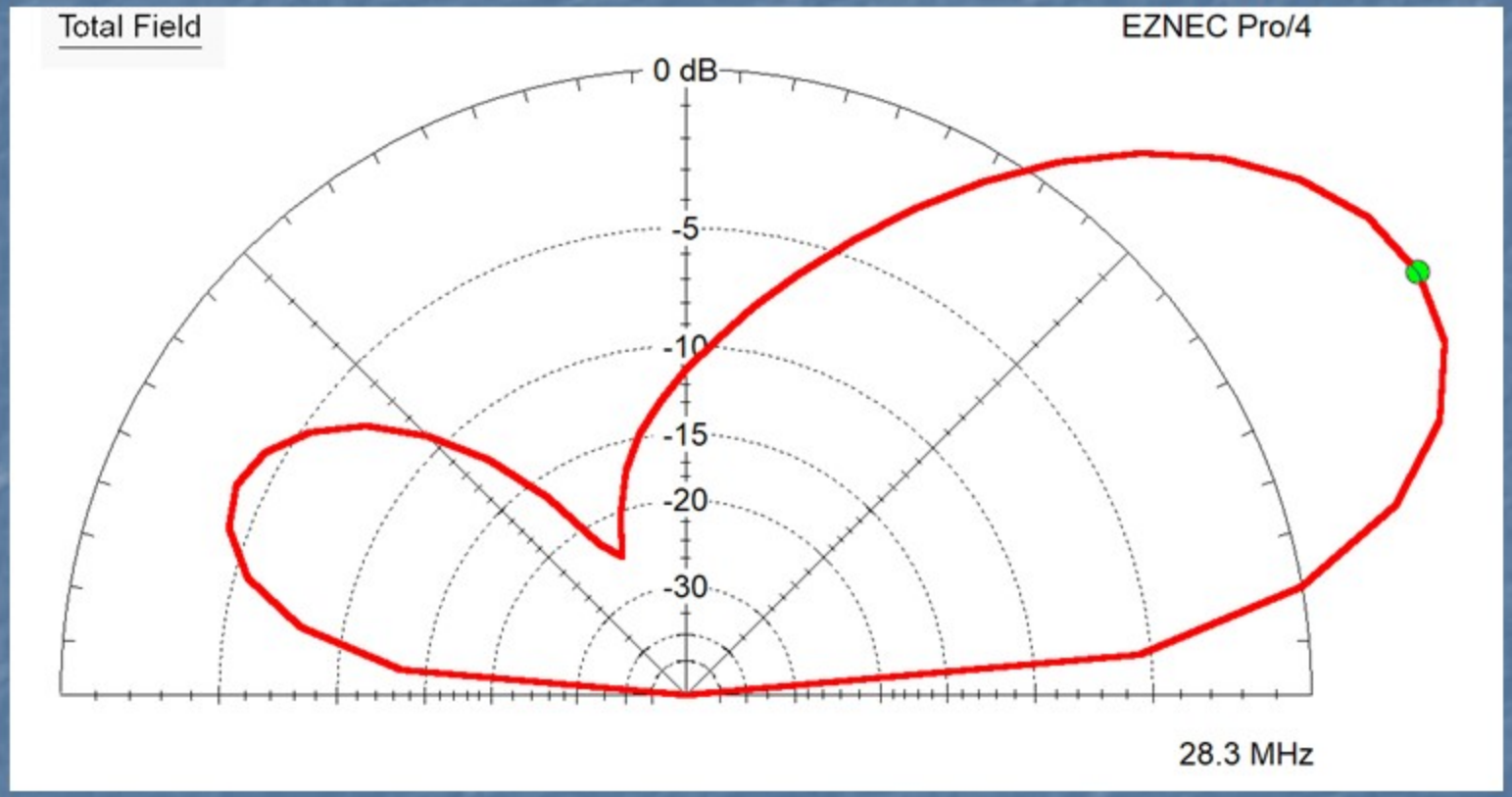
DETAILS & ORDERING:

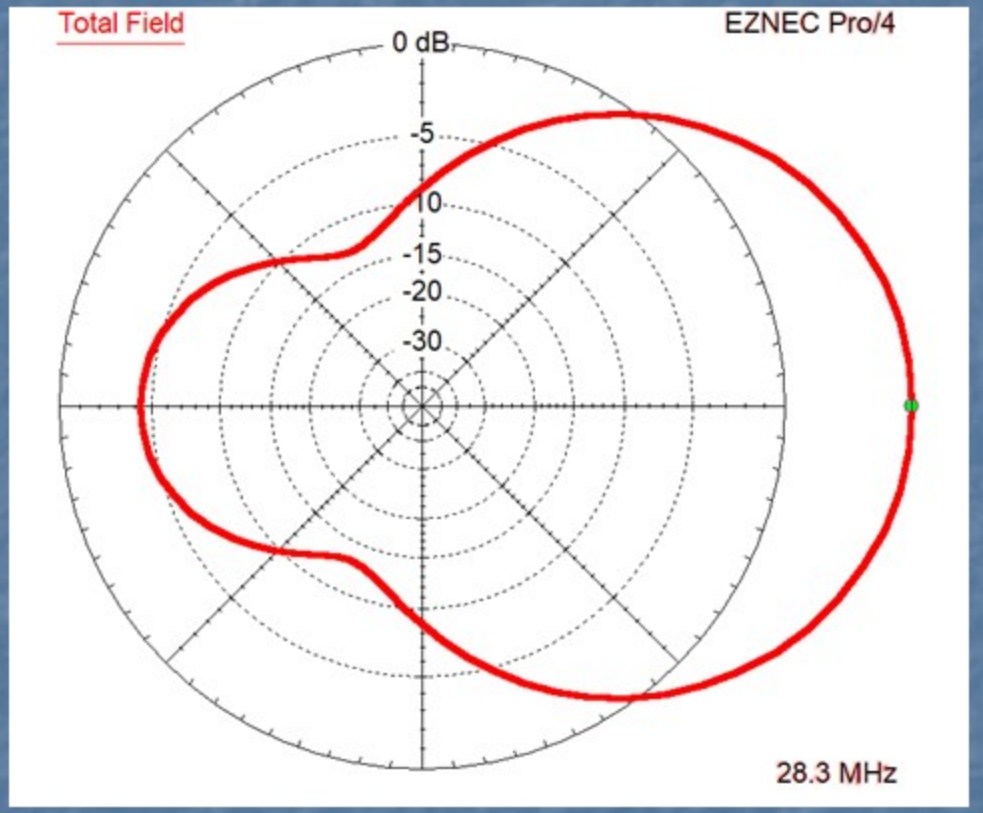
www.steppir.com

425-453-1910


Driven Element
Off-set
Folded
insulators
ends
Reflector
2-element
close-spaced
Wire Yagi

10-meter Moxon at 15 ft. (λ/2)





Elevation

Azimuth

tippete.net/cgi-bin/moxgen.pl

Moxon Calculator

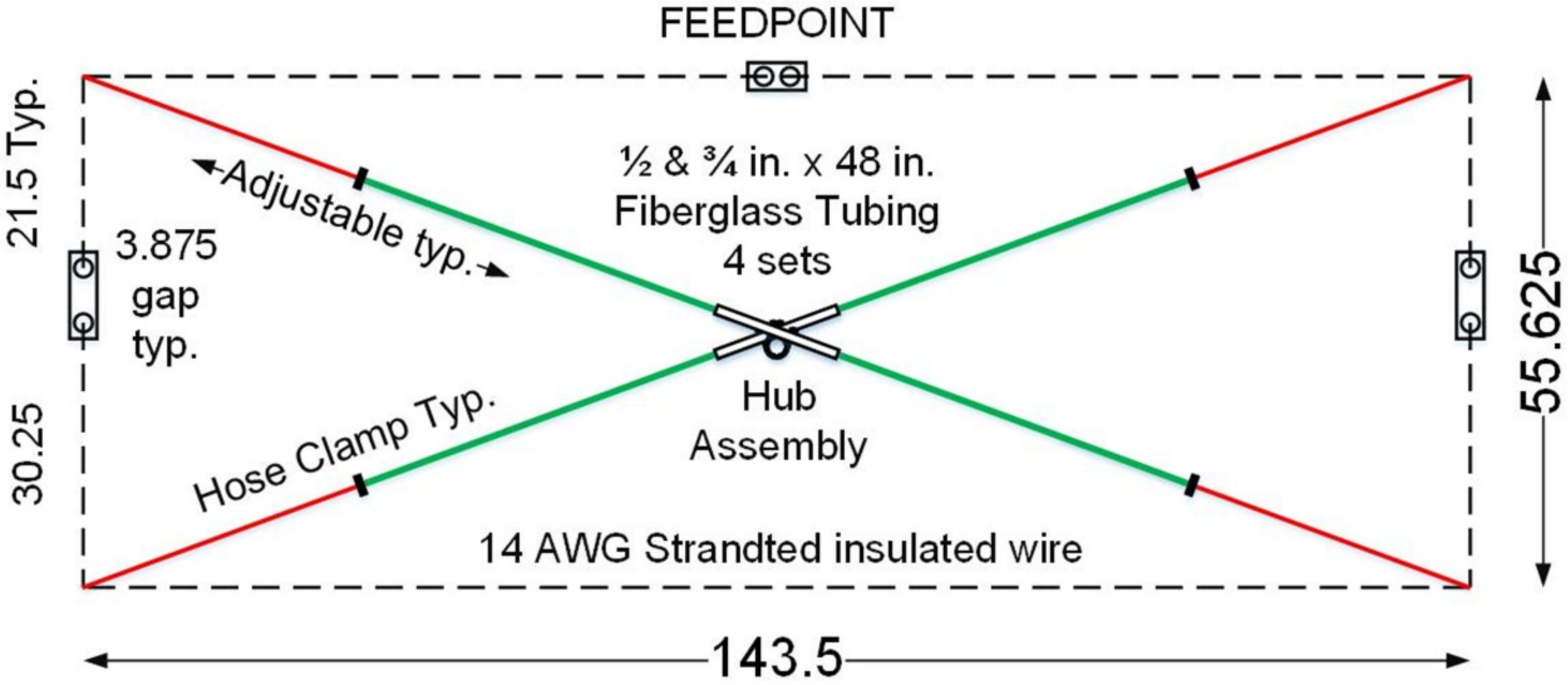
Frequency in MHz 28

Wire Diameter 14 AWG

Calculate Reset

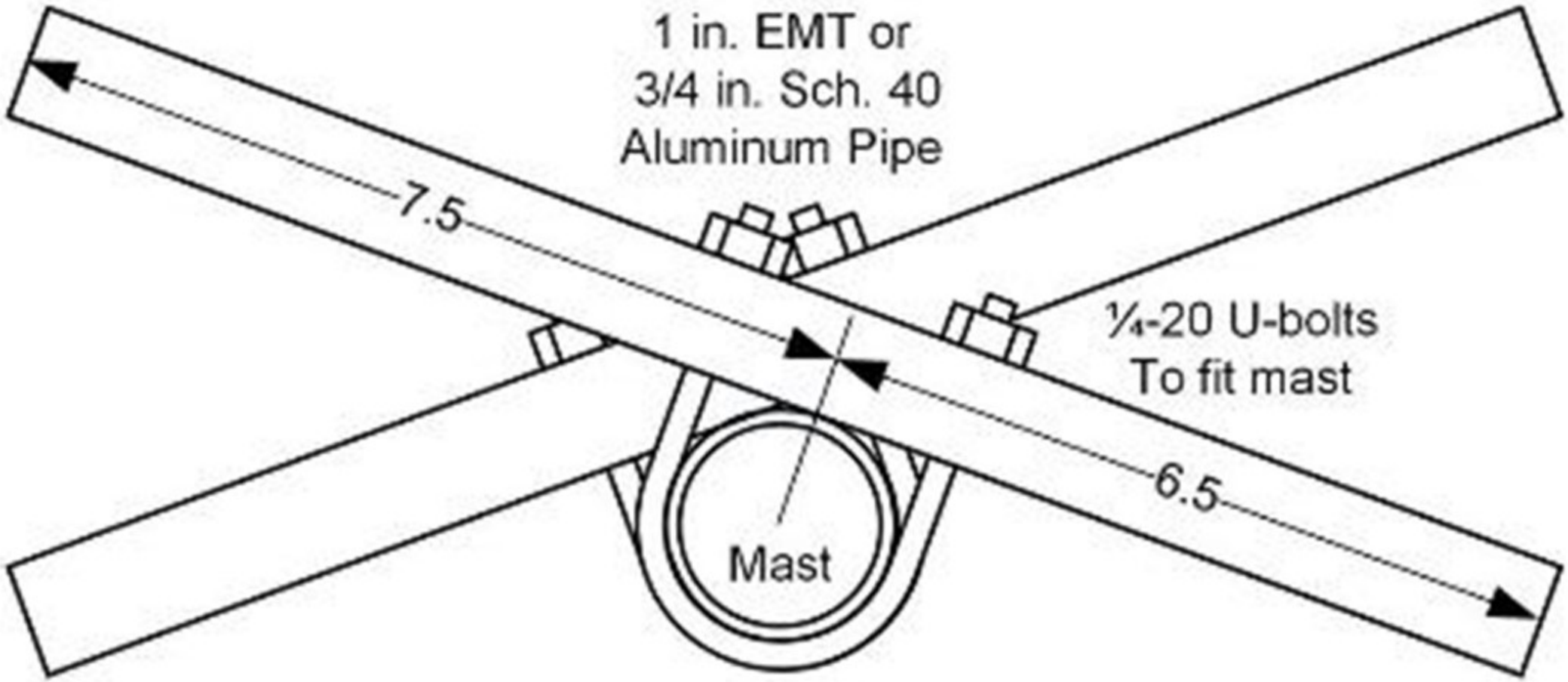
John Simpson, KG4ZOW Download source code for this program
Moxon algorithm and diagram are from http://www.cebik.com/moxon/moxgen.html


Spider/Hex
Beam


FEEDPOINT
21.5 Typ.
½ & ¾ in. x 48 in.
Fiberglass Tubing
4 sets
Adjustable typ.
3.875
gap
typ.
Hose Clamp Typ.
Hub
Assembly
30.25
14 AWG Strandted insulated wire
55.625
143.5

- DX Engineering
- Max-Gain Systems
- Order in 4 ft. lengths – UPS

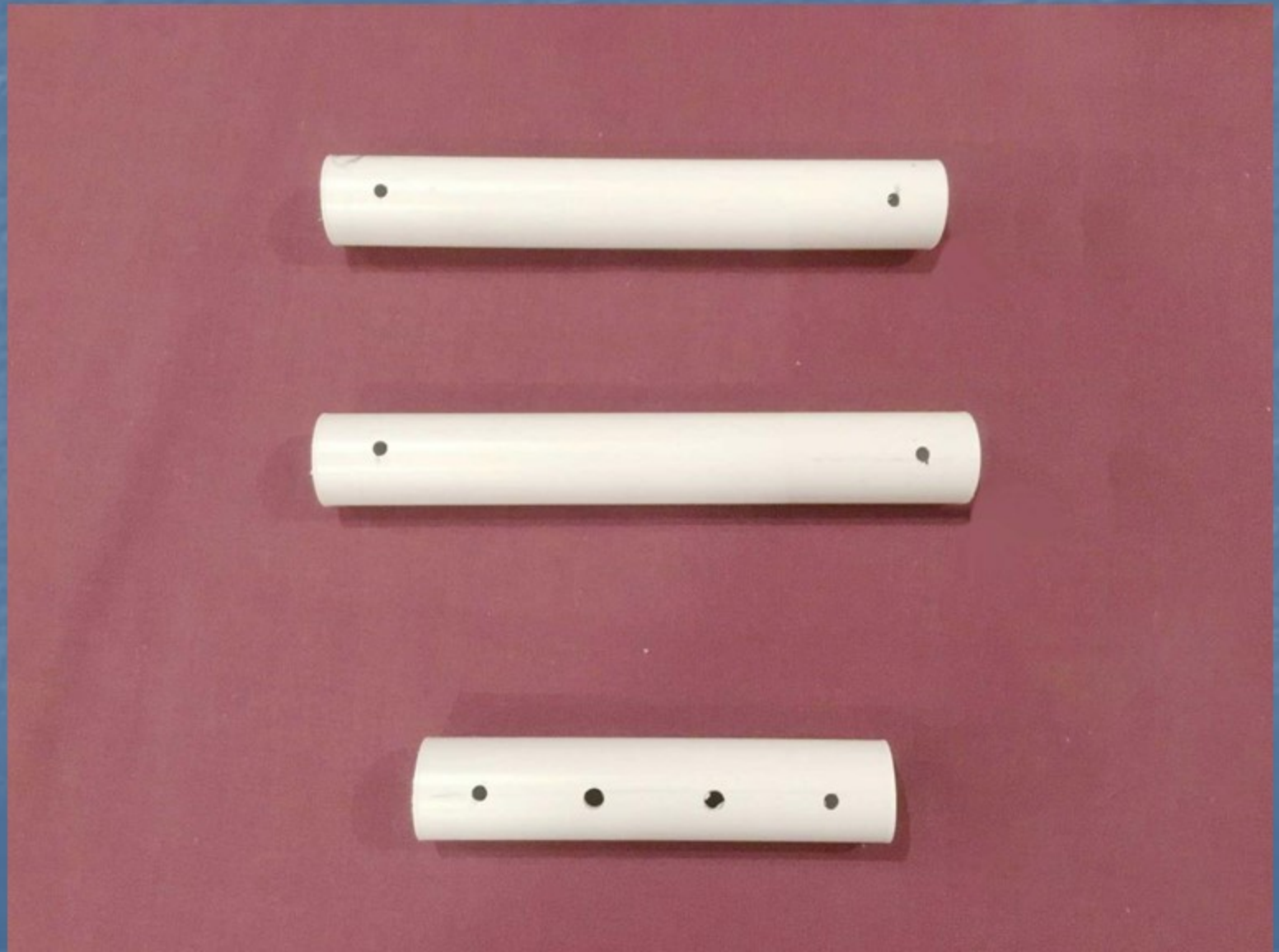
Center Hub


1 in. EMT or
3/4 in. Sch. 40
Aluminum Pipe
7.5
¼-20 U-bolts
To fit mast
6.5
Mast


Tough: comes right back AI 6MC

Let's Build One

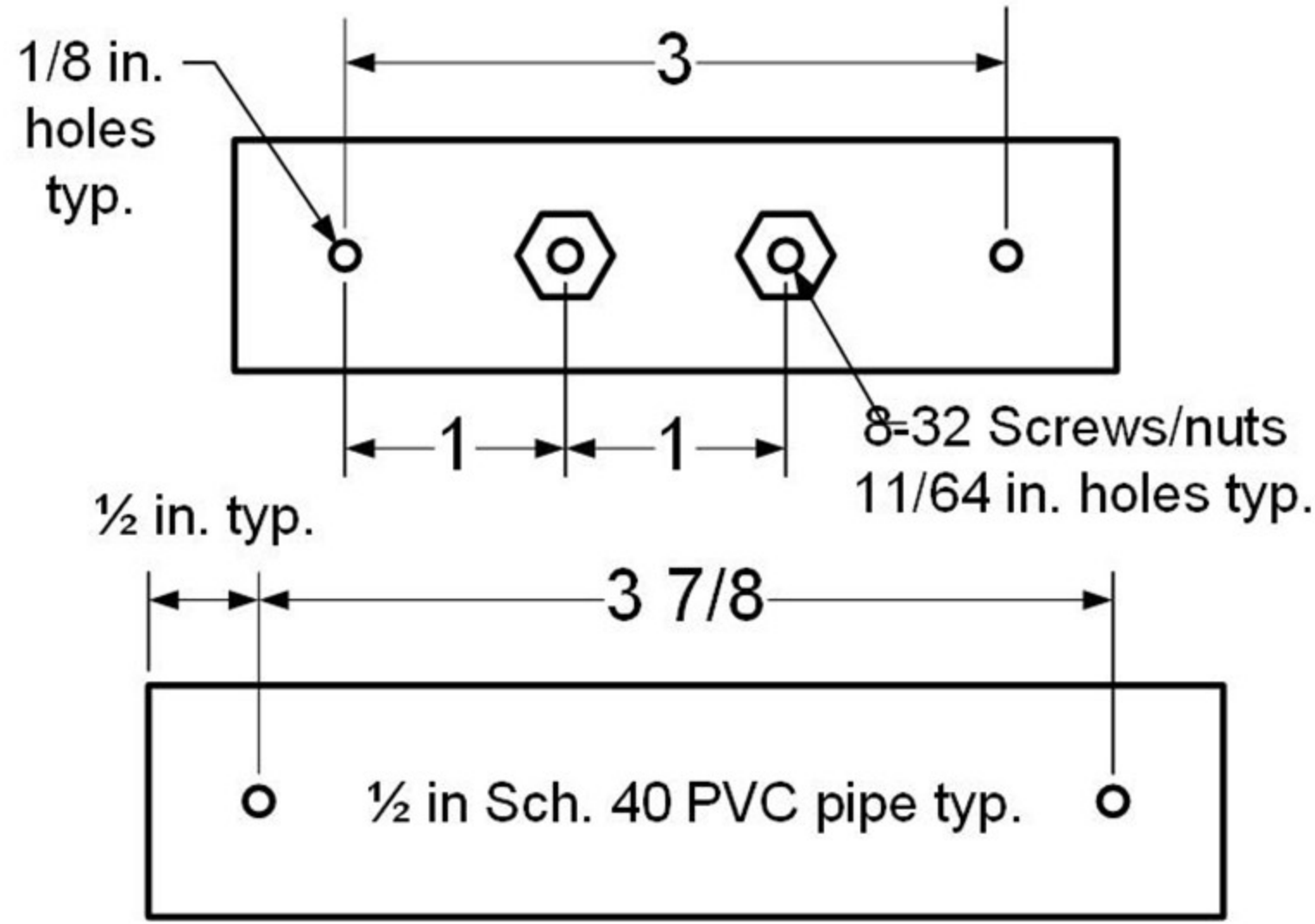
1/2 in. PVC Insulators



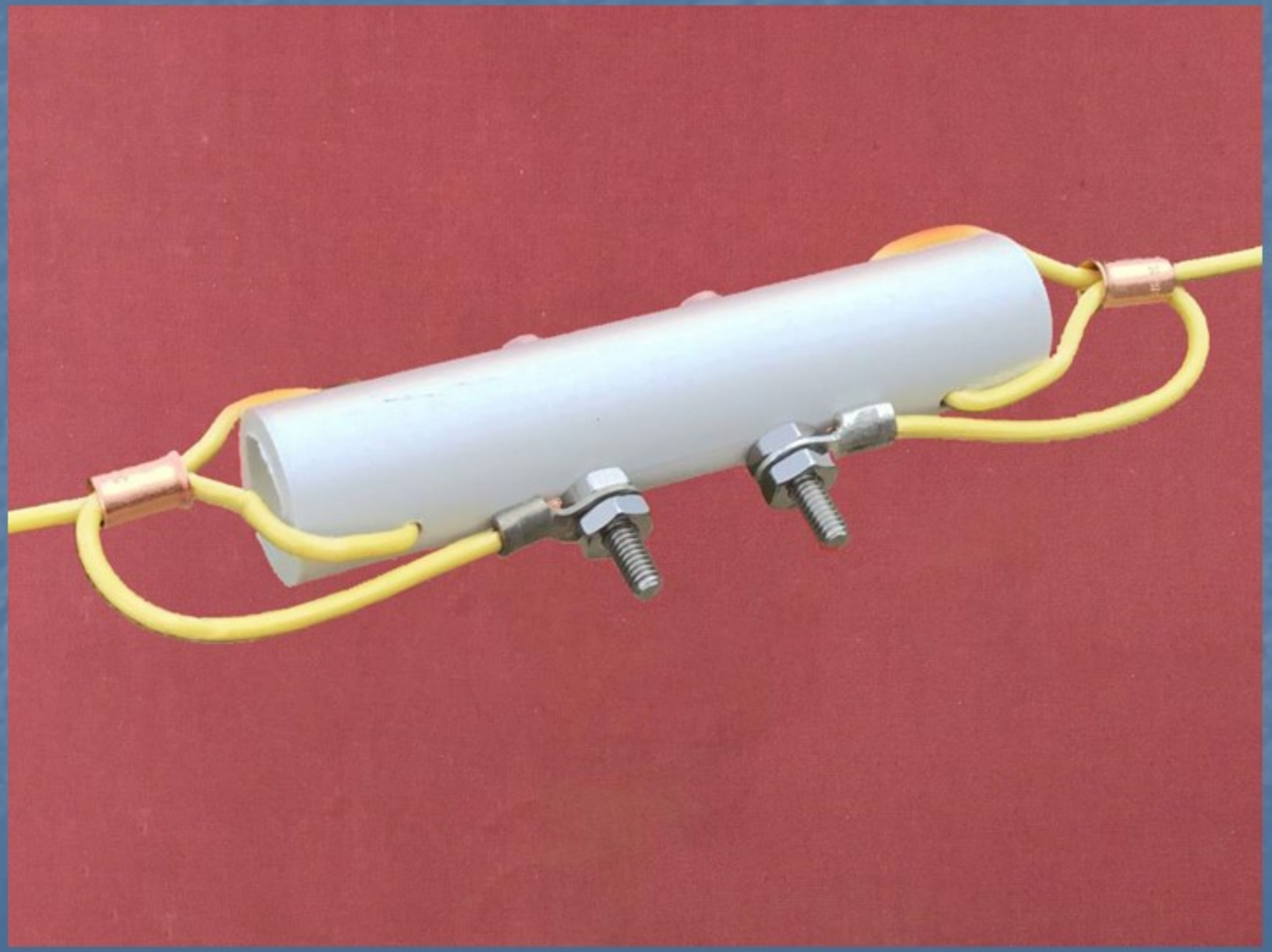
Ends

Feedpoint

Insulators dimensions

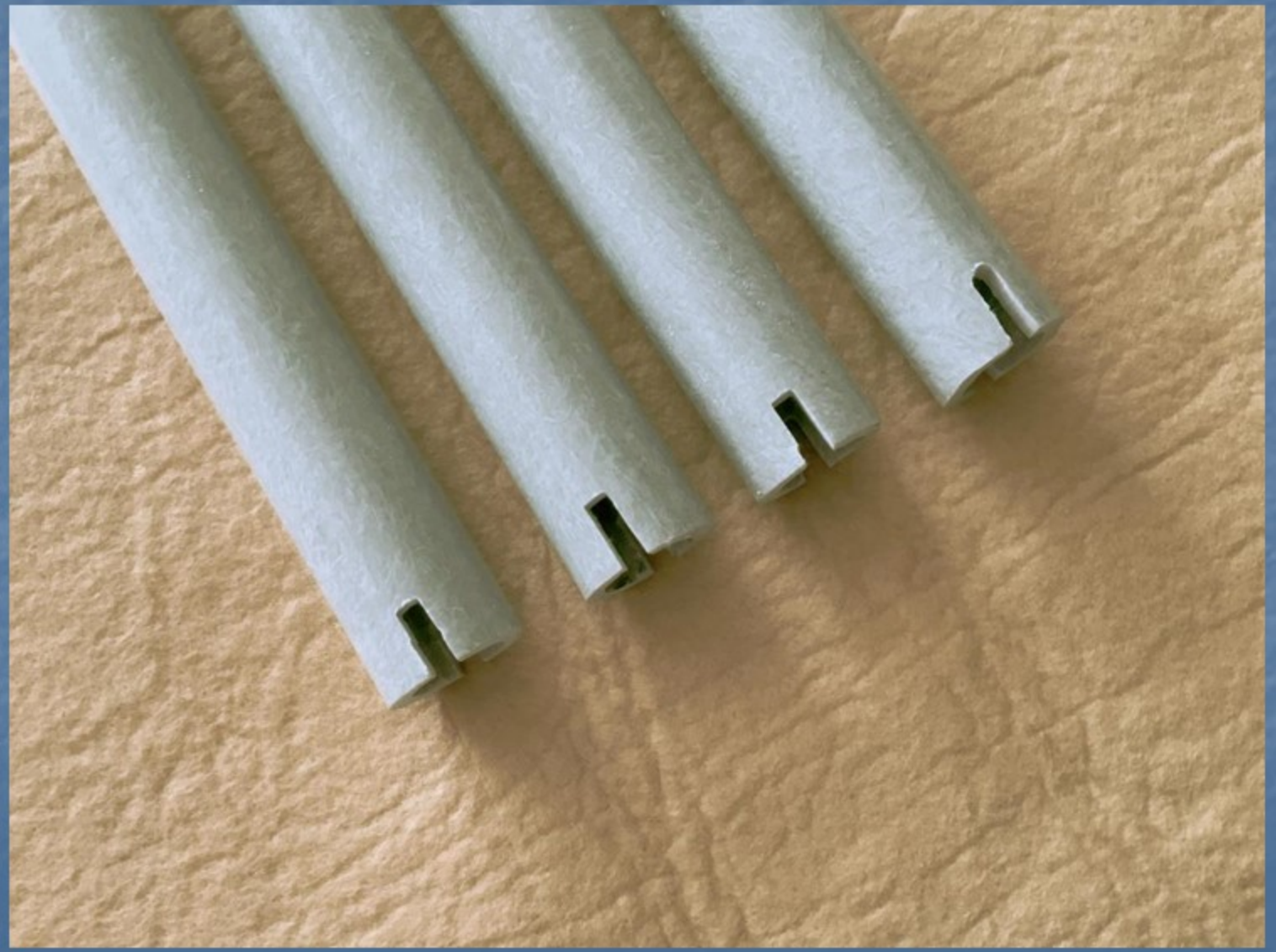


Feedpoint with wires and crimps

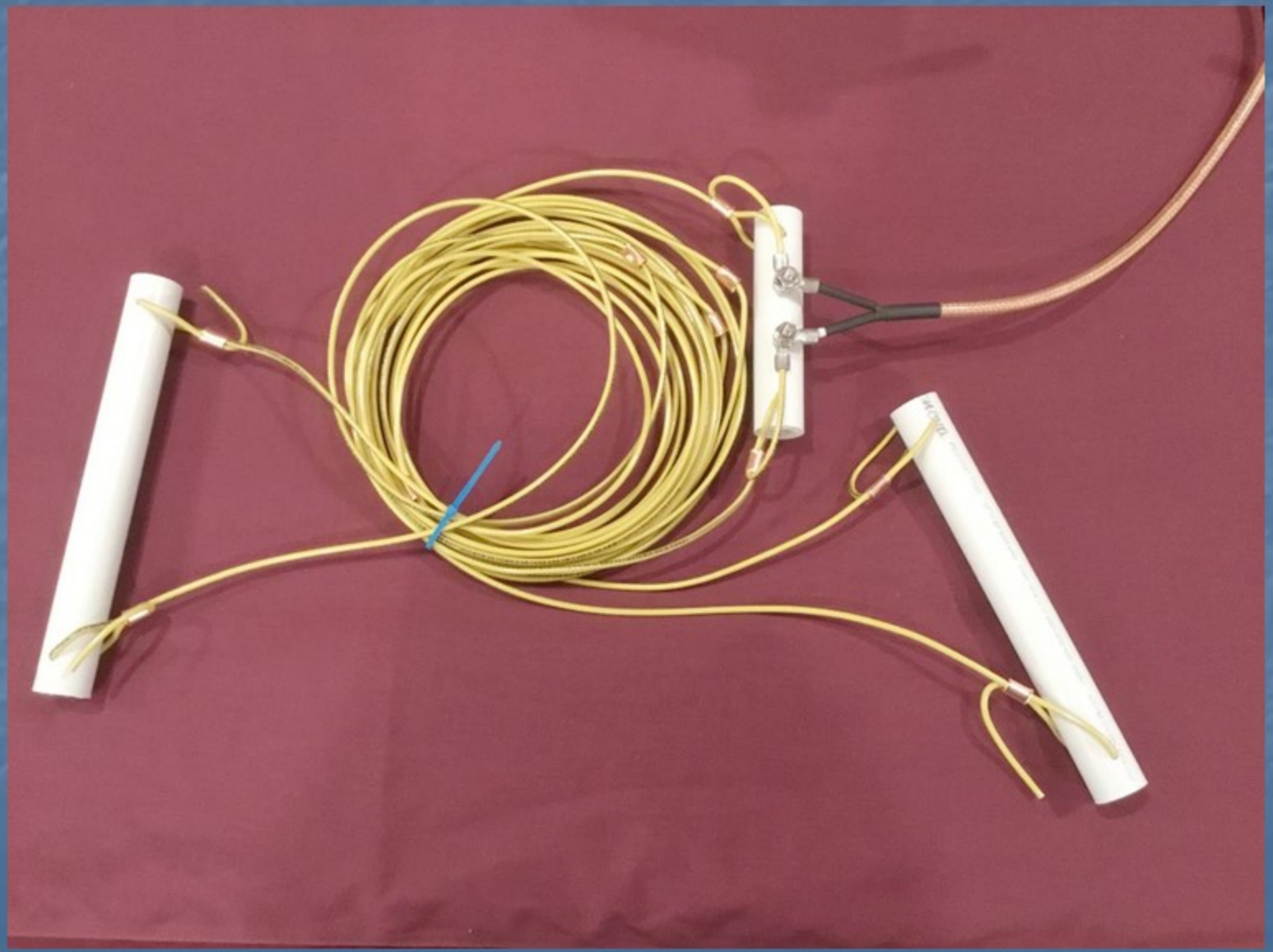


Hub Tubes

Slots in 1/2 in. outer tubes



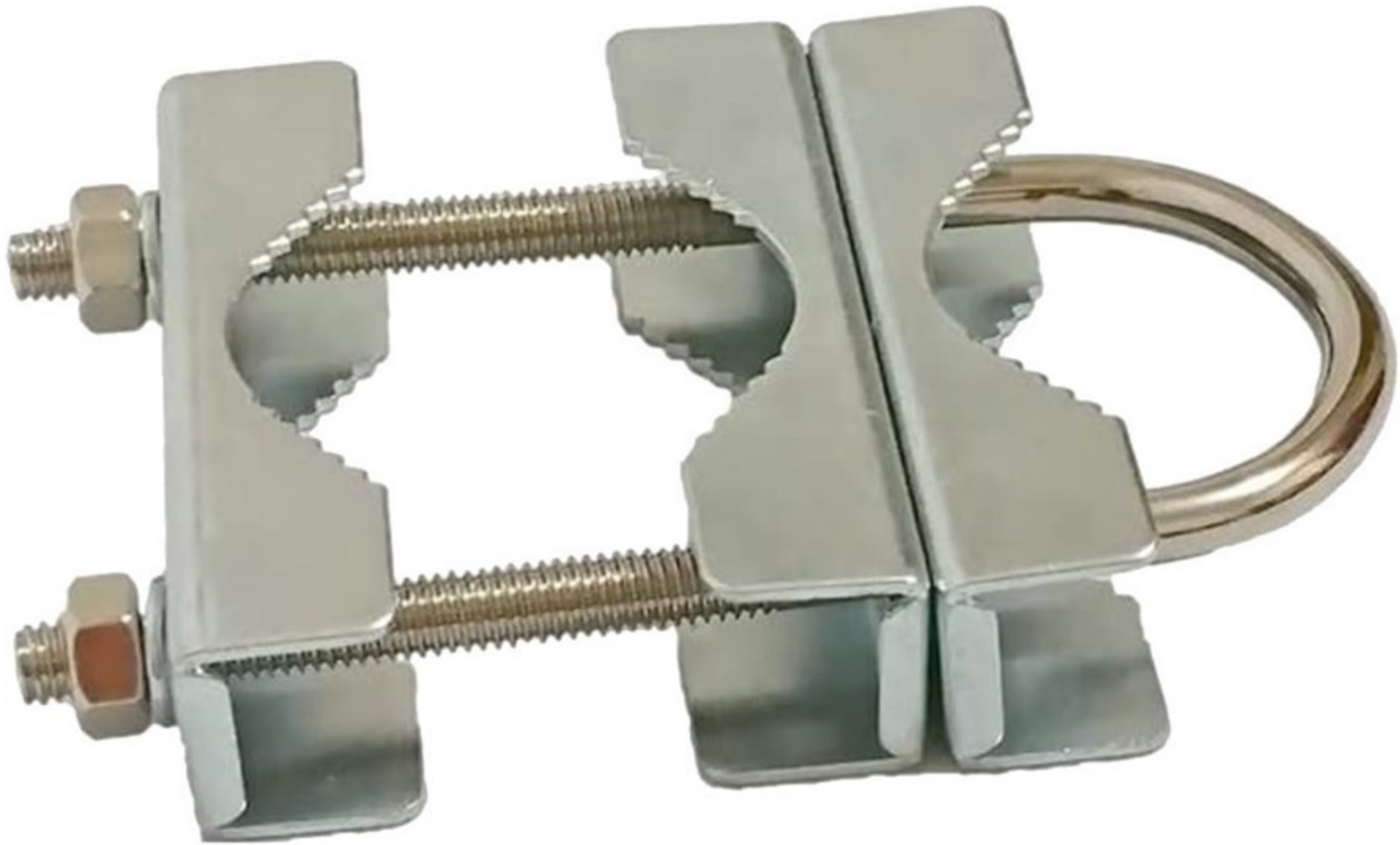
Assembled antenna



Assemble on temporary mast

Short stub can remain
or build on table

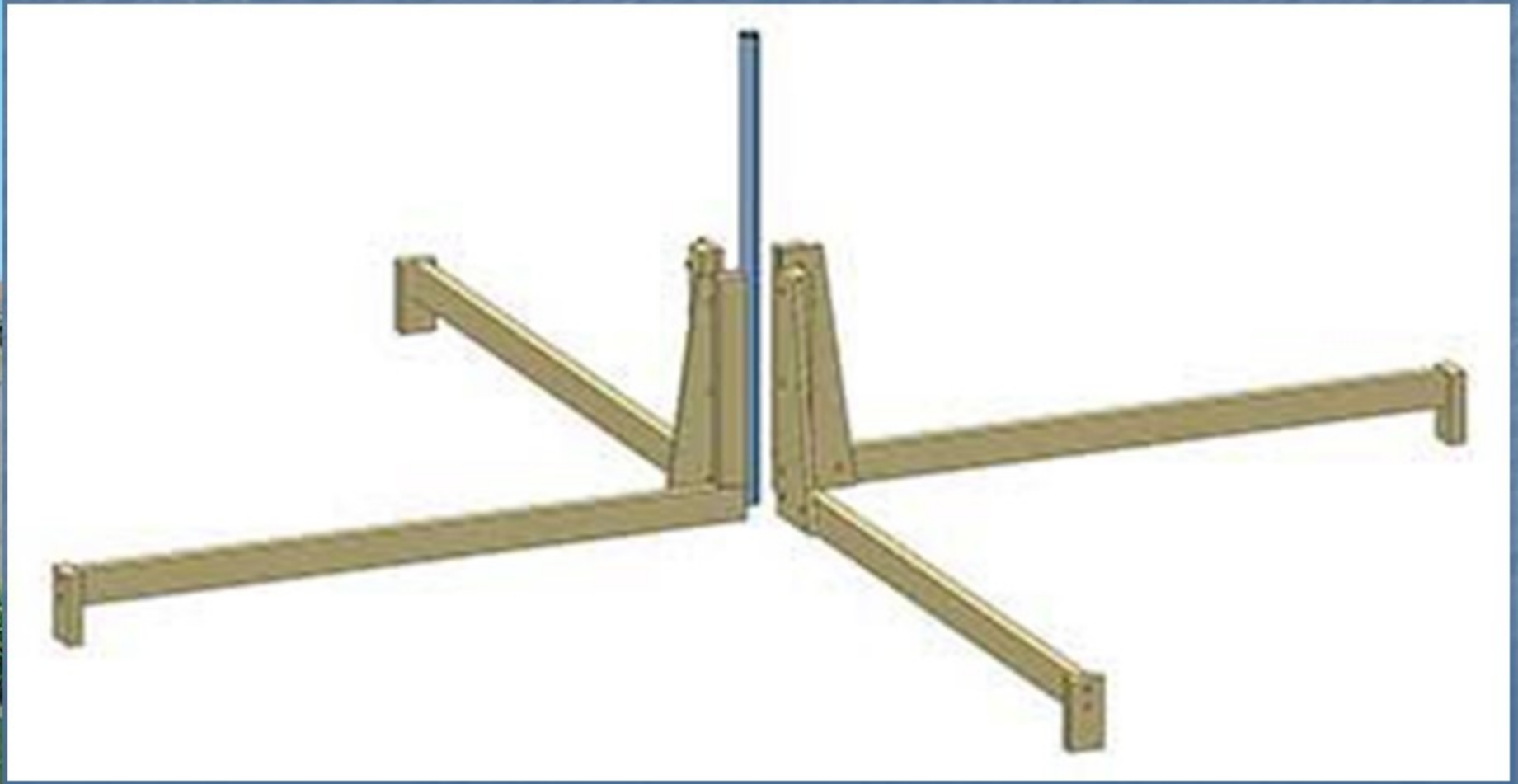
TV Mast Clamp




String completed antenna thru spreaders and secure at ends
18 in. frequency adjust not included in loop length

Tensioning the arms

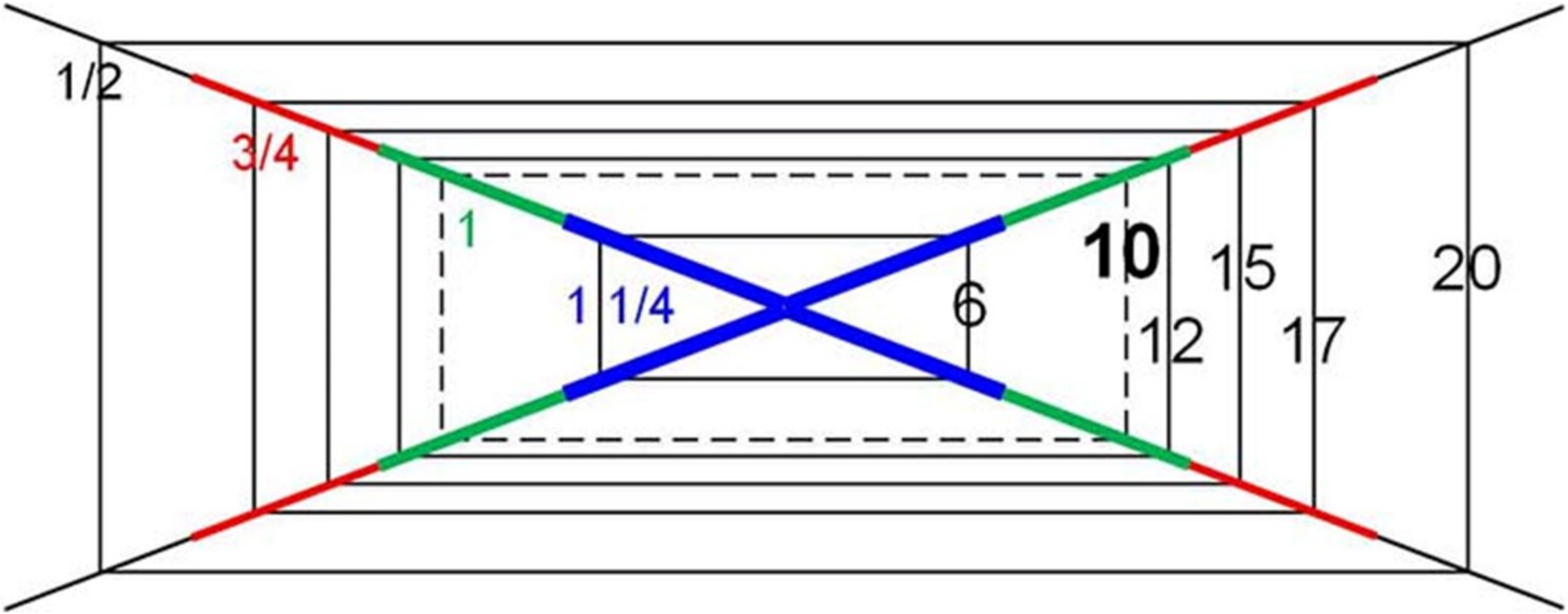
W6OEK's Back Yard on Portable Mount



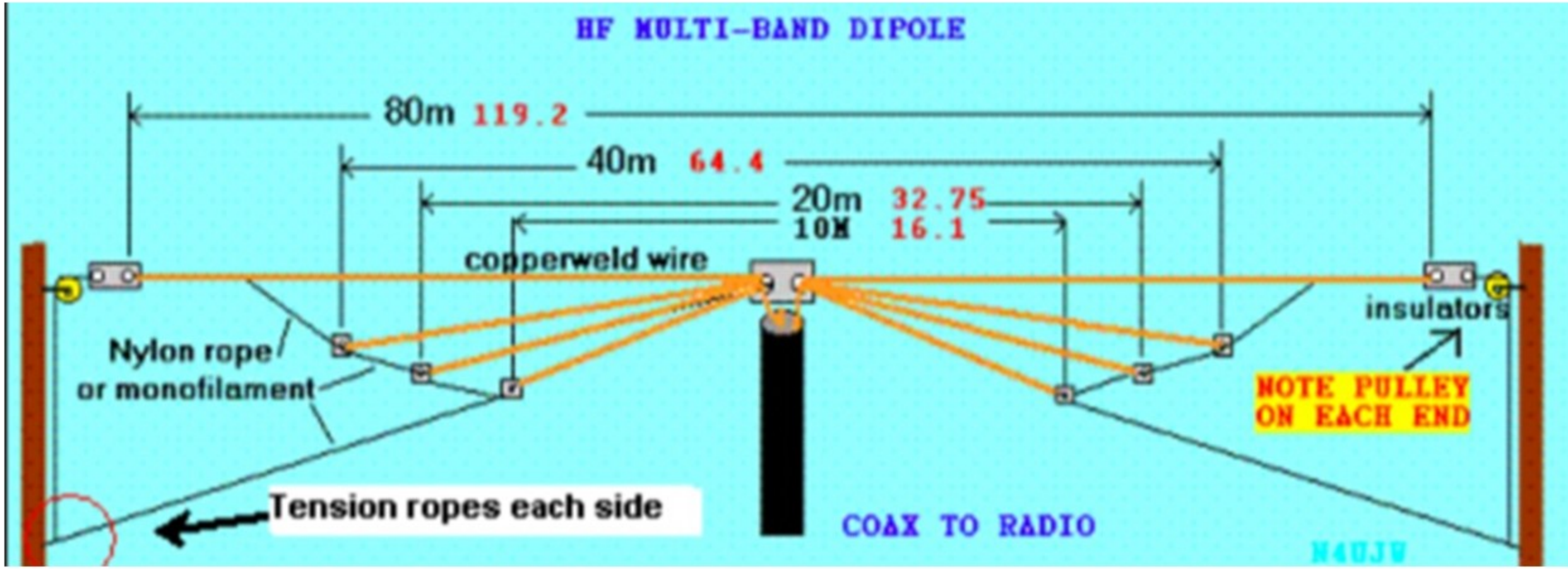
The same design
For 20, 17, 15, 12

Add two new sets
of speader tubes and
Larger center hub tubes

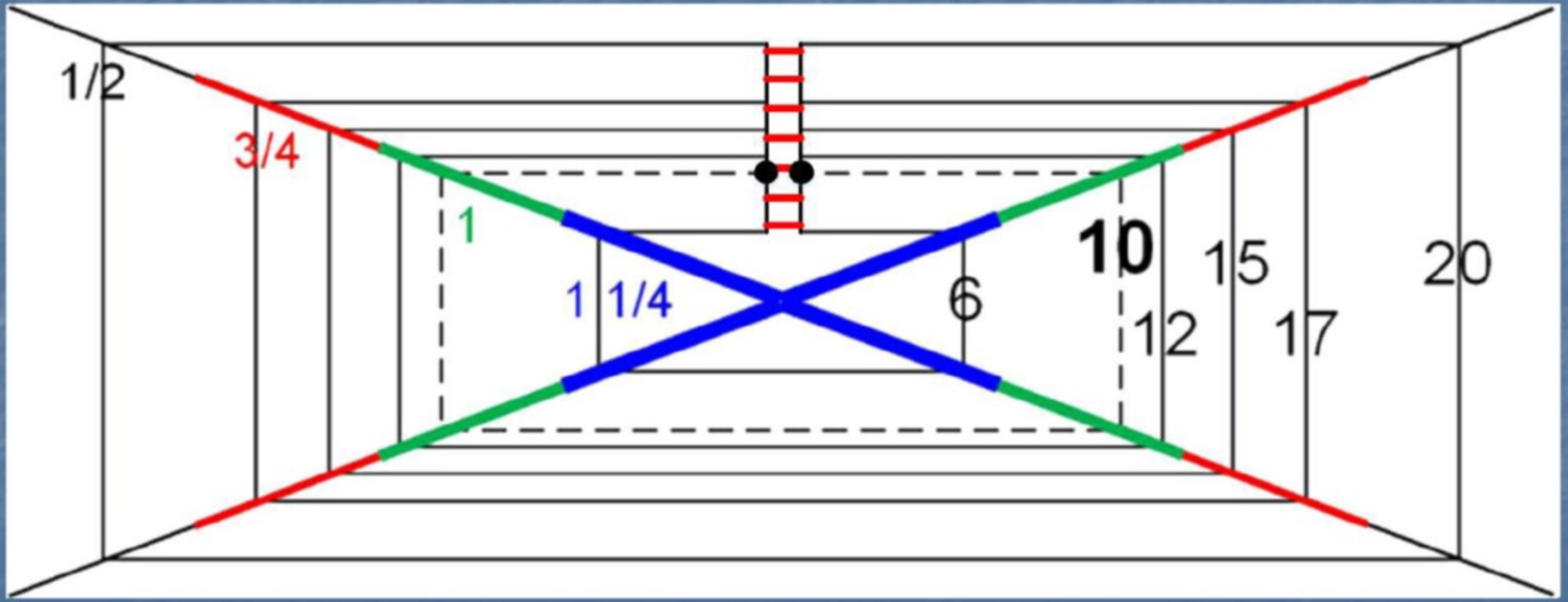
Multiband



Fan Dipole


HF MULTI-BAND DIPOLE
80m 119.2
40m 64.4
20m 32.75
10M 16.1
copperweld wire
insulators
Nylon rope
or monofilament
NOTE PULLEY
ON EACH END
Tension ropes each side
COAX TO RADIO
N4UJW

With 2 Additional Spreader Sets




Dual-Band Moxon