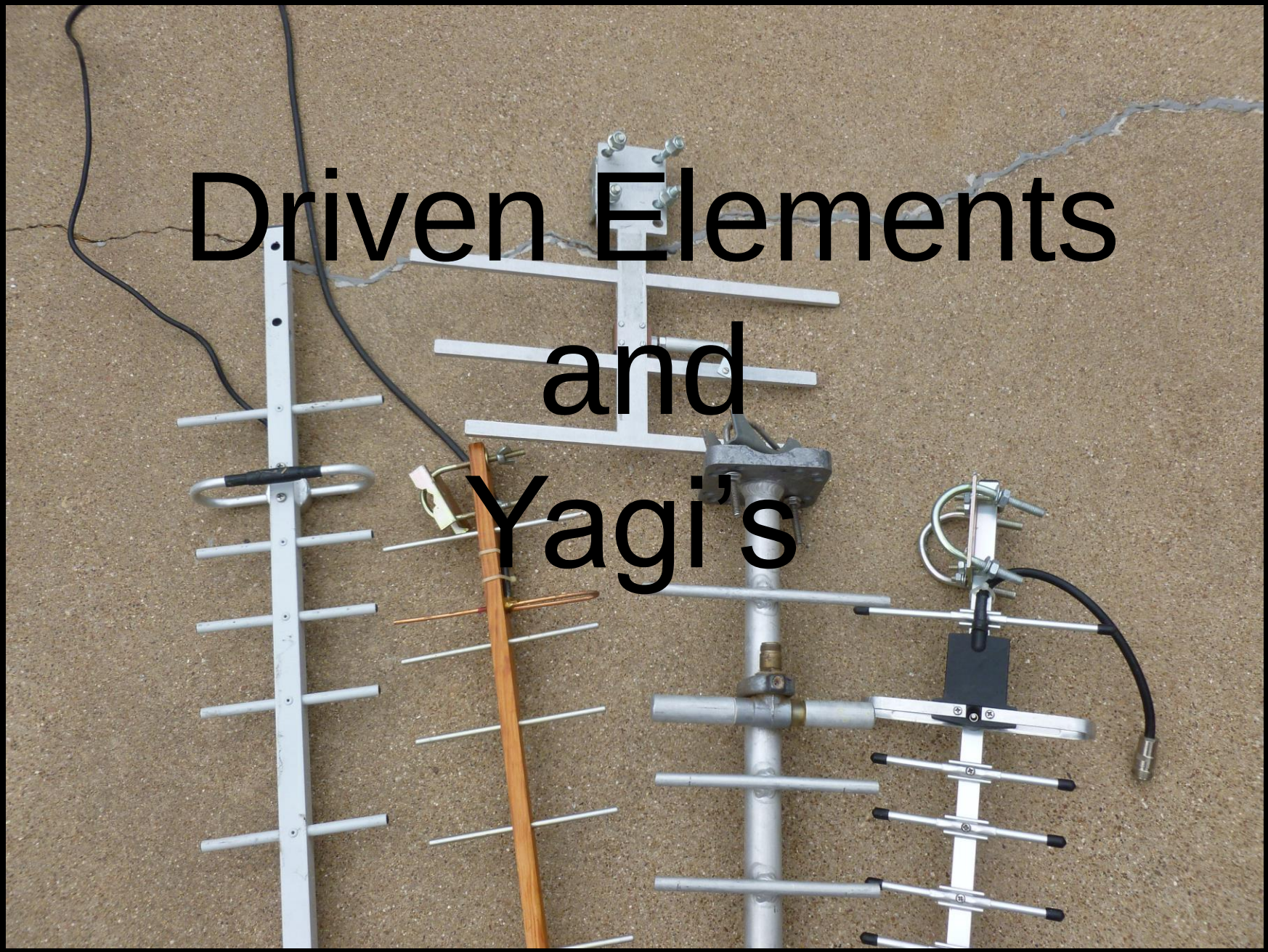

Driven Elements
and
Yagi's

NOSC TD 938

NOSC

NAVAL OCEAN SYSTEMS CENTER San Diego, California 92152-5000

NOSC TD 938

Technical Document 938
September 1986

The New MININEC (Version 3): A Mini-Numerical Electromagnetic Code

J. C. Logan
and
J. W. Rockway

I pumped in 7 Gal.

We Drove

200 miles

I got

28.571428576 92

Miles per Gallon!

Making

Dimensions Table

	Cumulative Spacing (mm)	Element Length (mm)
REFL	0	347.72
D.E.*	104.05*	330.13*
Director 1	149.13	307.98
Director 2	233.06	303.82
Director 3	349.60	299.71
Director 4	523.01	295.92
Director 5	717.23	292.60
Director 6	925.32	289.74
Director 7	1143.82	287.27
Director 8	1372.72	285.10
Director 9	1612.03	283.18

Yagi Antenna Calculator

Operating Frequency in MHz (input1) :

50.1

Reflector Length (Output#1):

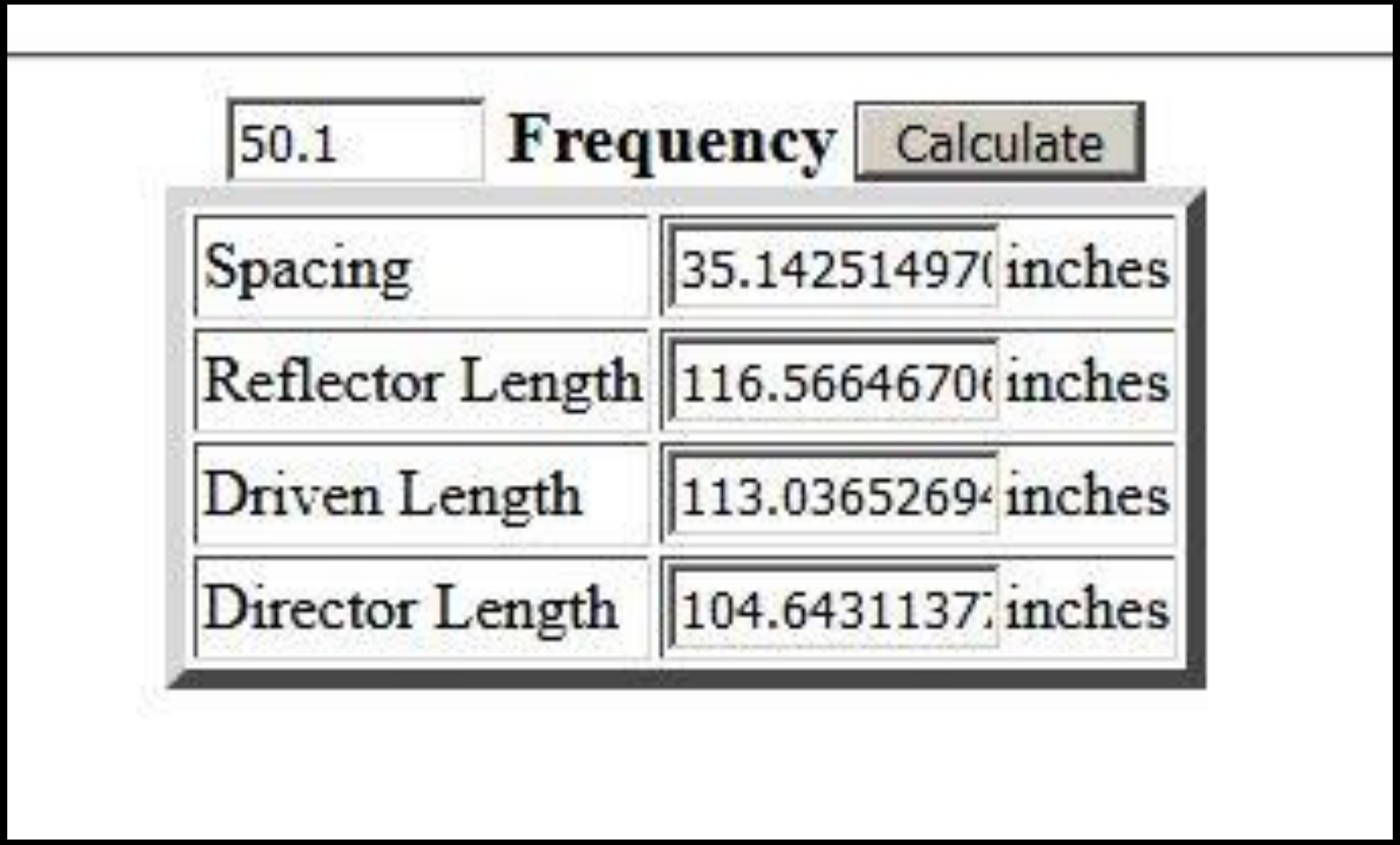
2.964071856287425

Dipole Length (Output#2):

2.8323353293413174

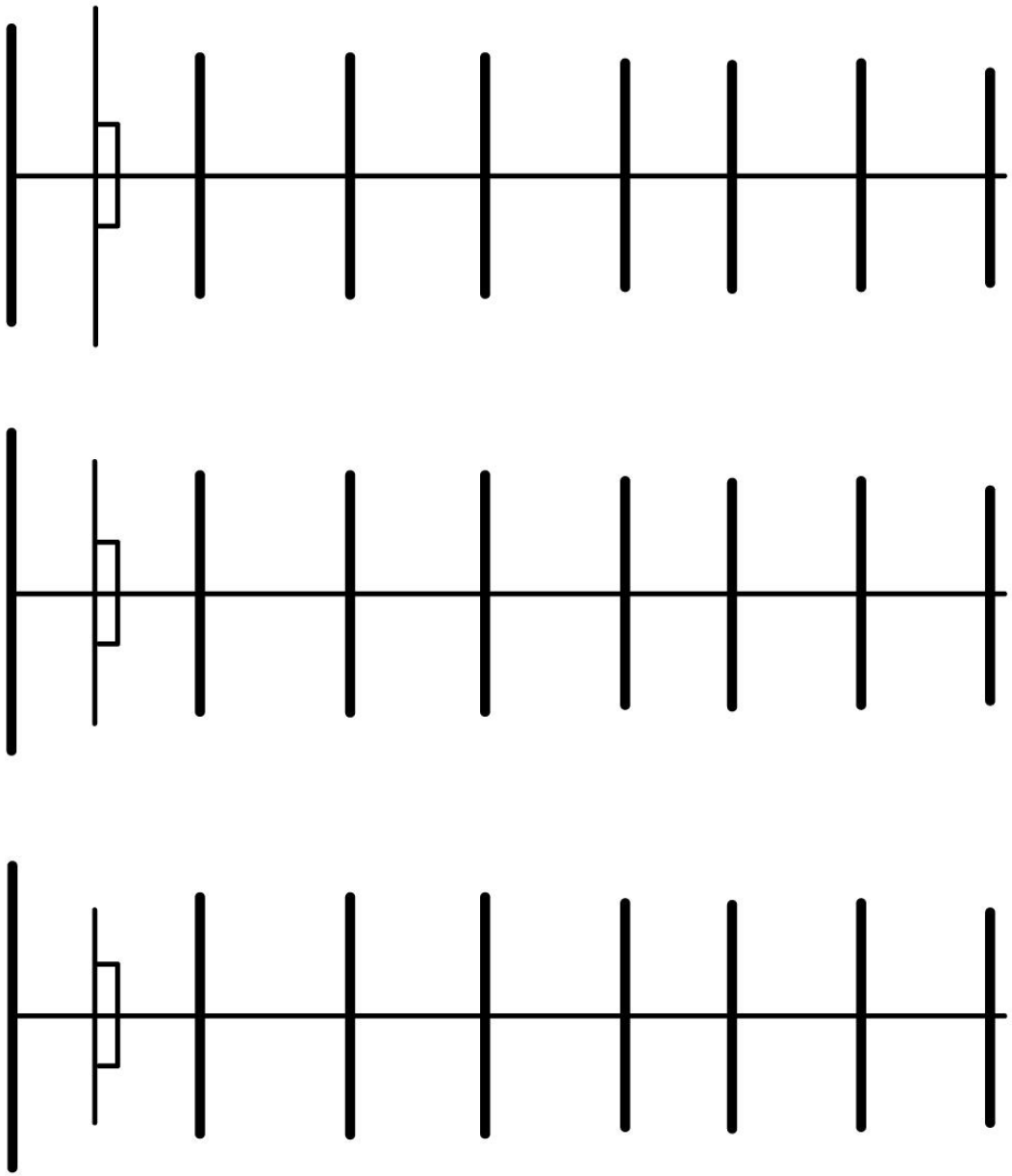
Director length (Output#3):

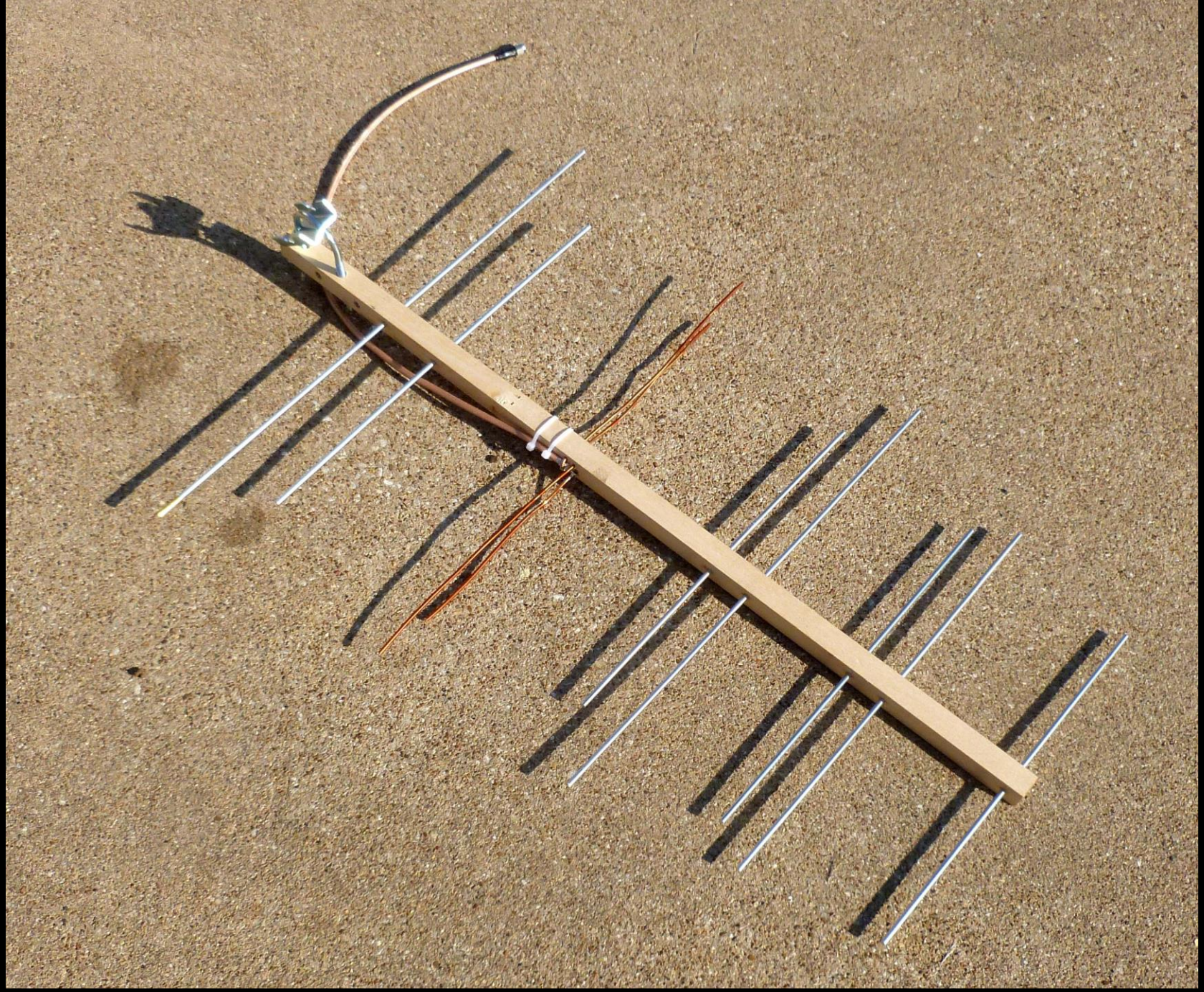
2.6347305389221556

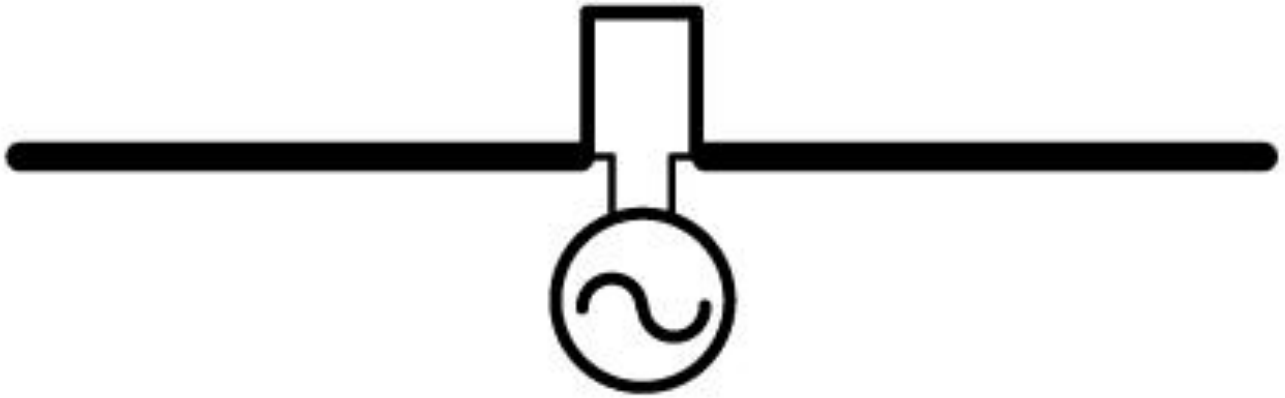

50.1
Frequency
Calculate
Spacing
35.14251497(
inches
Reflector Length
116.5664670(
inches
Driven Length
113.0365269
inches
Director Length
104.6431137
inches

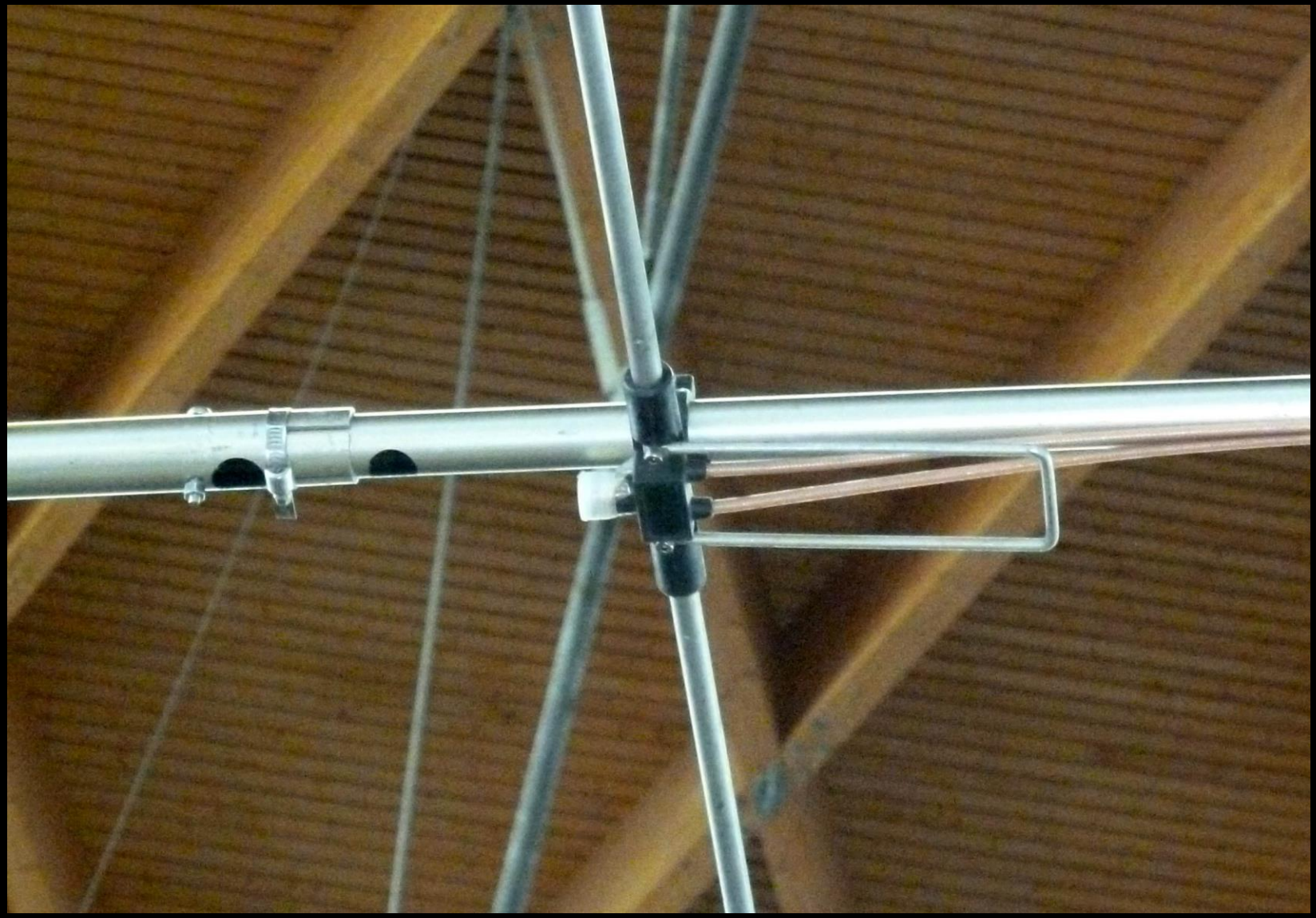
Why be Approximately Correct when you can be precisely Wrong!

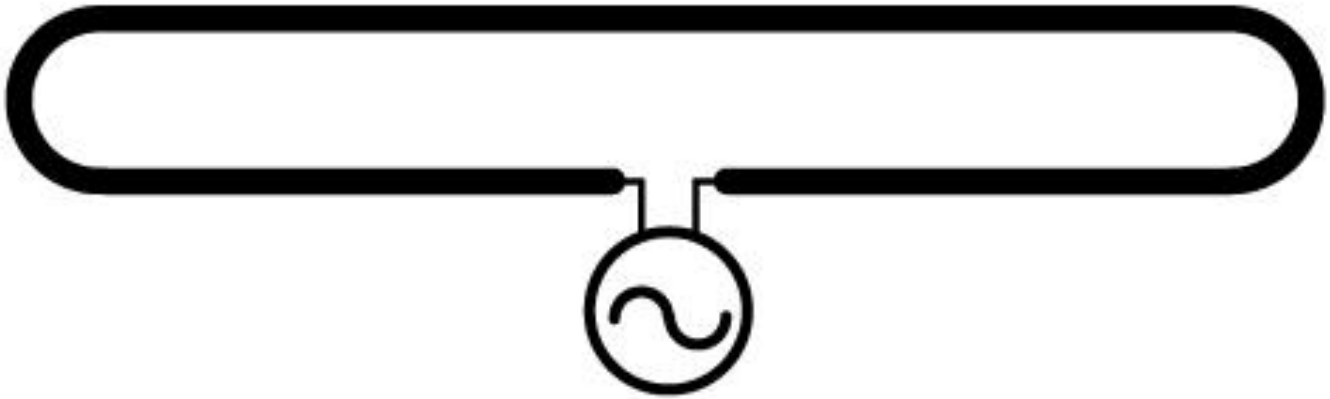
Tom Clark W3IWI

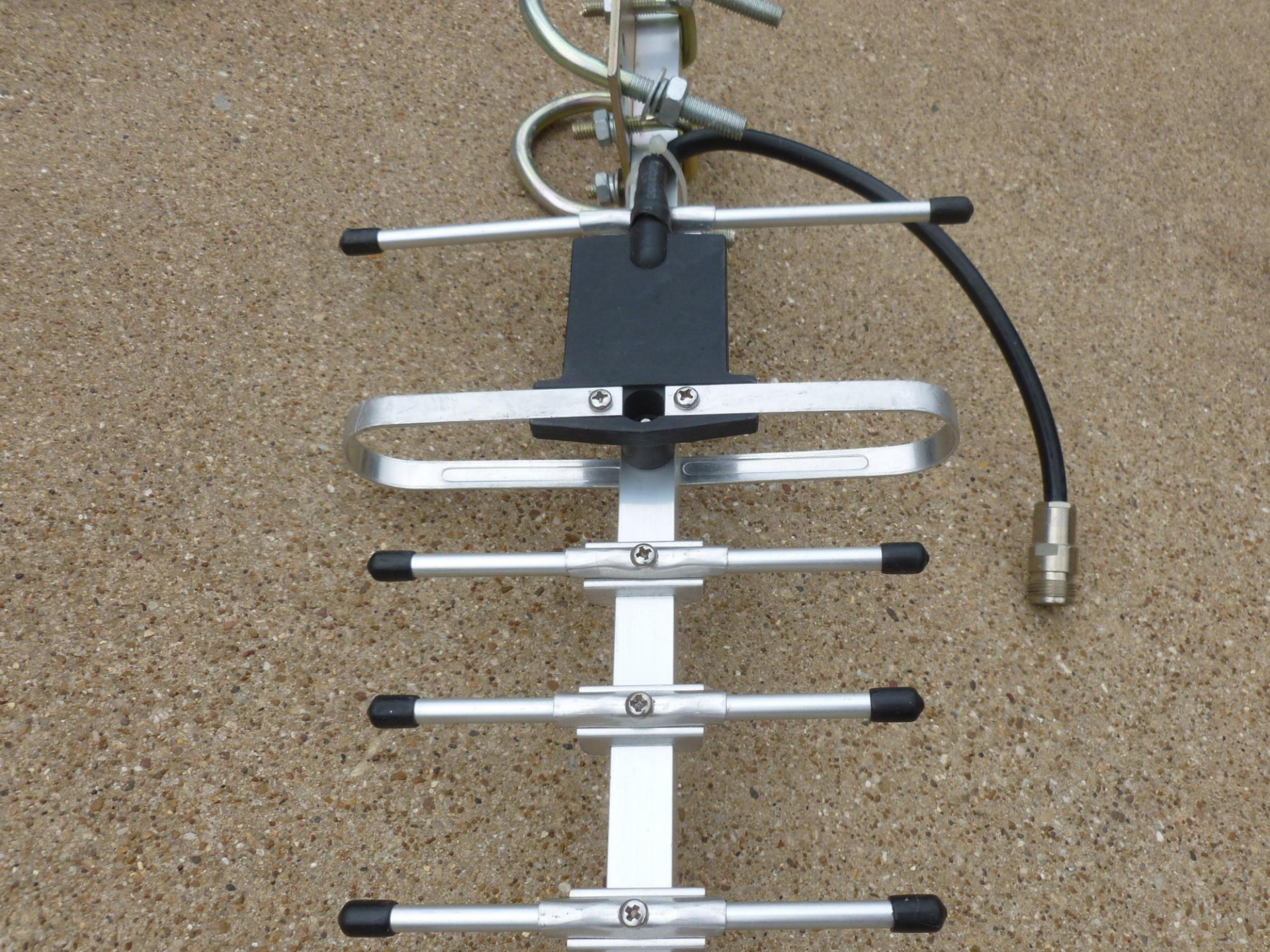




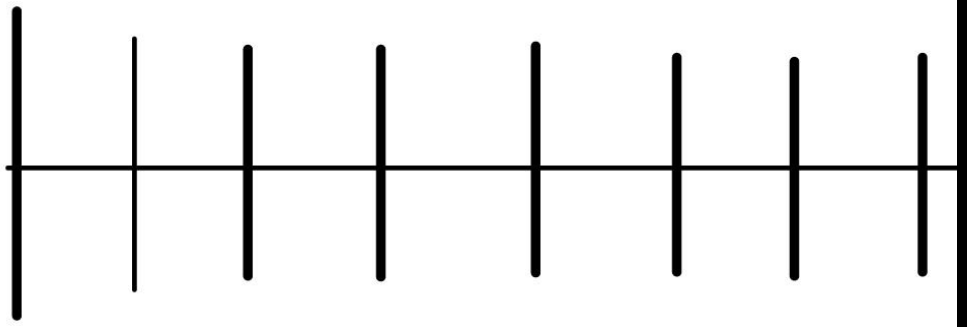




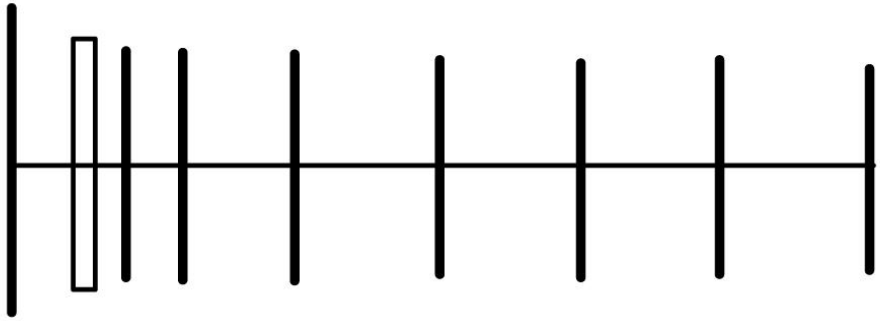




Low Impedance 72 Ohms



High Impedance 300 Ohms



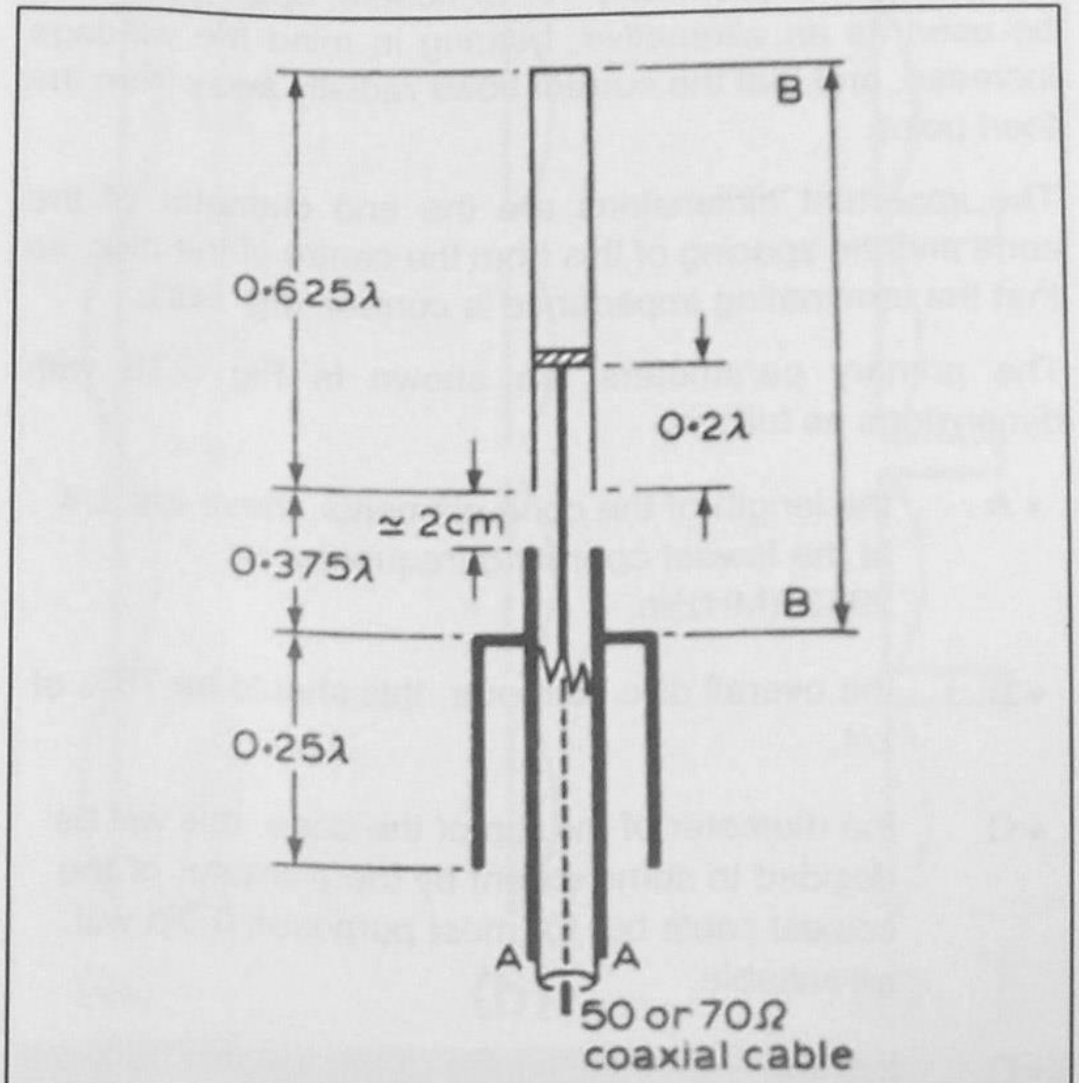
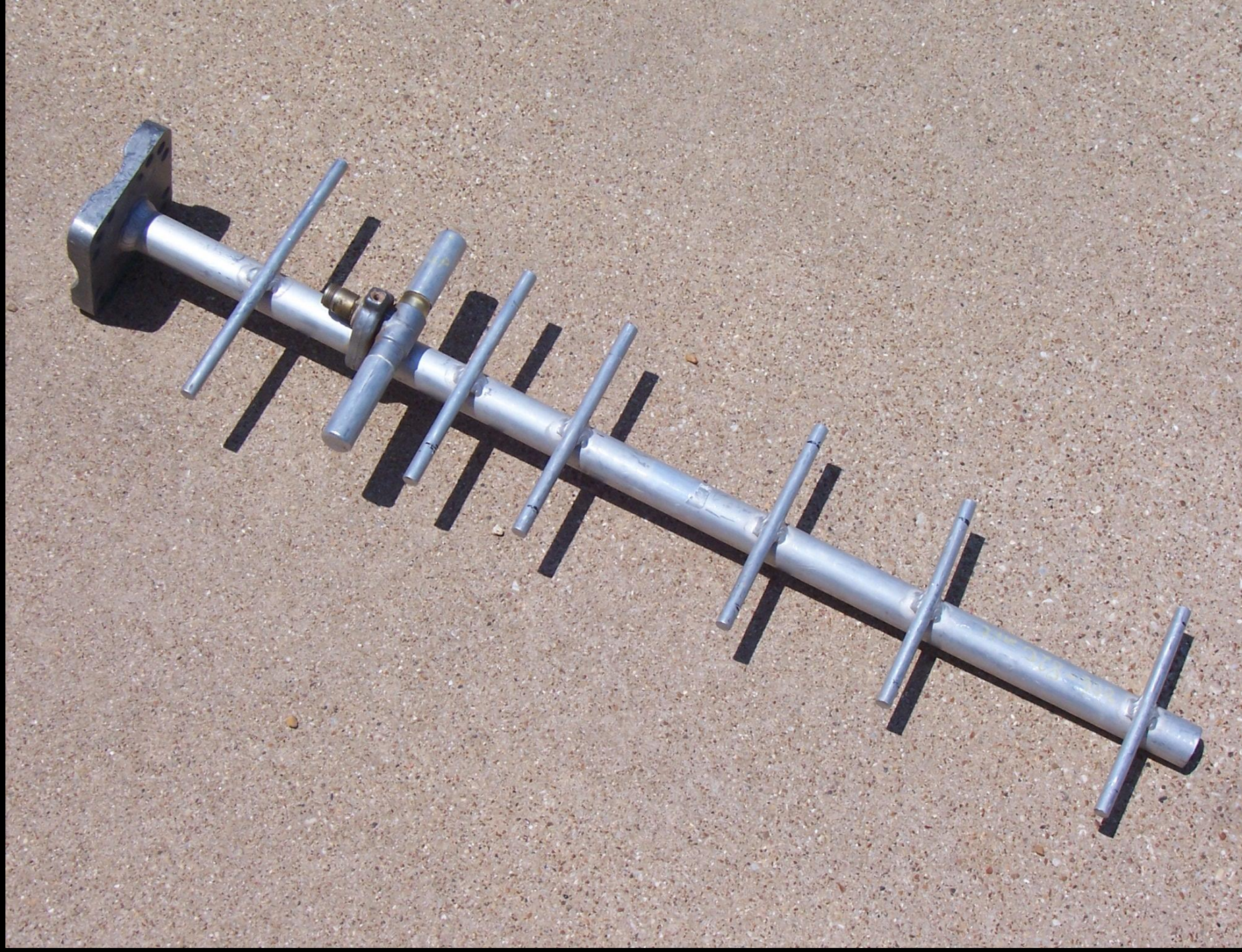
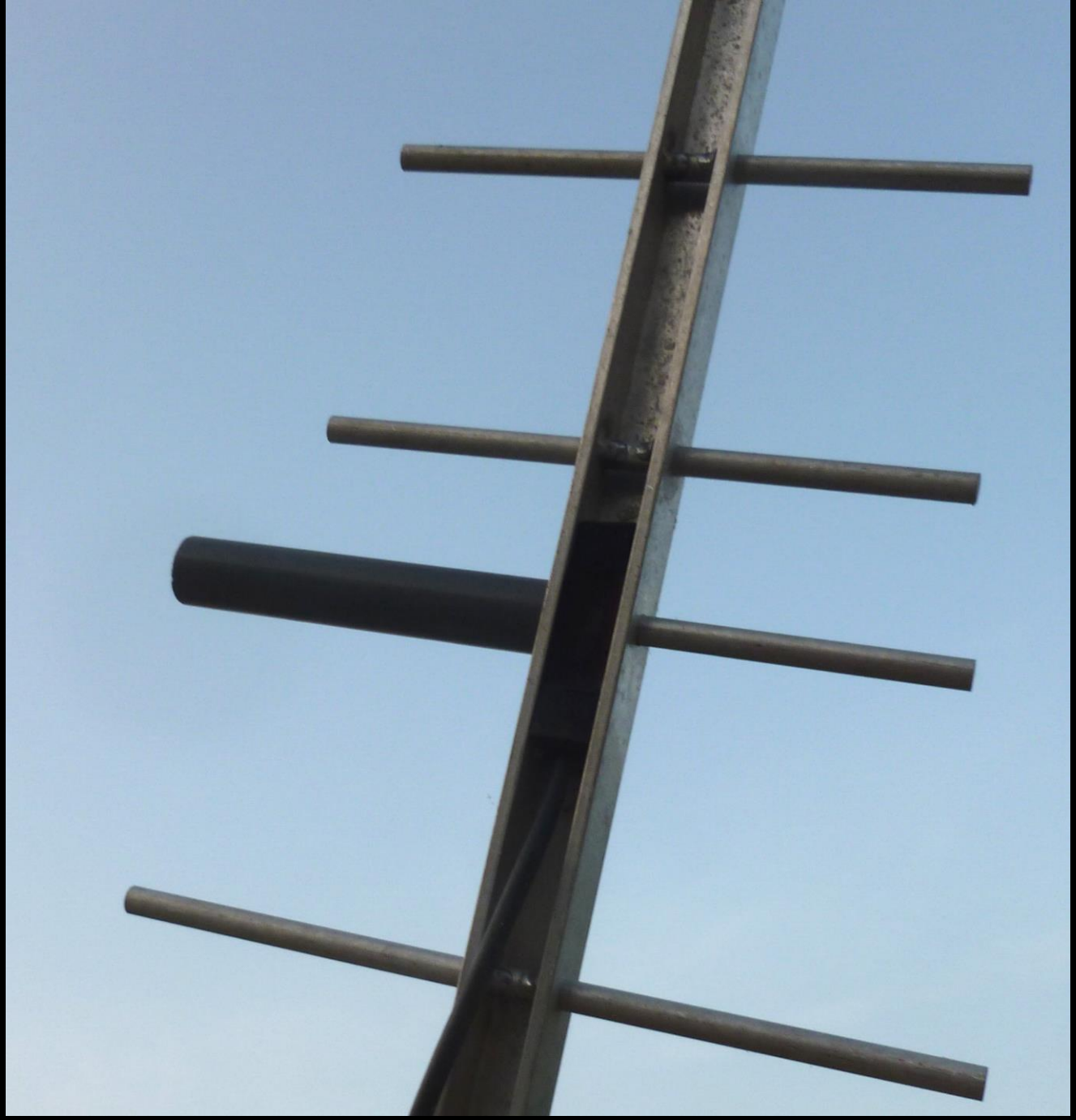
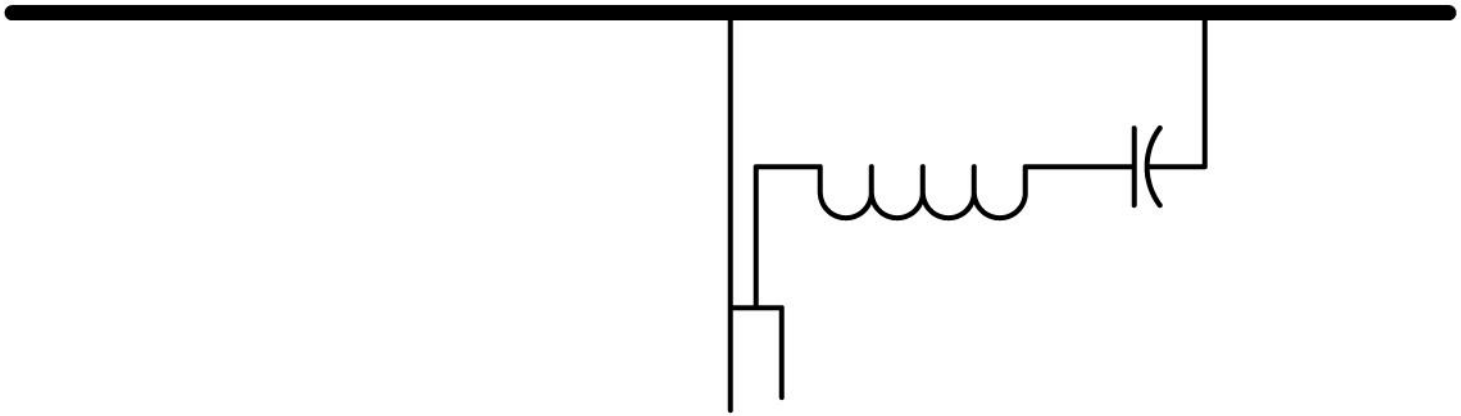
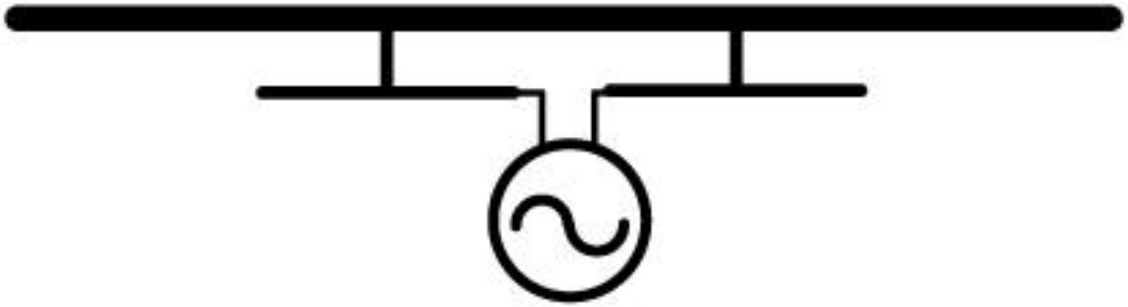


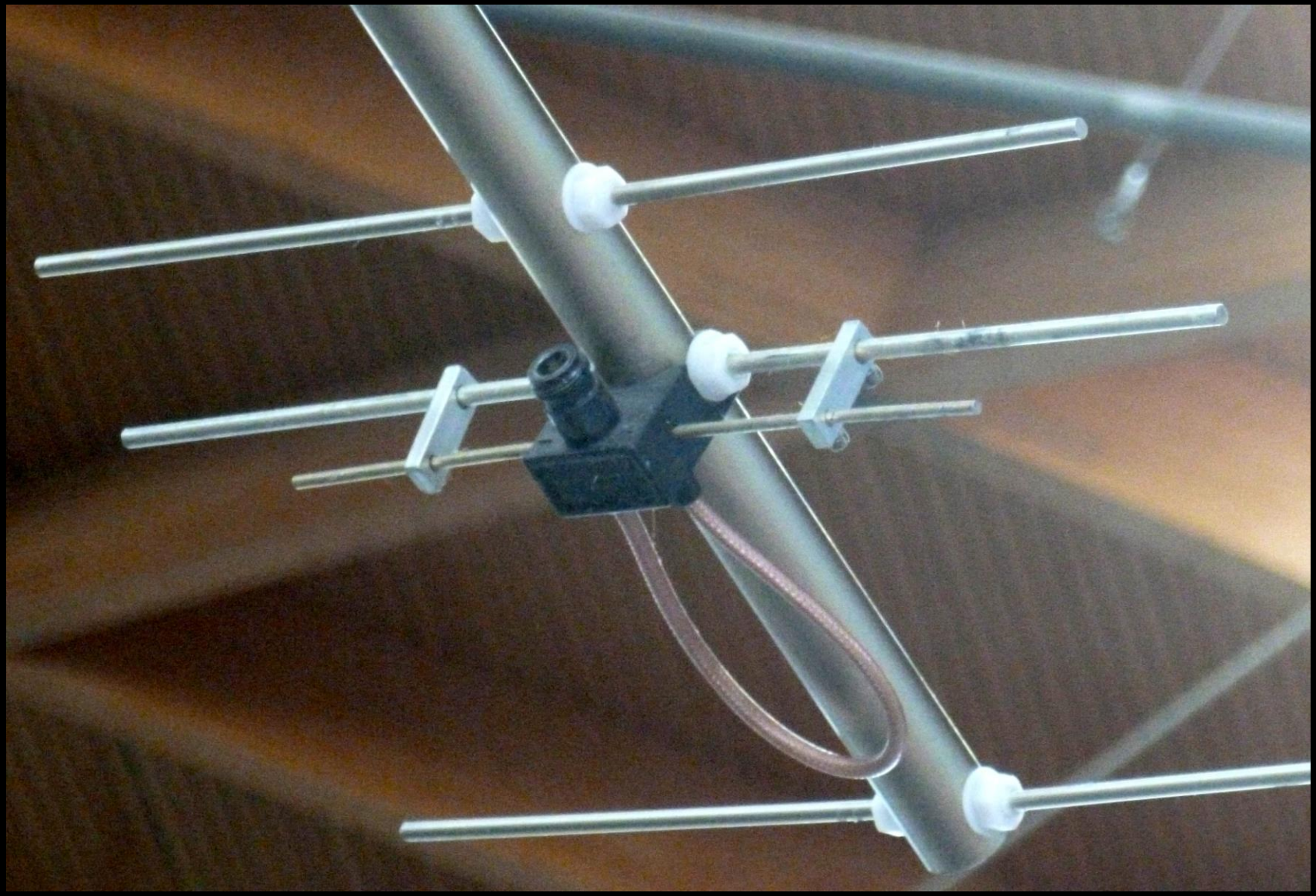
Fig 5.73: Gain sleeve dipole.

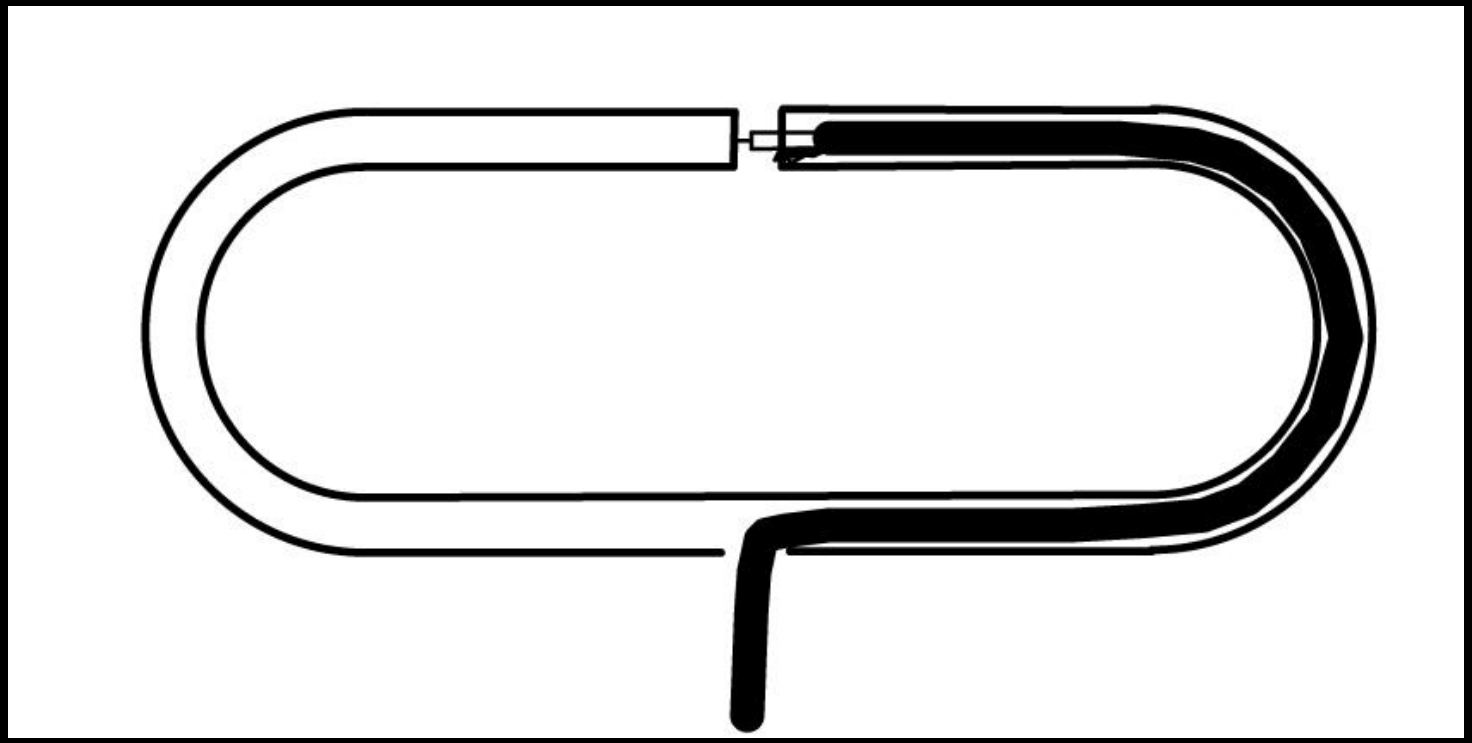


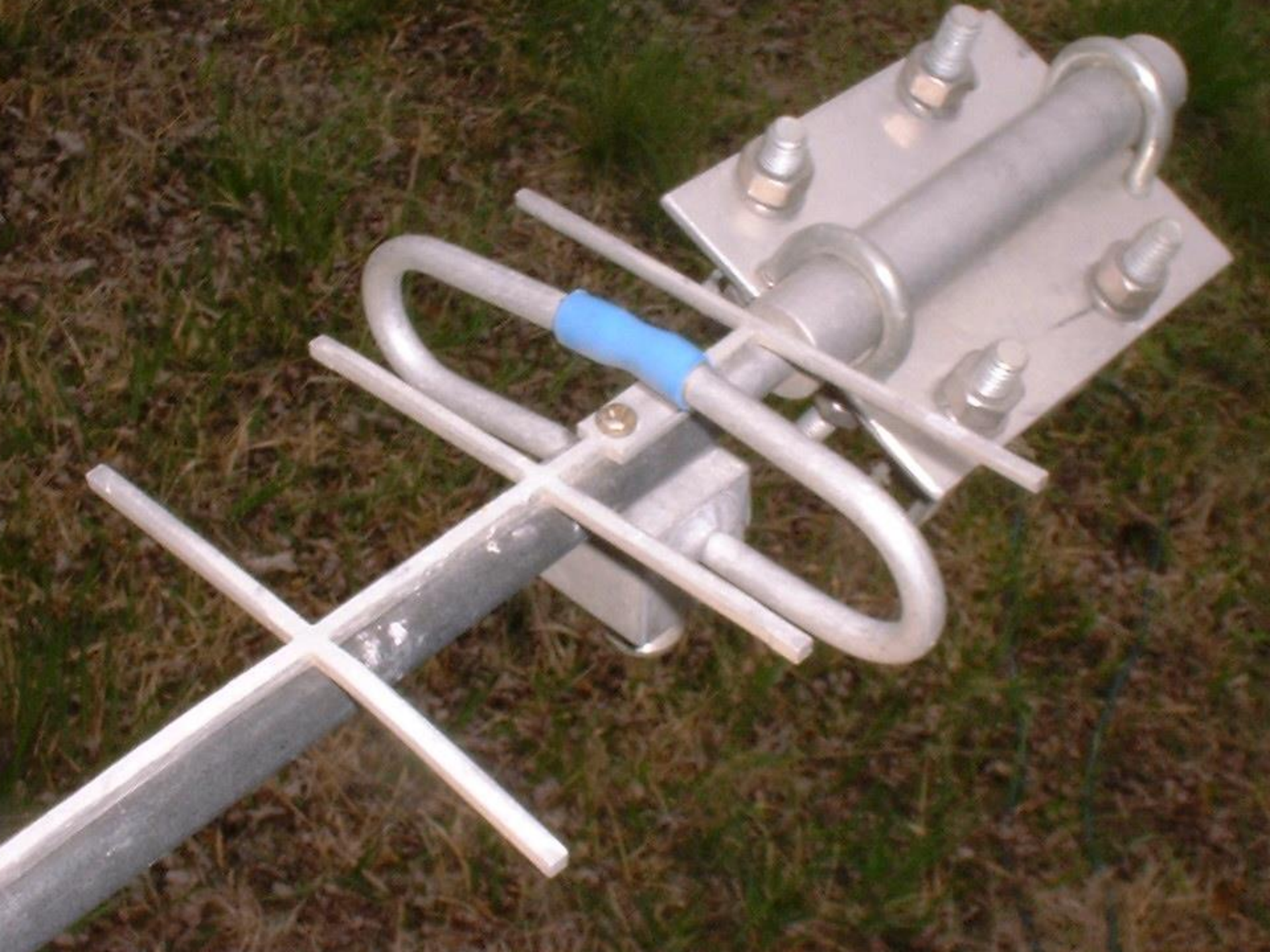


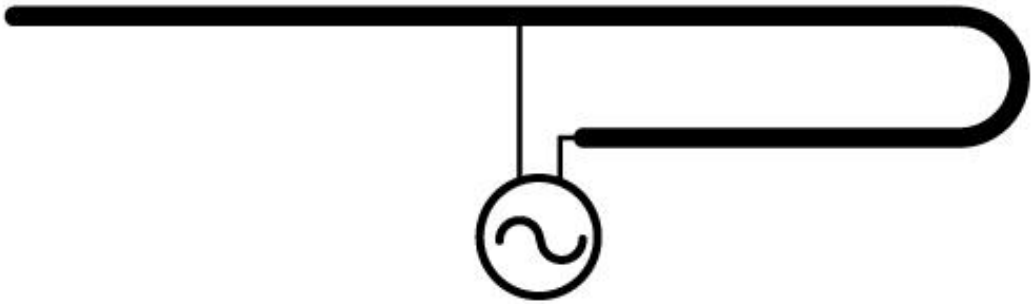


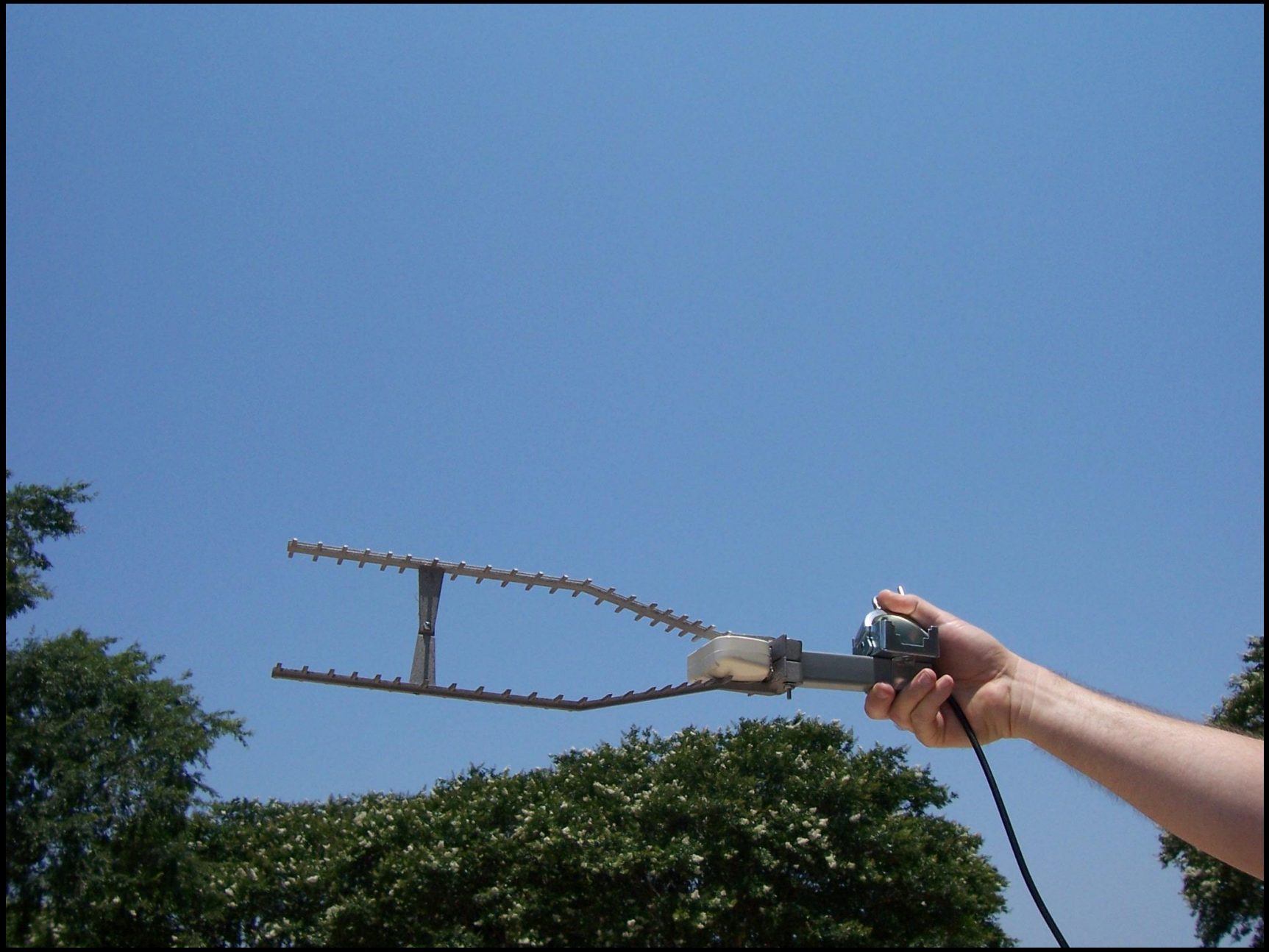


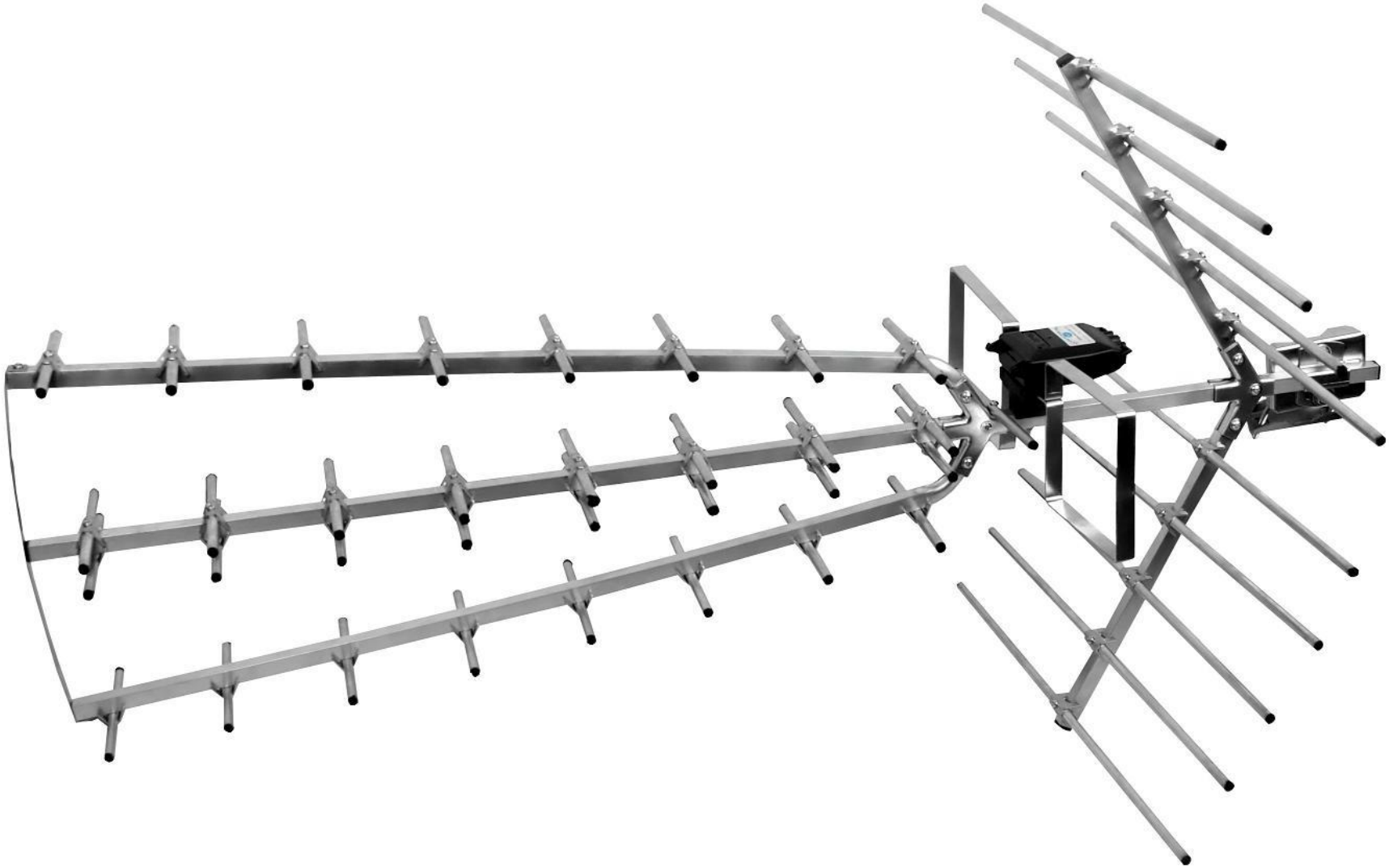




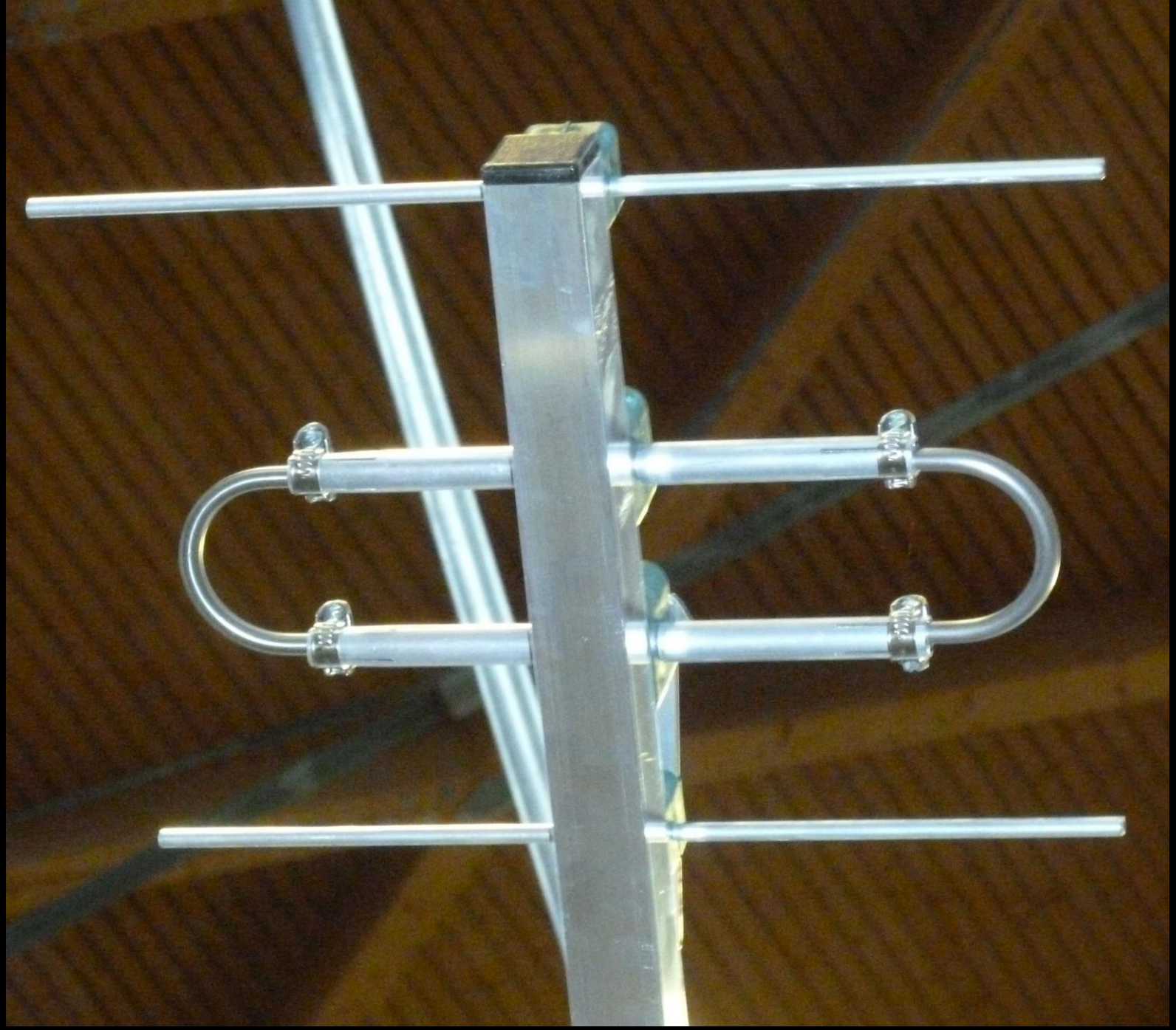


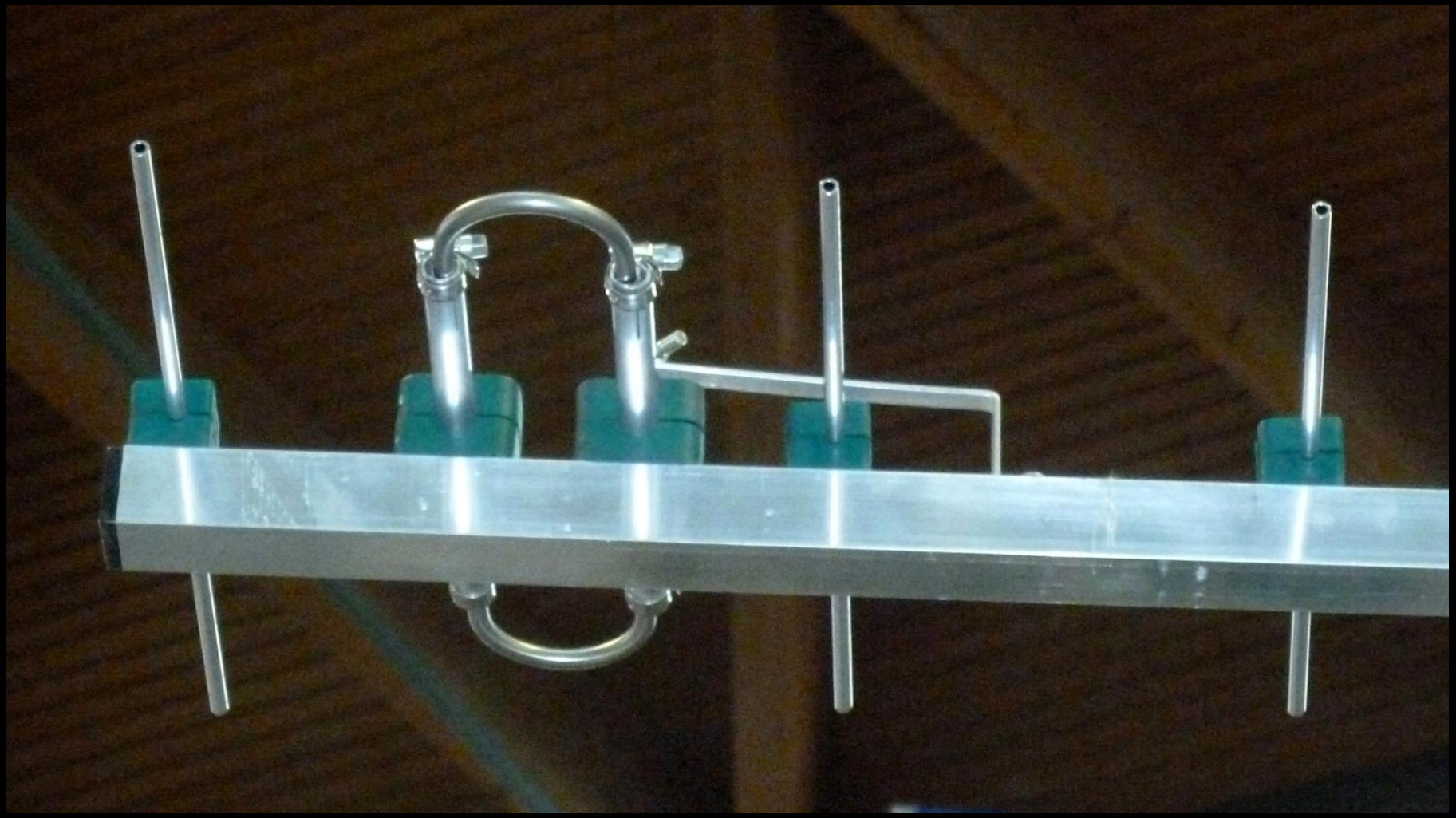


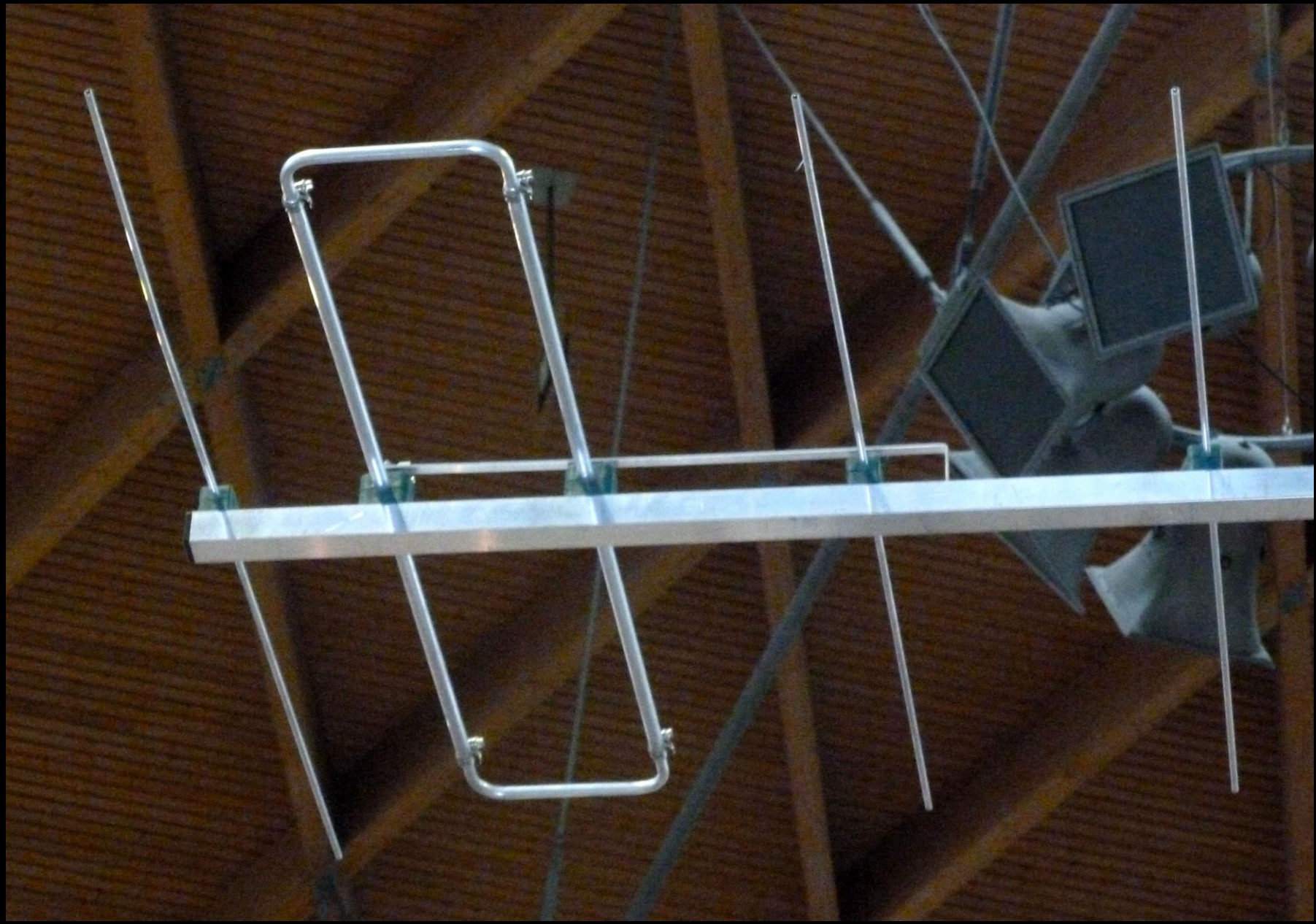


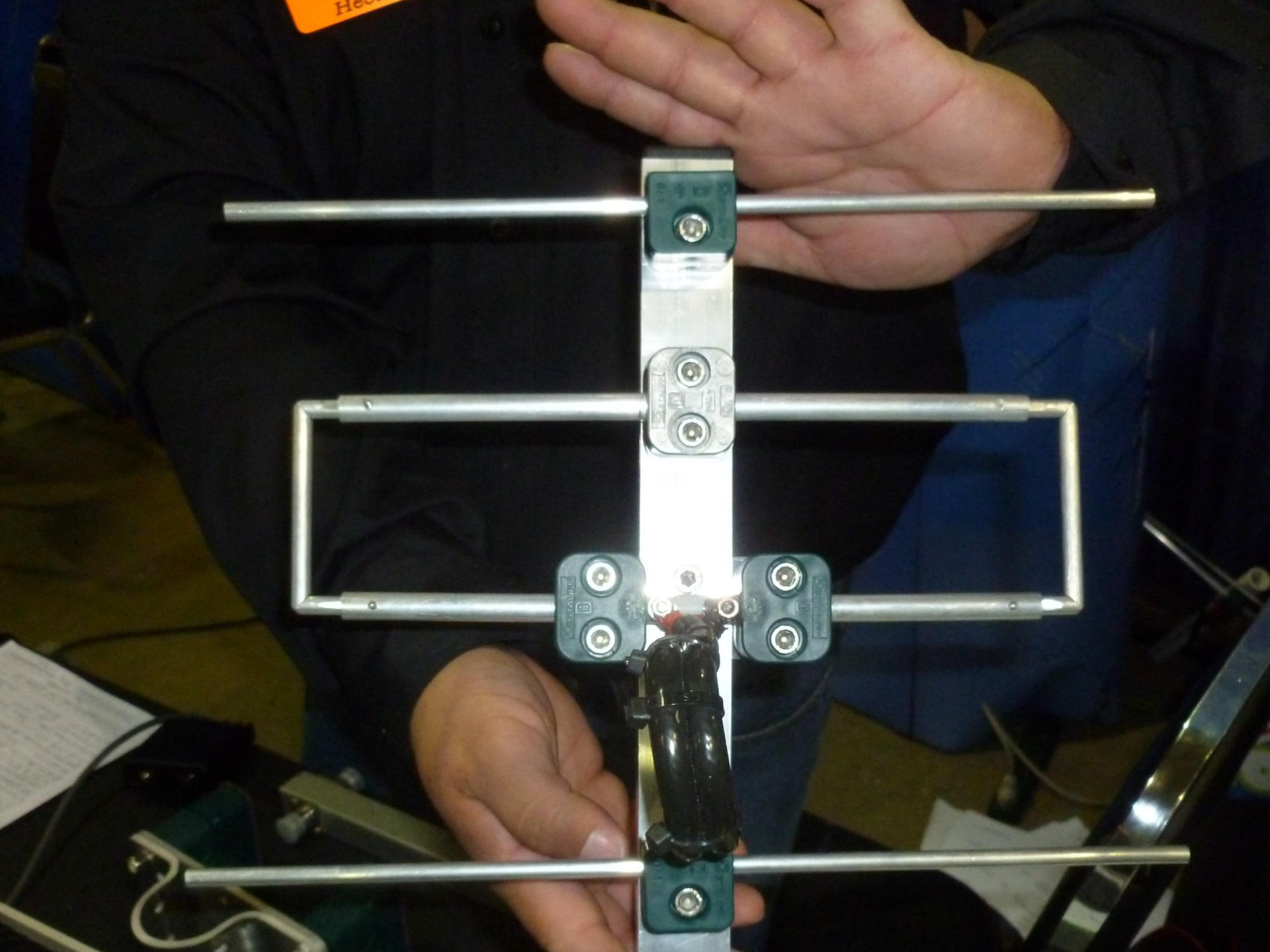



WC

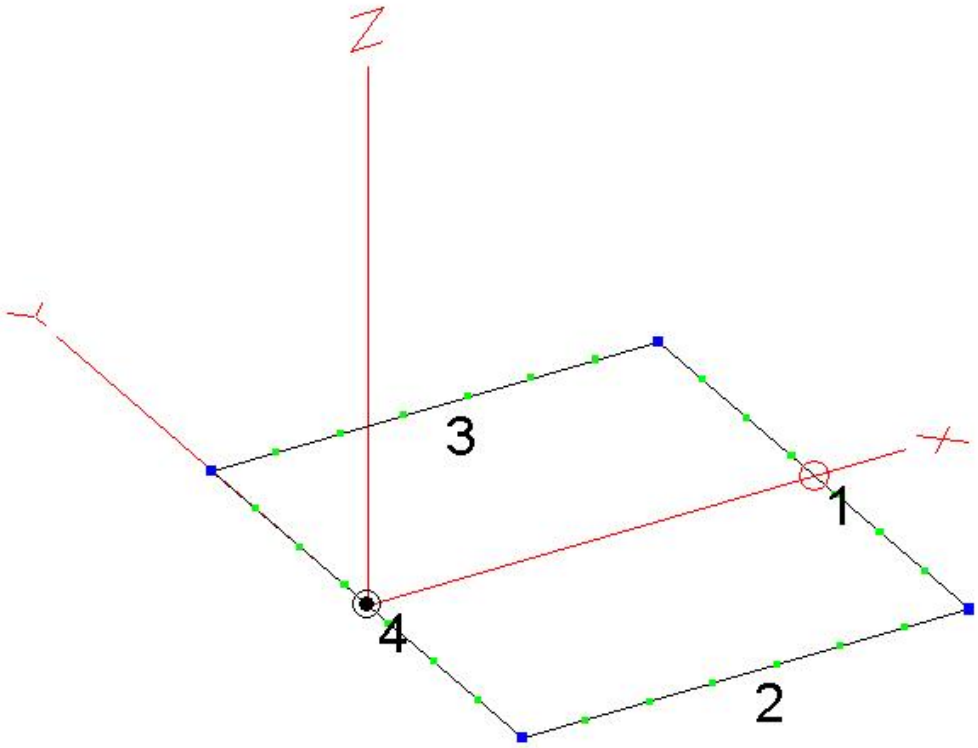


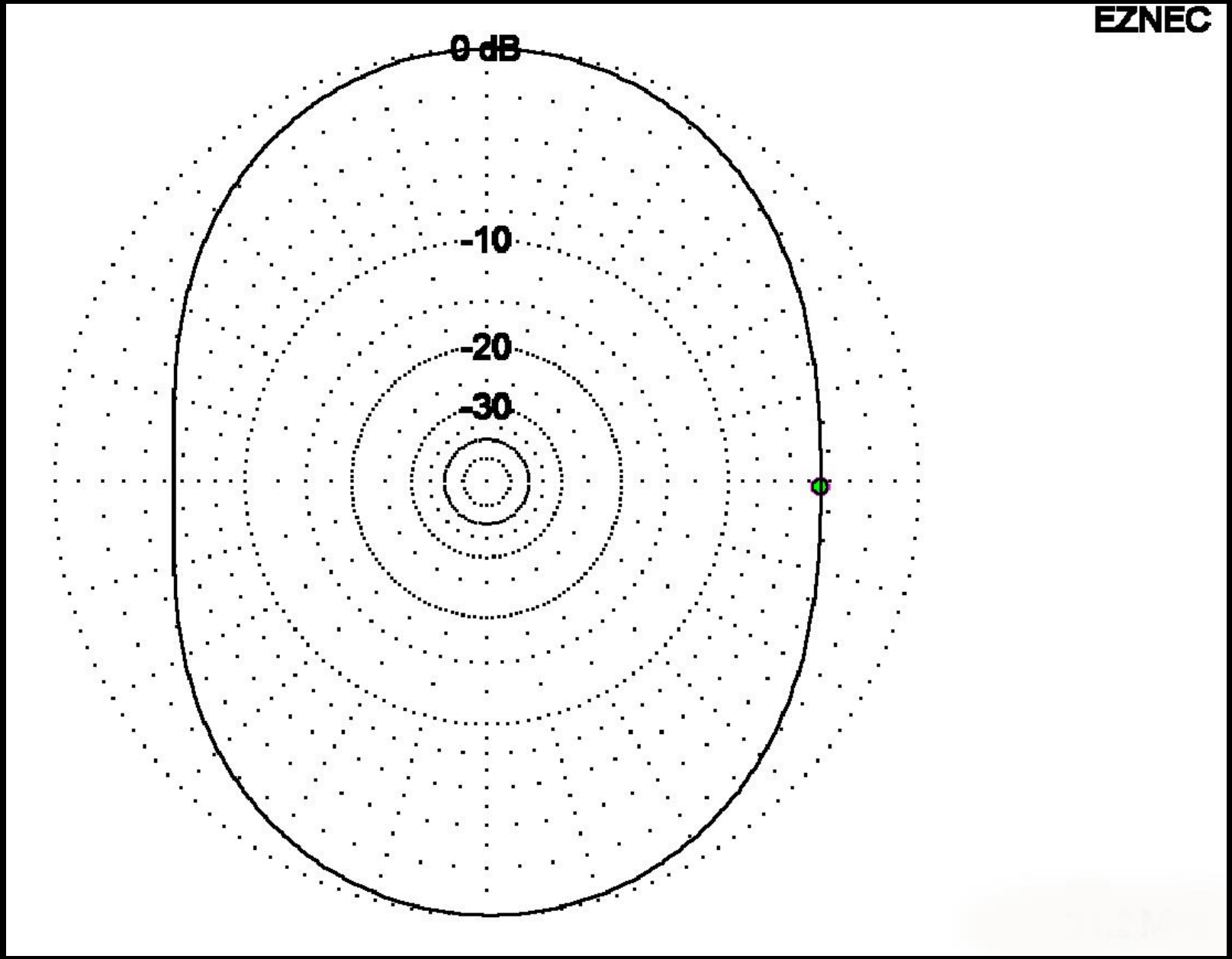


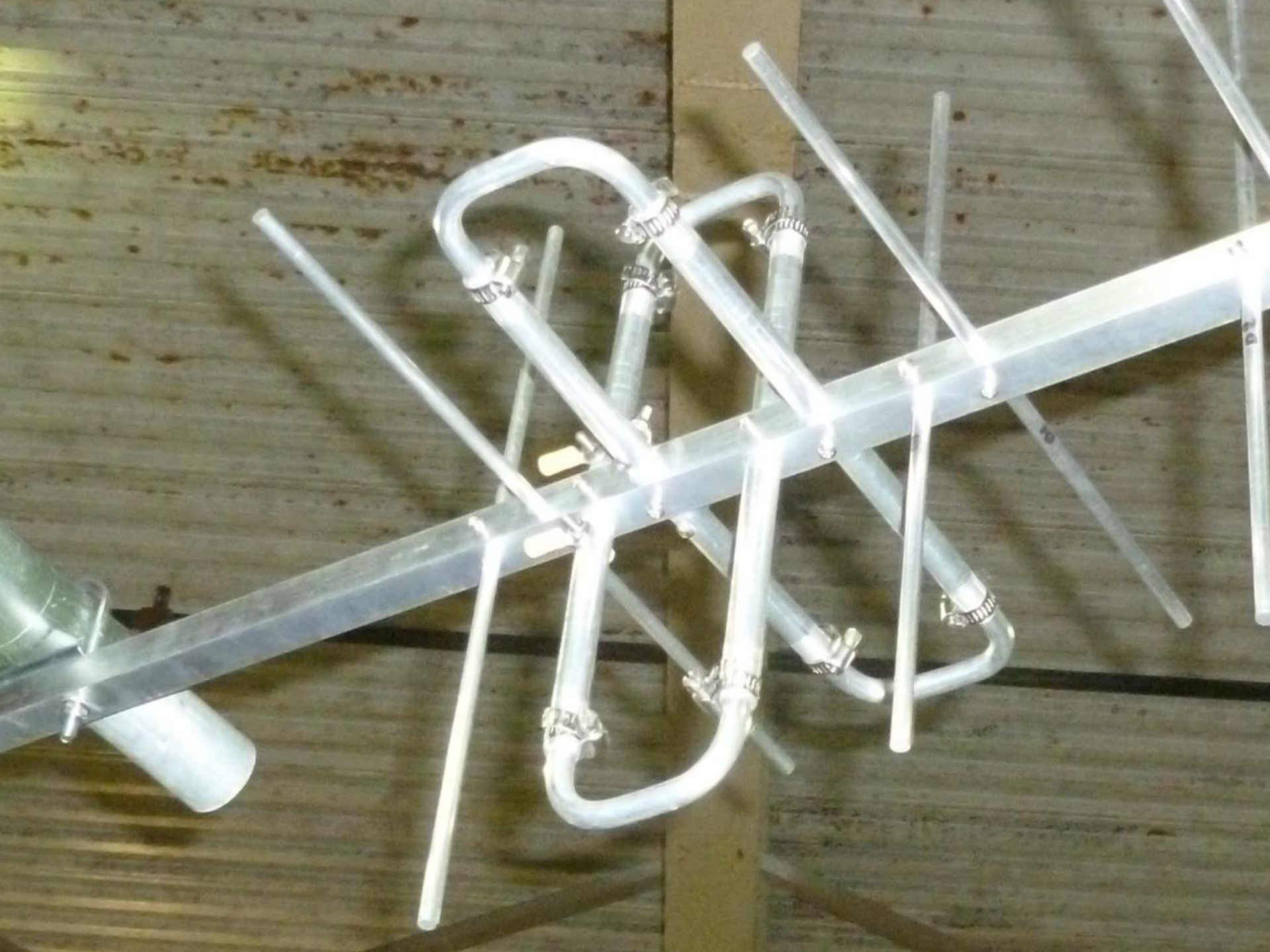


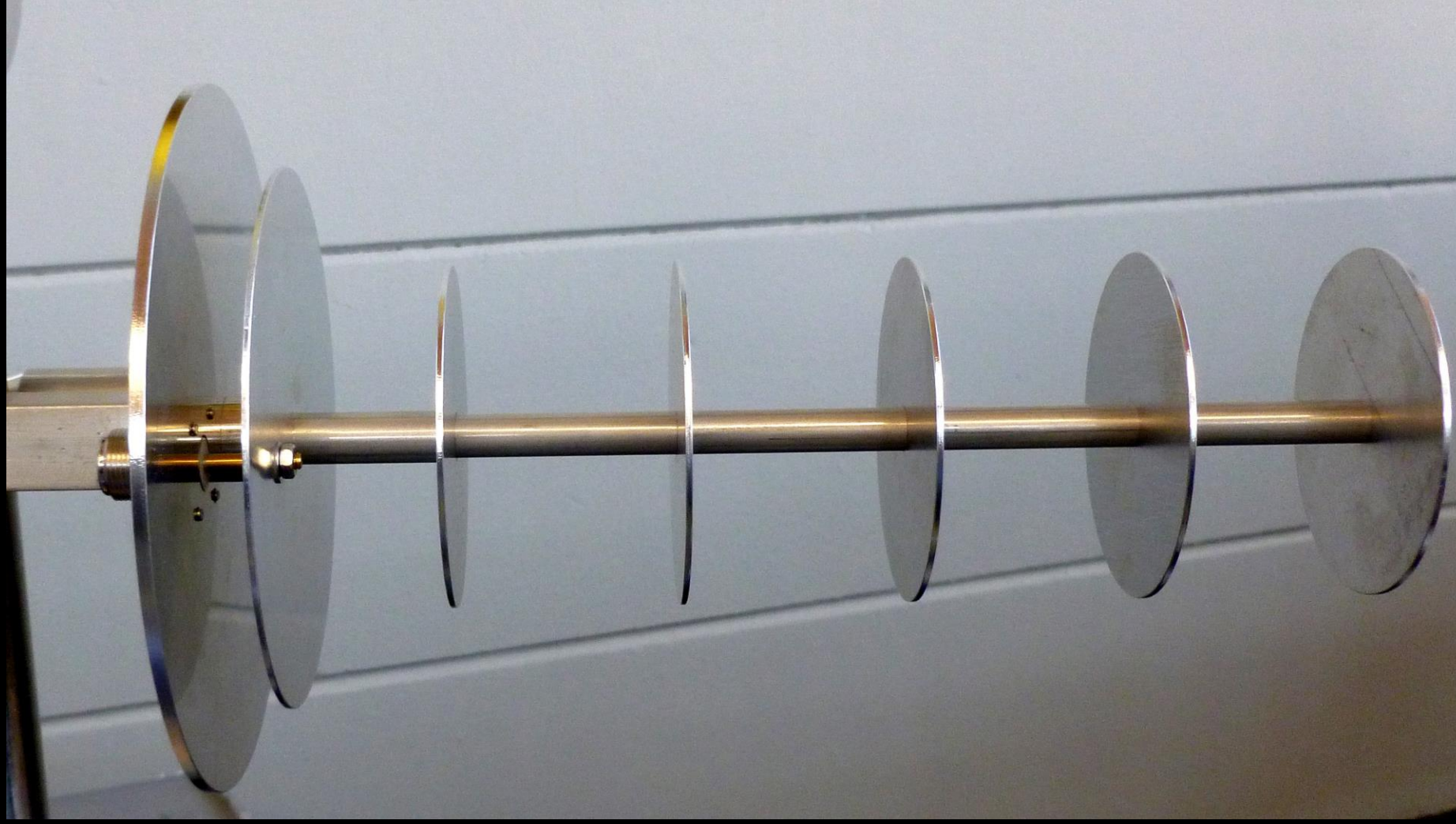


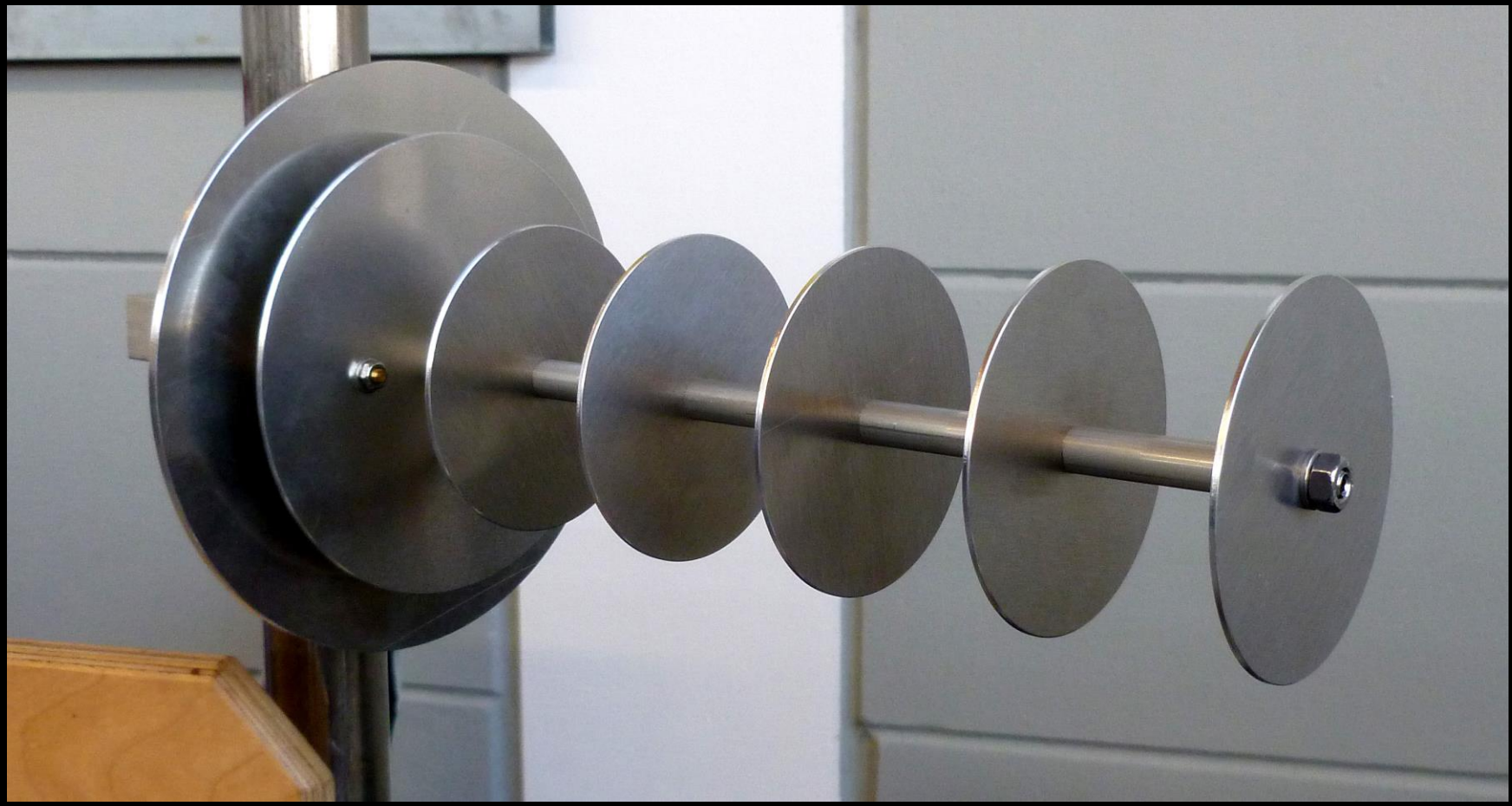
EZNEC

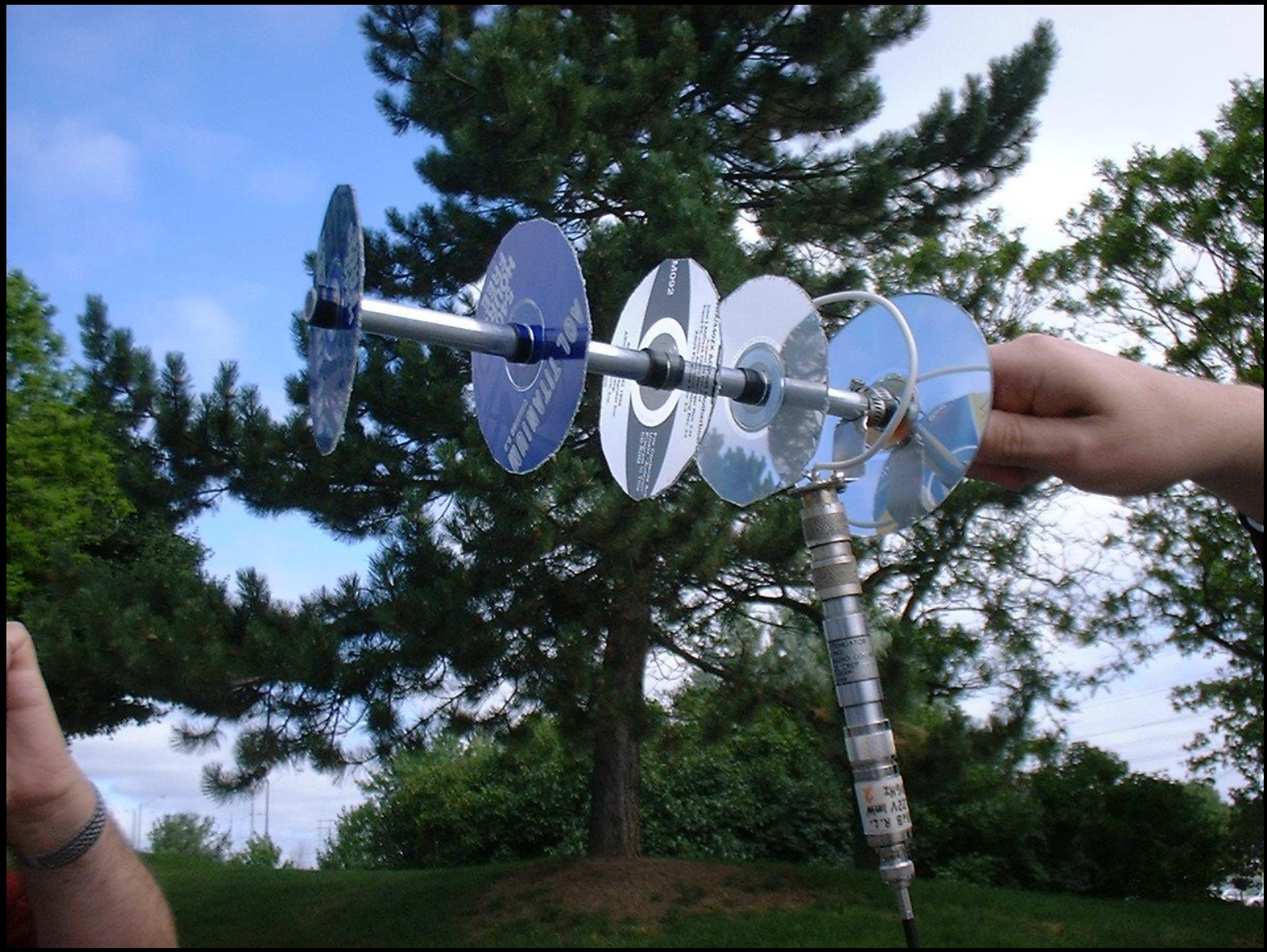


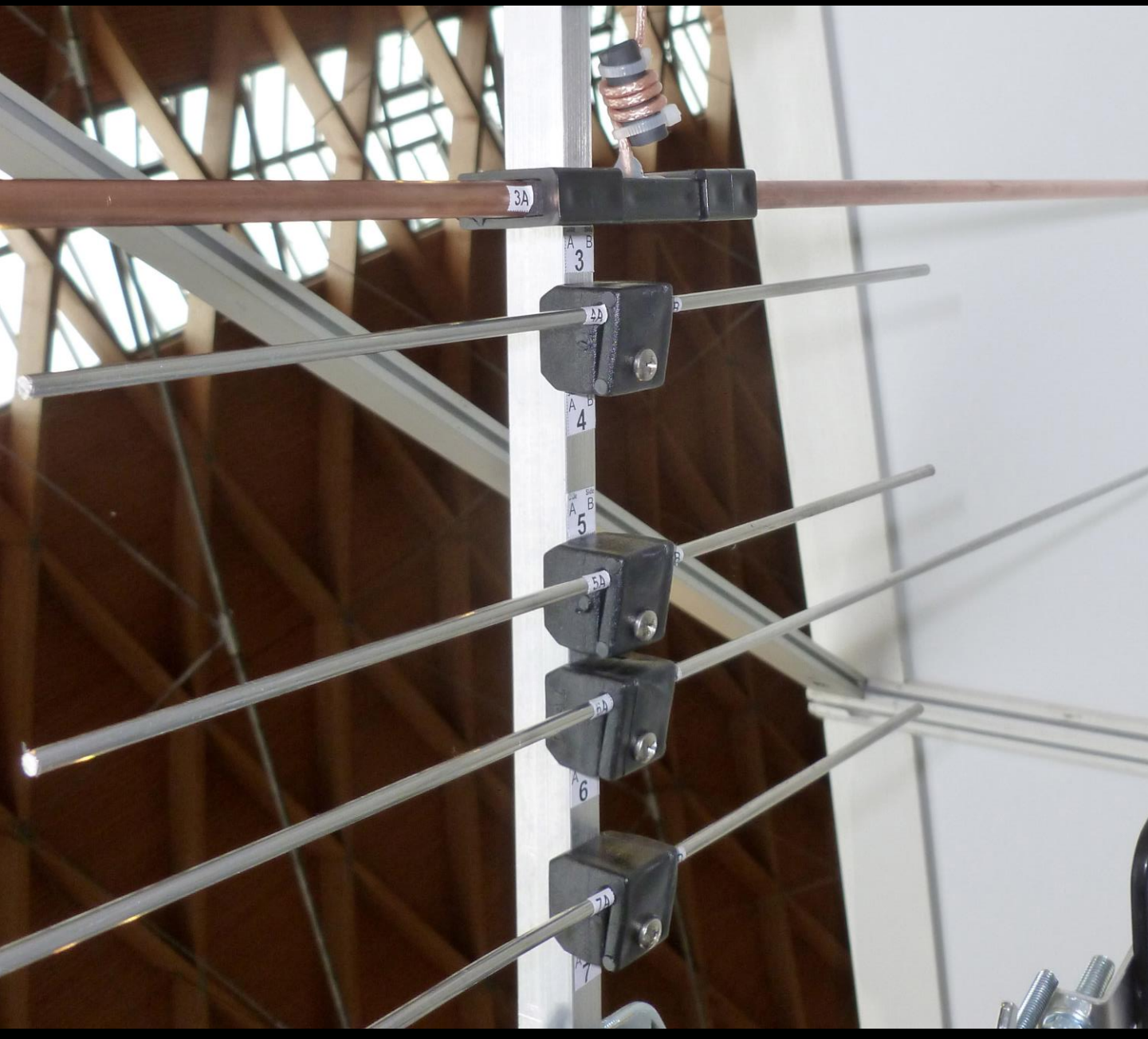

EZNEC
0 dB
-10
-20
-30

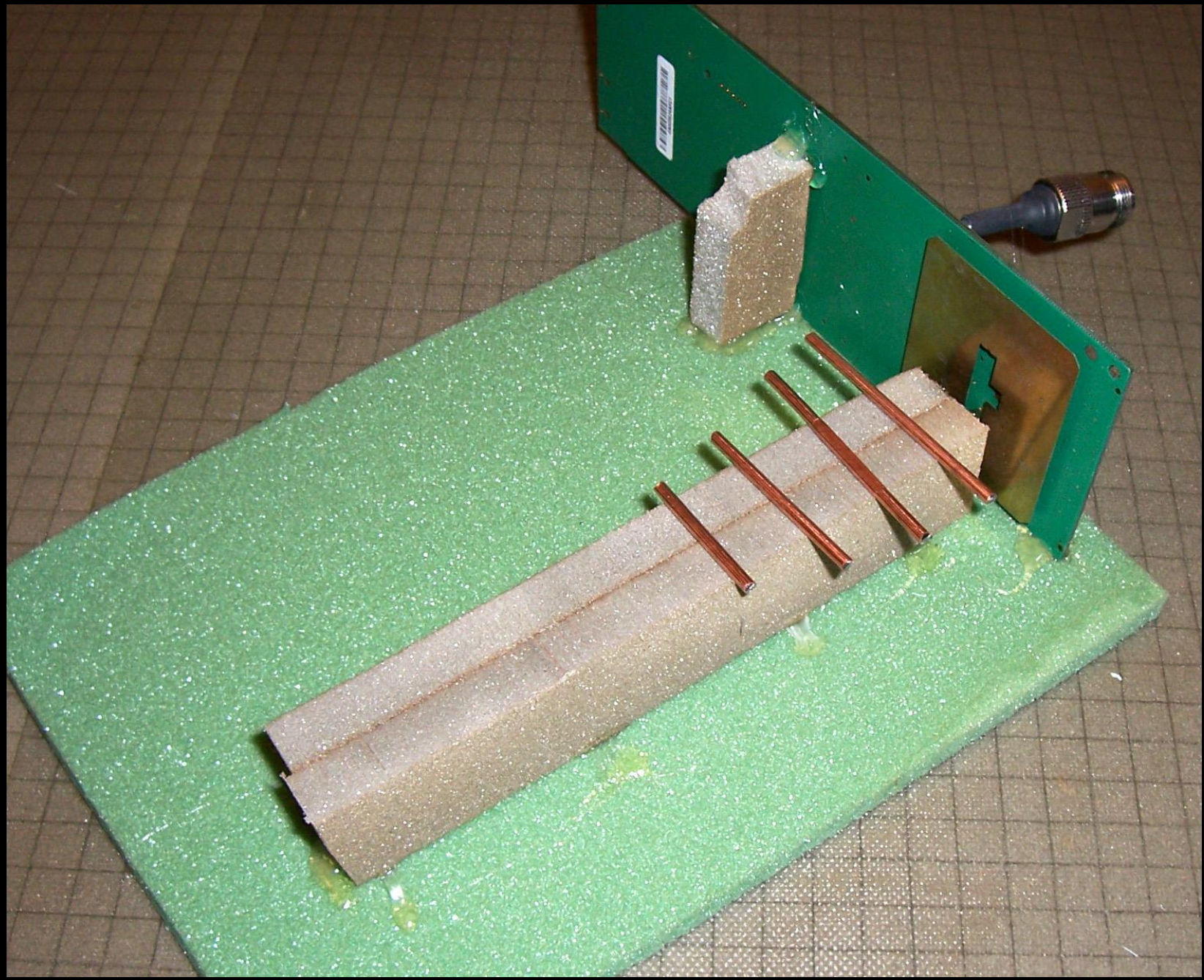




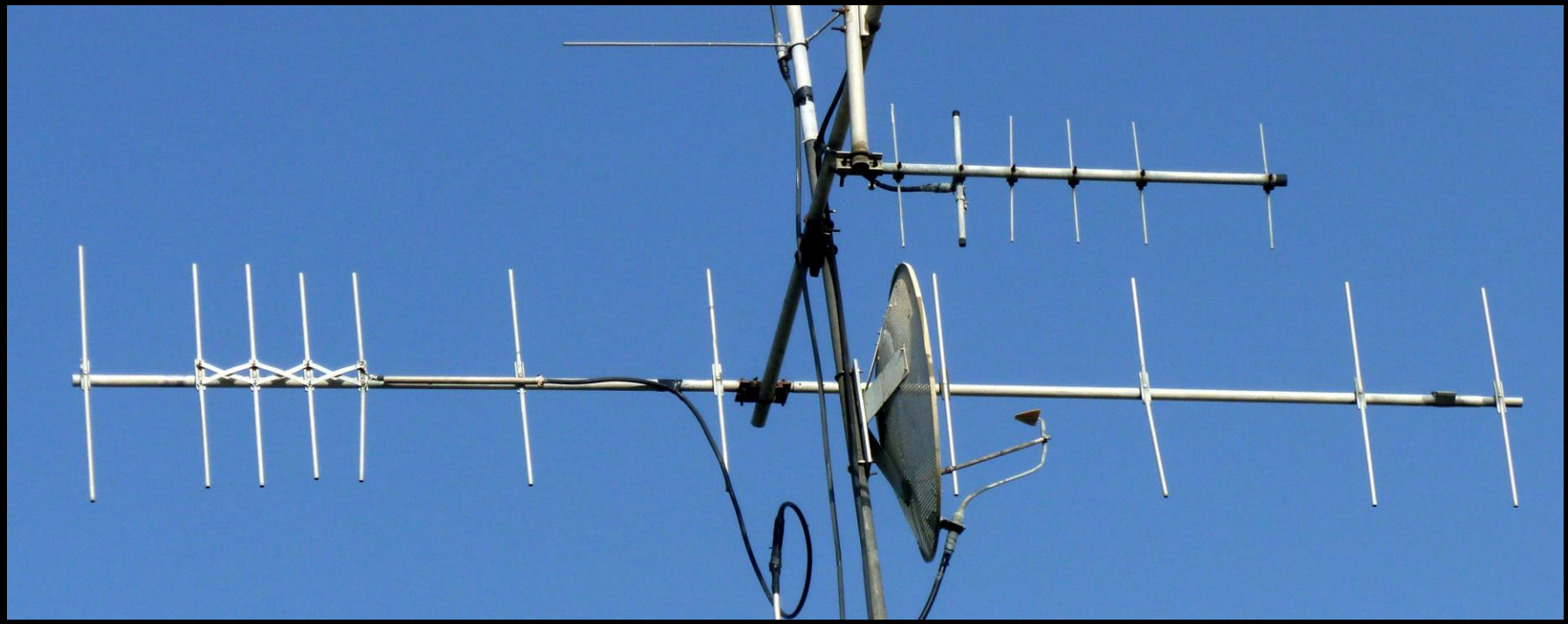


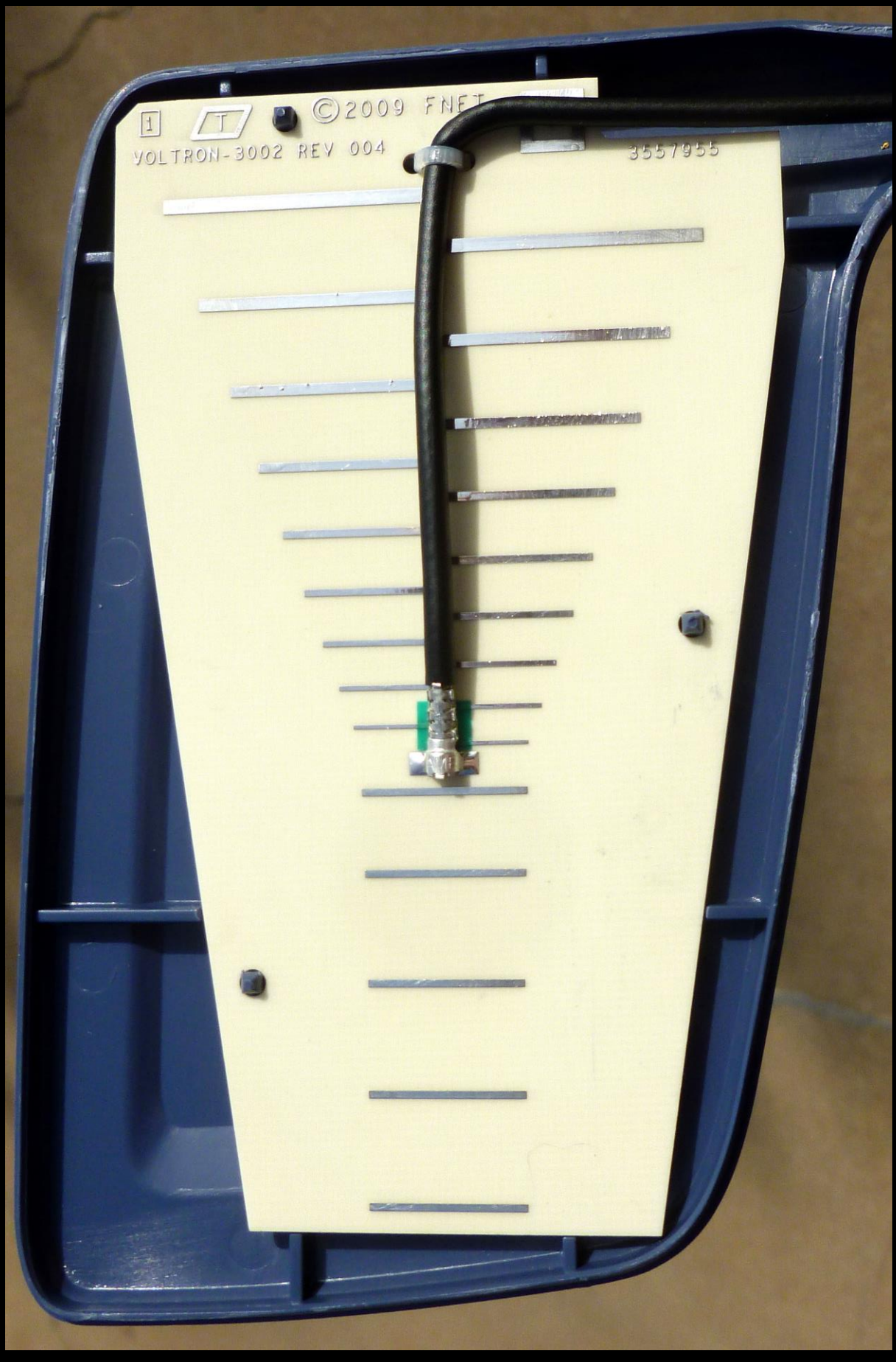


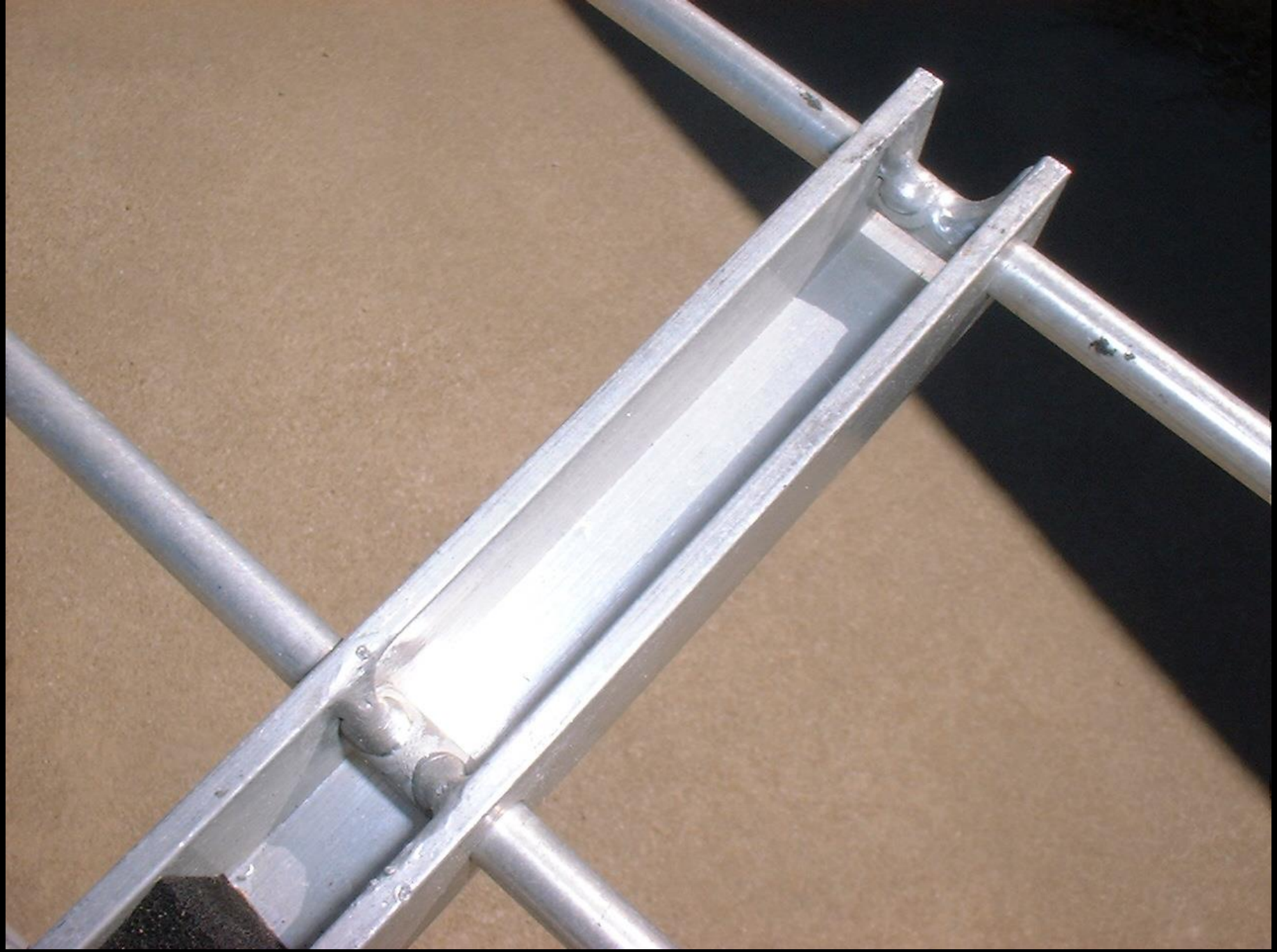

3A
4A
5A
6A
7A
A B
3
A B
4
A B
5
A
6
A
7

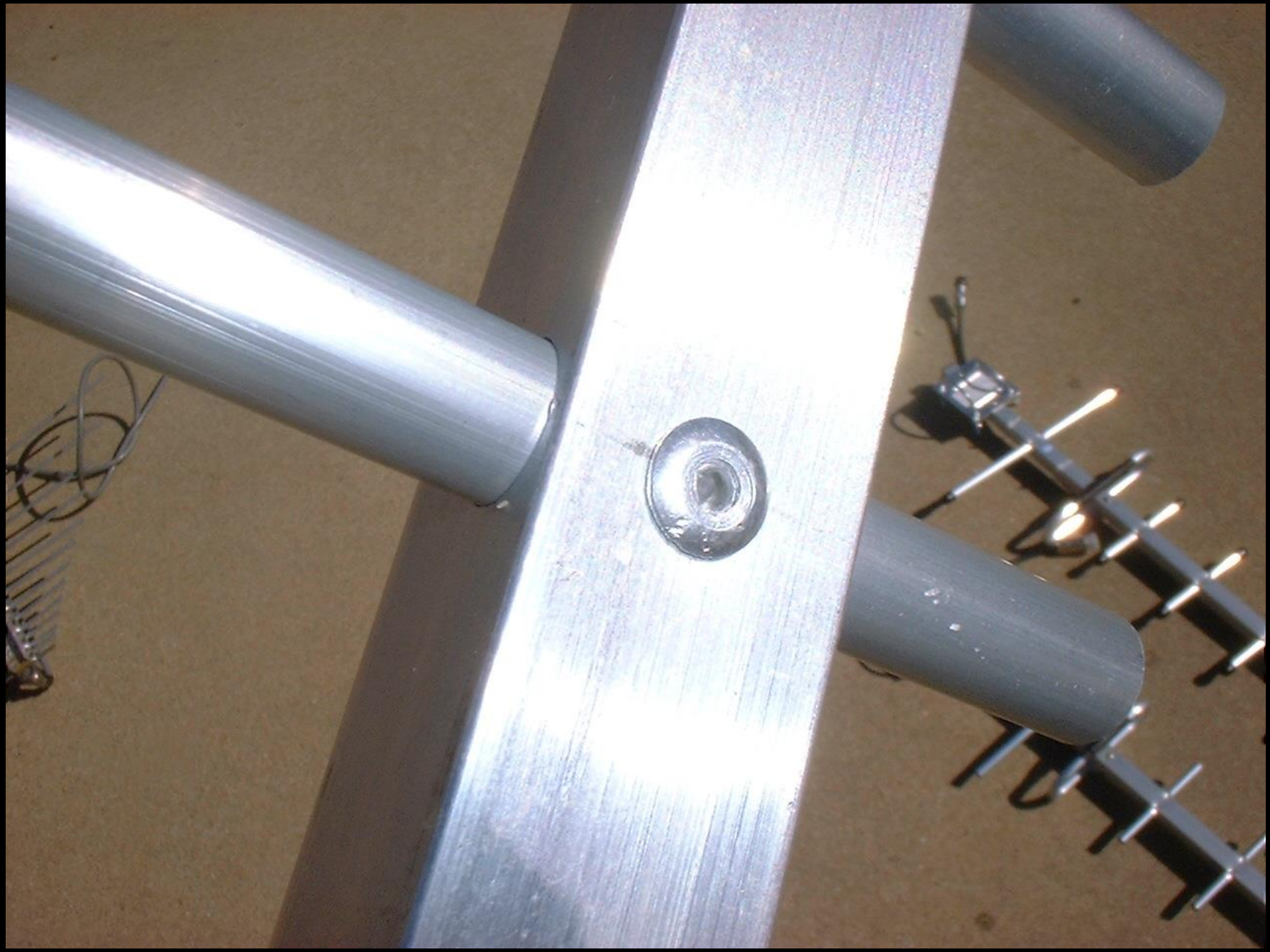


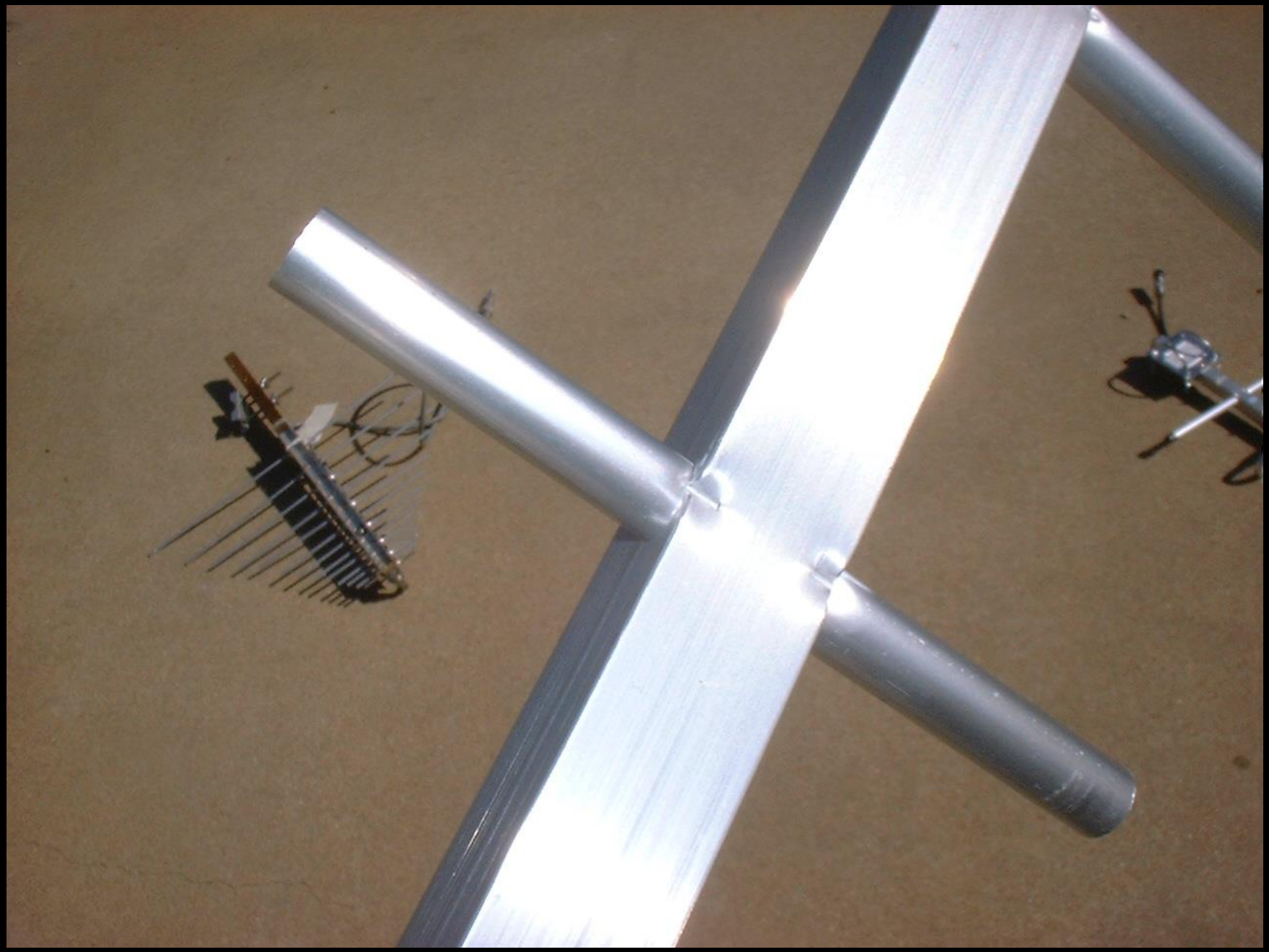

TENNADYNE
T28
50–1,700 MHz

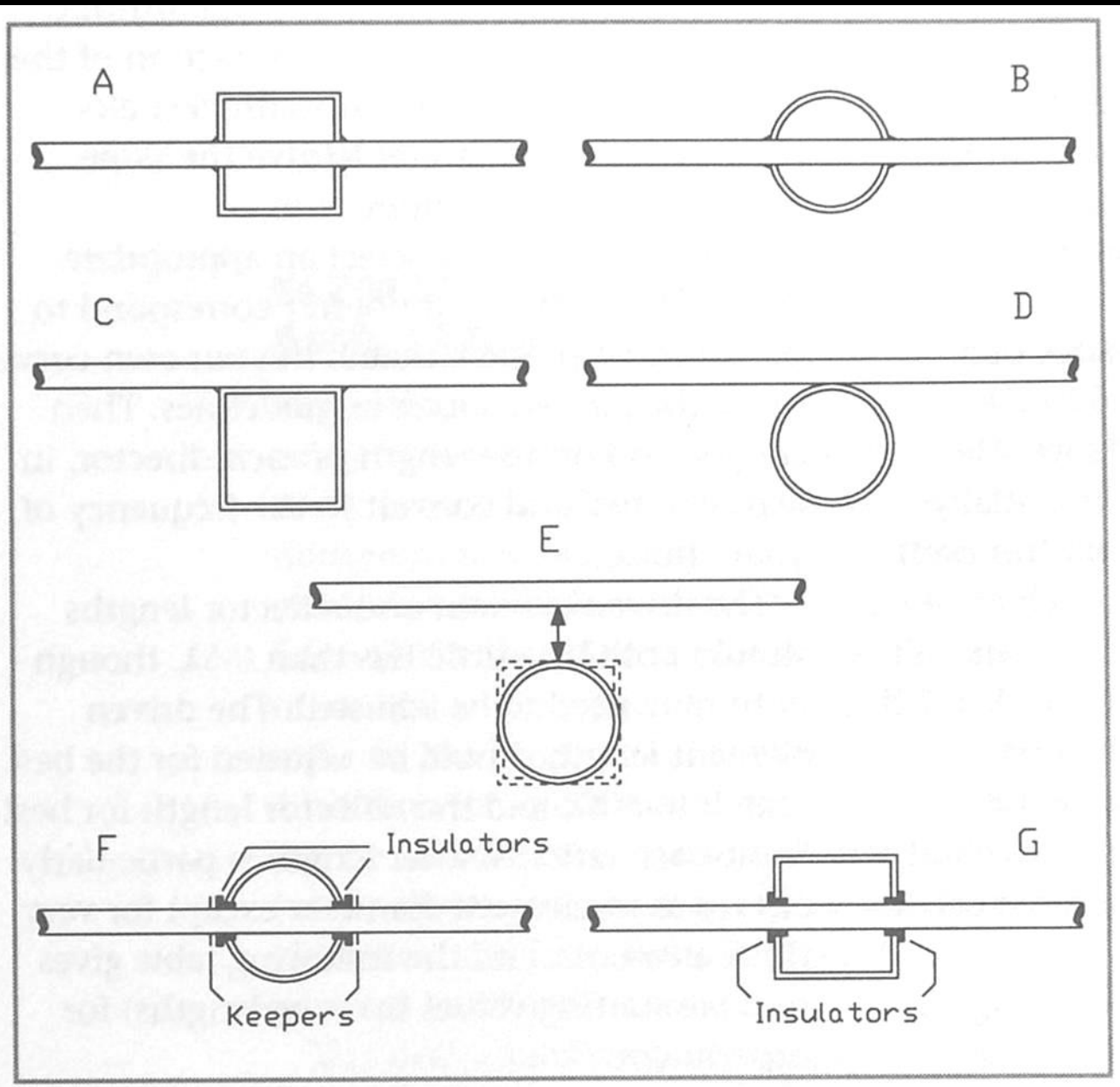


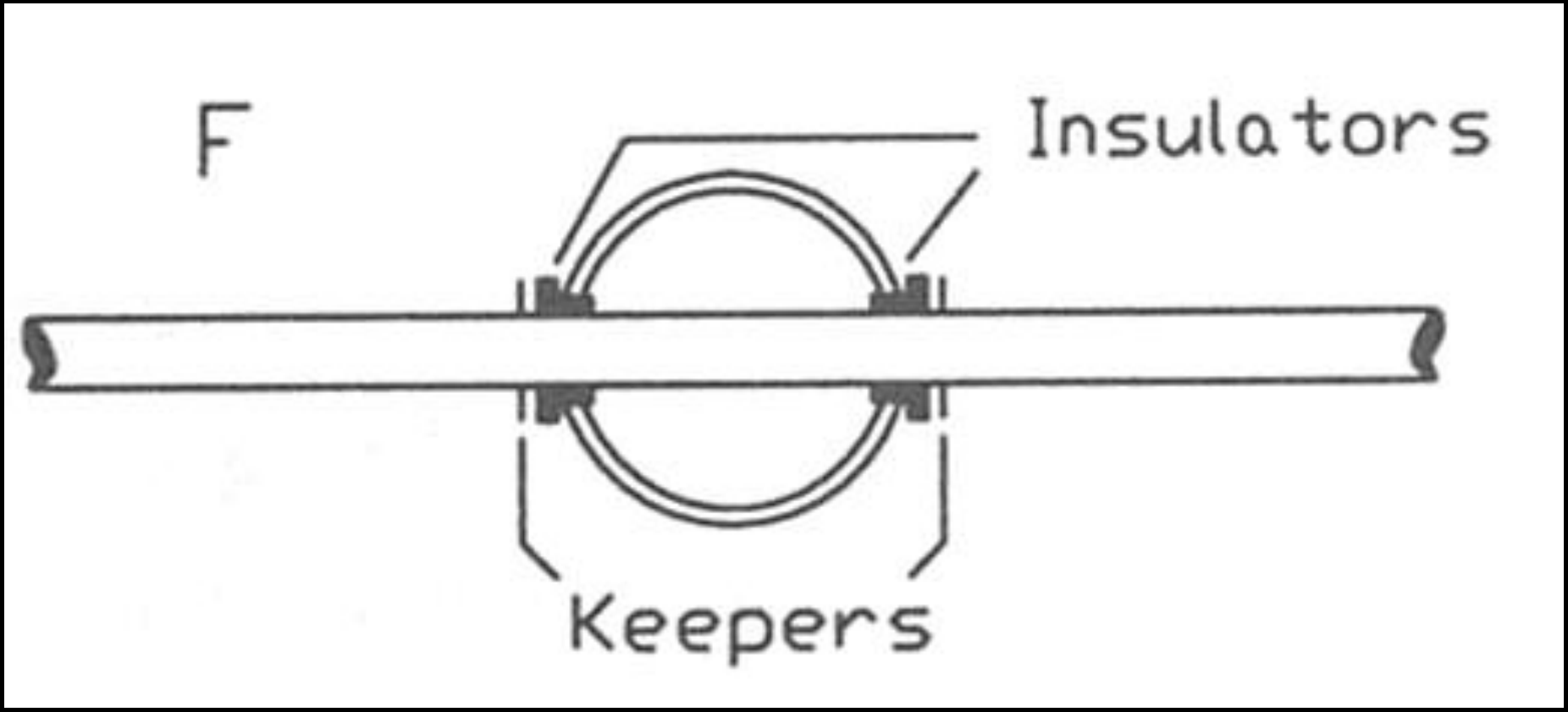

©2009 FNET
VOLTRON-3002 REV 004
3557955

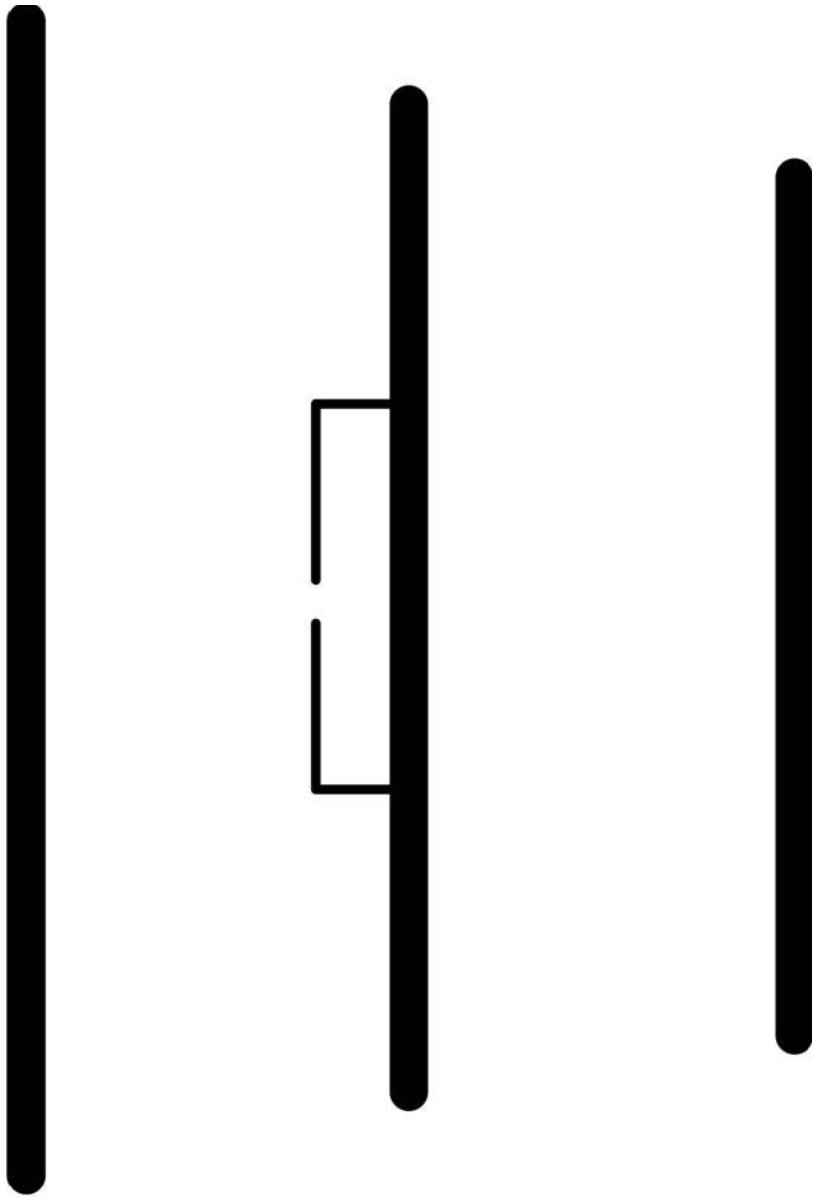


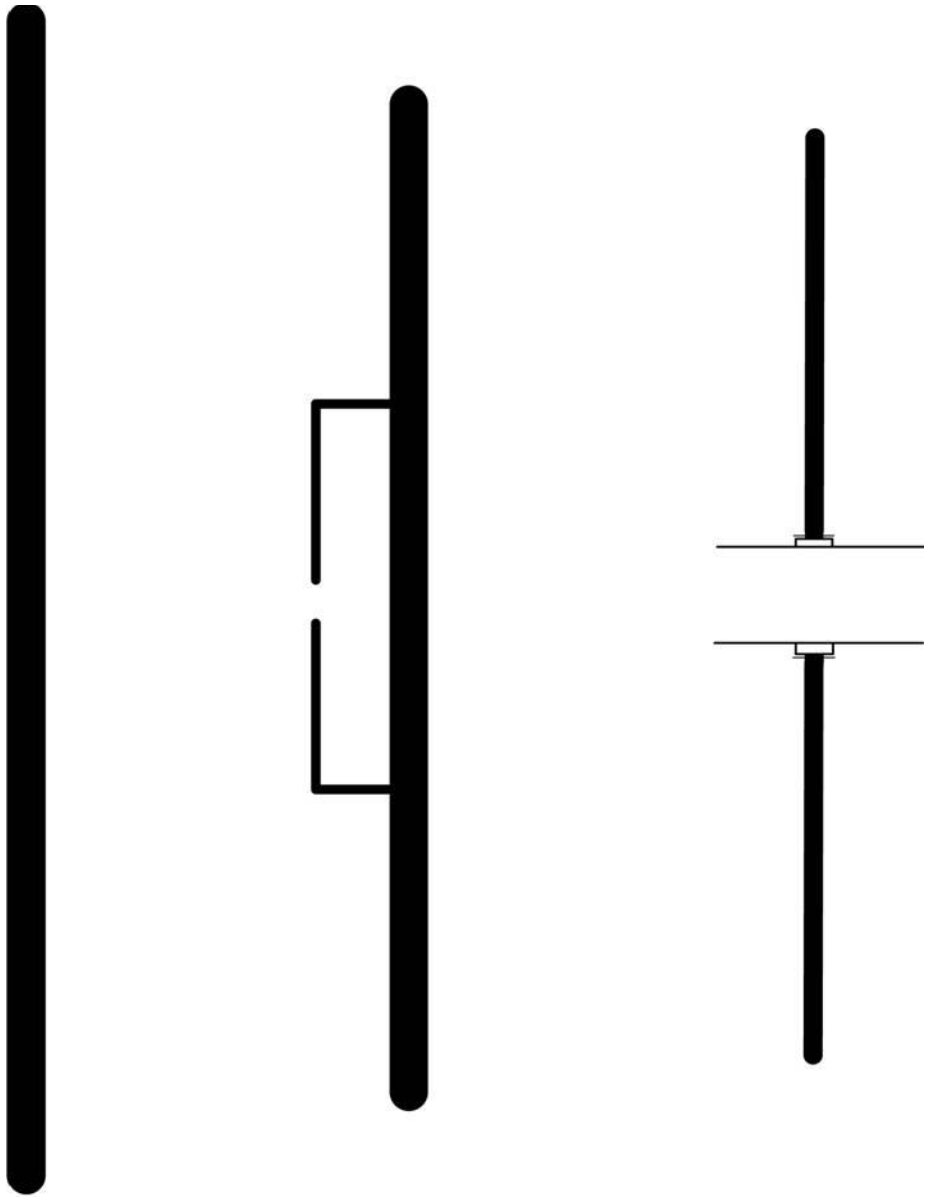


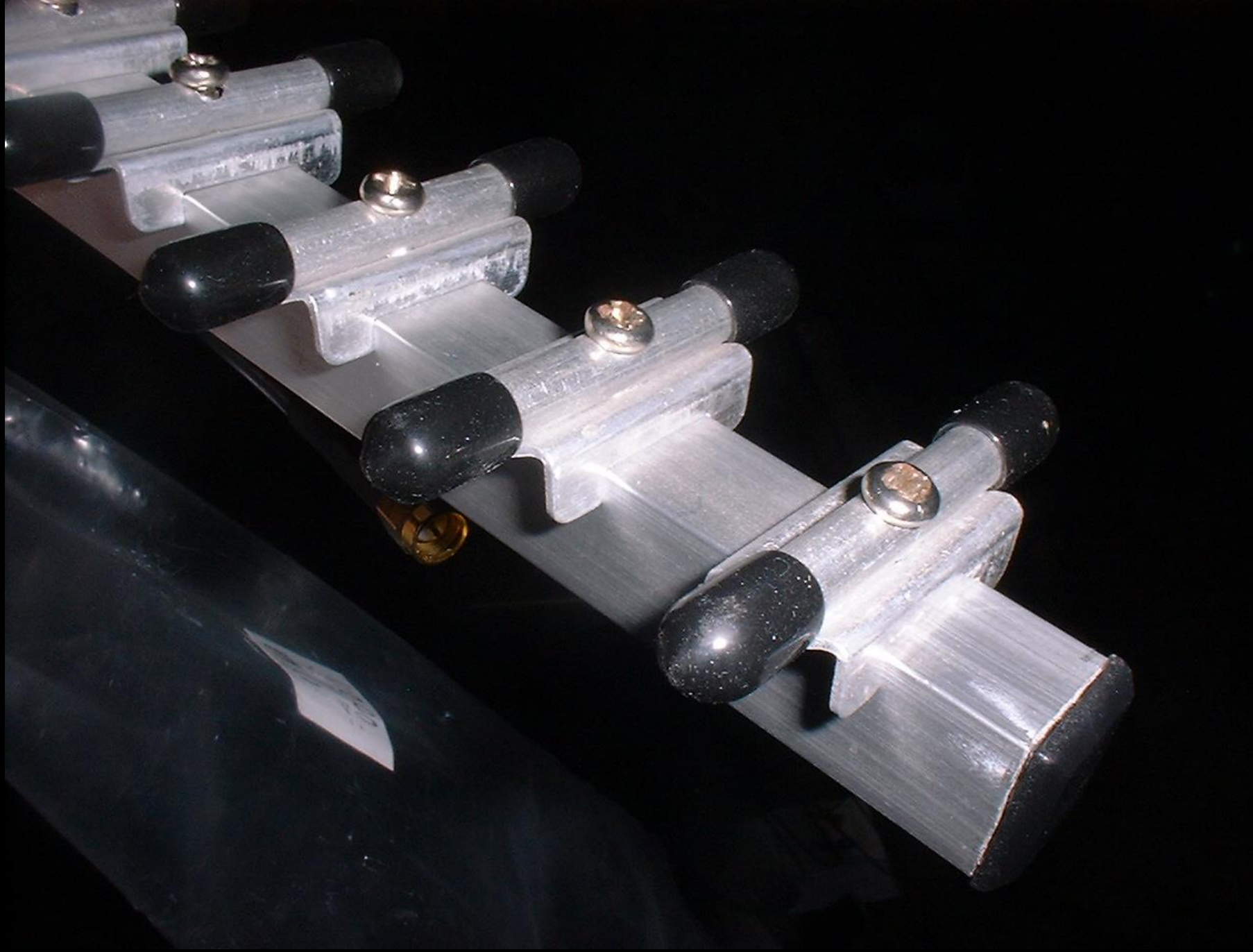


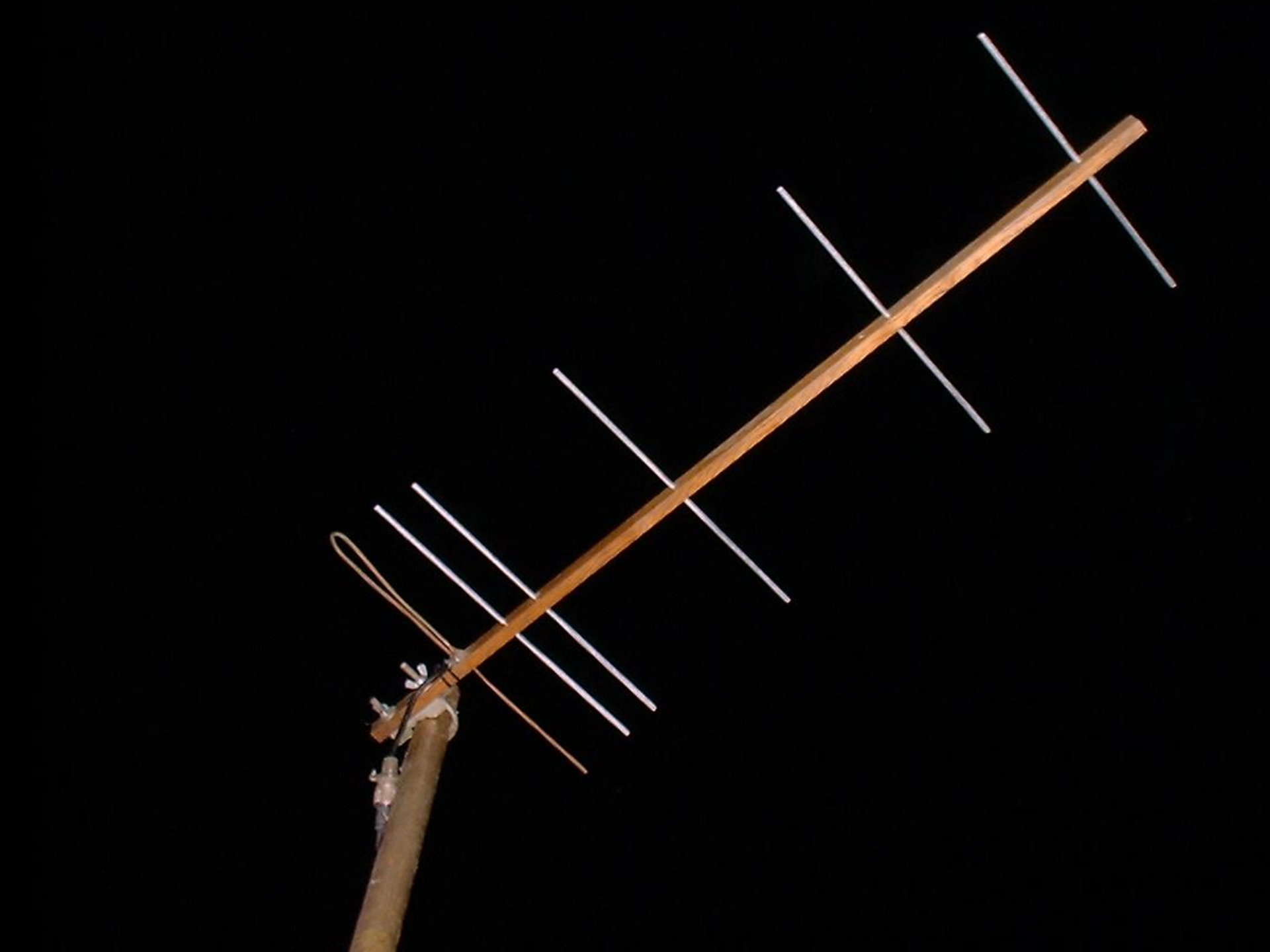

A
B
C
D
E
F
Insulators
Keepers
G
Insulators

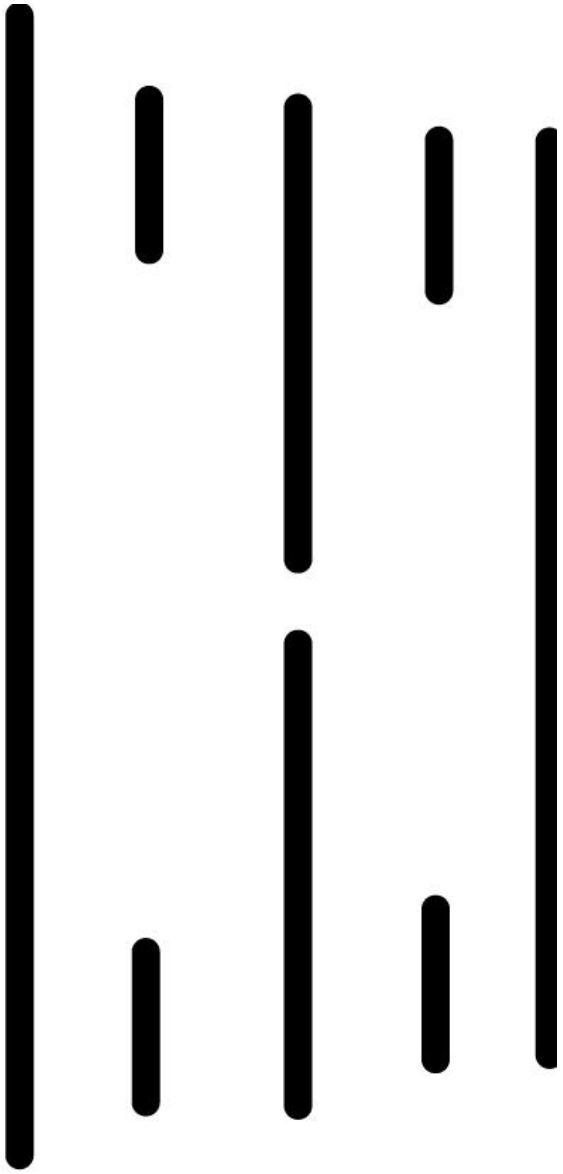

F
Insulators
Keepers

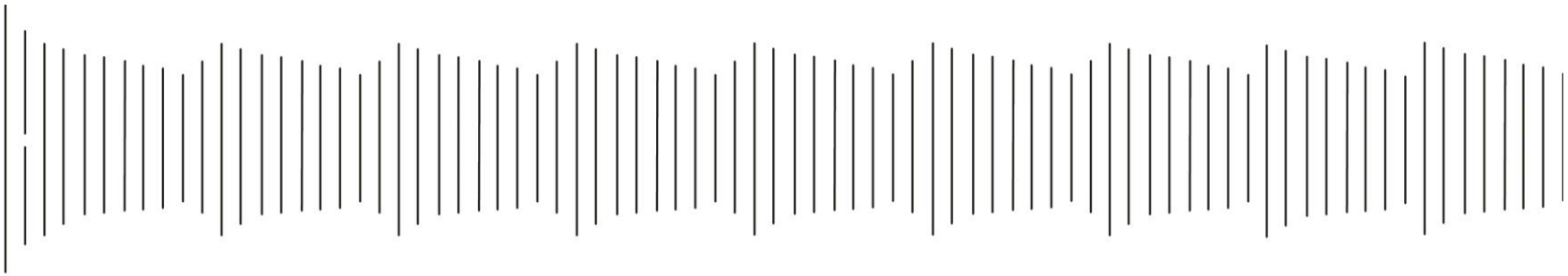


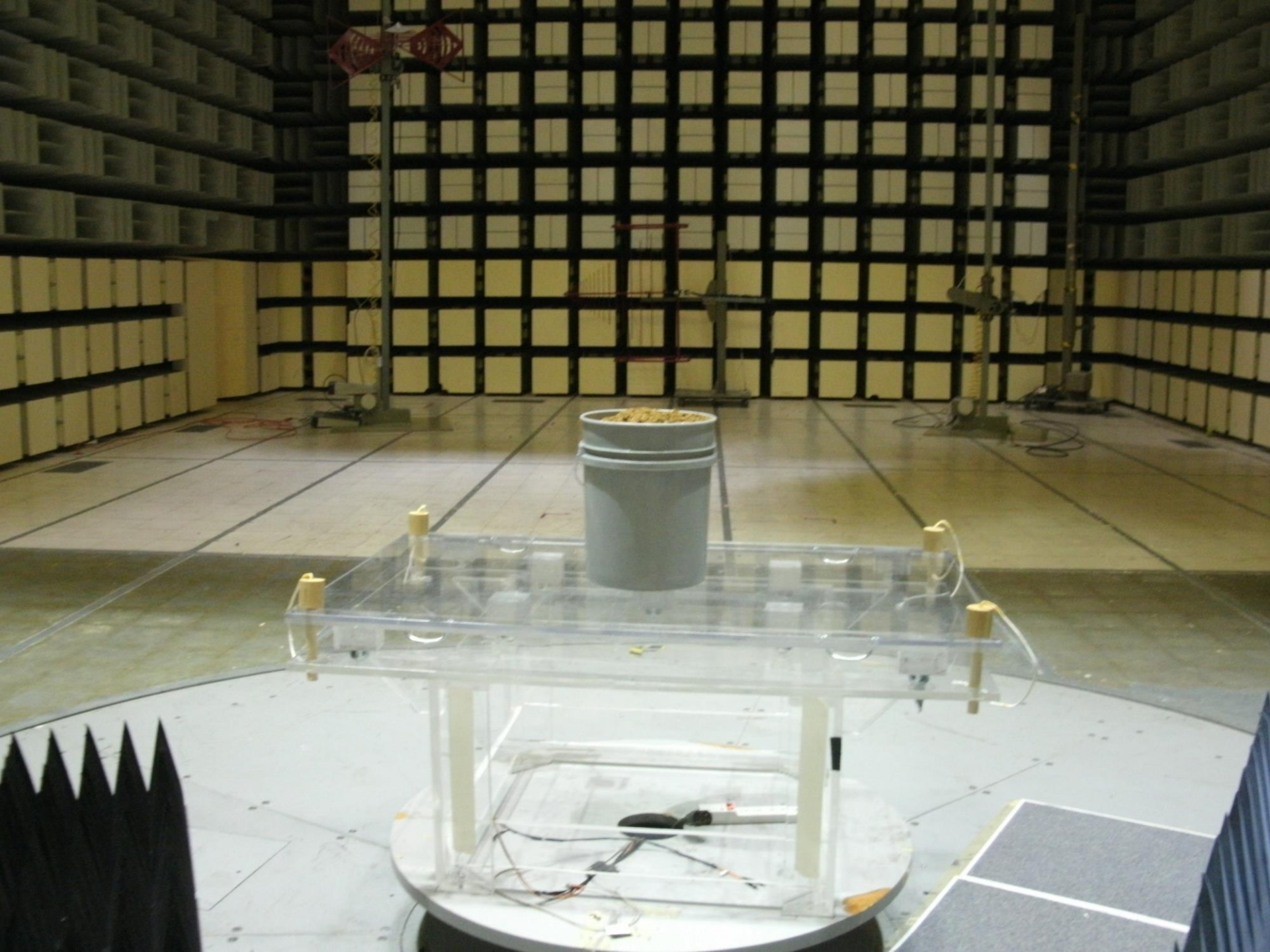




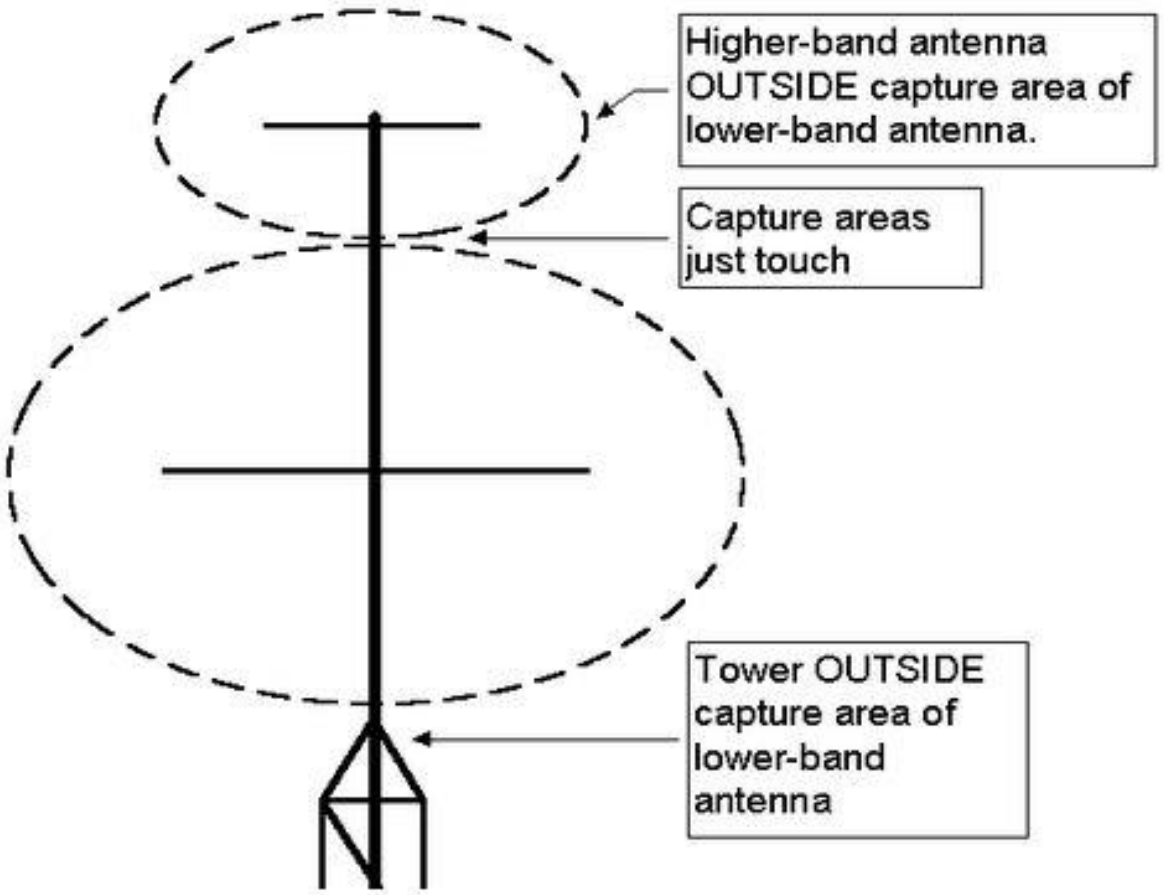








Stacking Dissimilar Antennas


Higher-band antenna OUTSIDE capture area of lower-band antenna.
Capture areas just touch
Tower OUTSIDE capture area of lower-band antenna

Capture Area

$$A = G \lambda_{sq.} / 4 \pi$$

2 Meters 10 dBi

A = 40/12.56 3.2 sq Meters

Radius 1 Meter

Capture Area

70 cm 16 dBi

A = 40 x .49/ 12.56 1.6 sq Meters

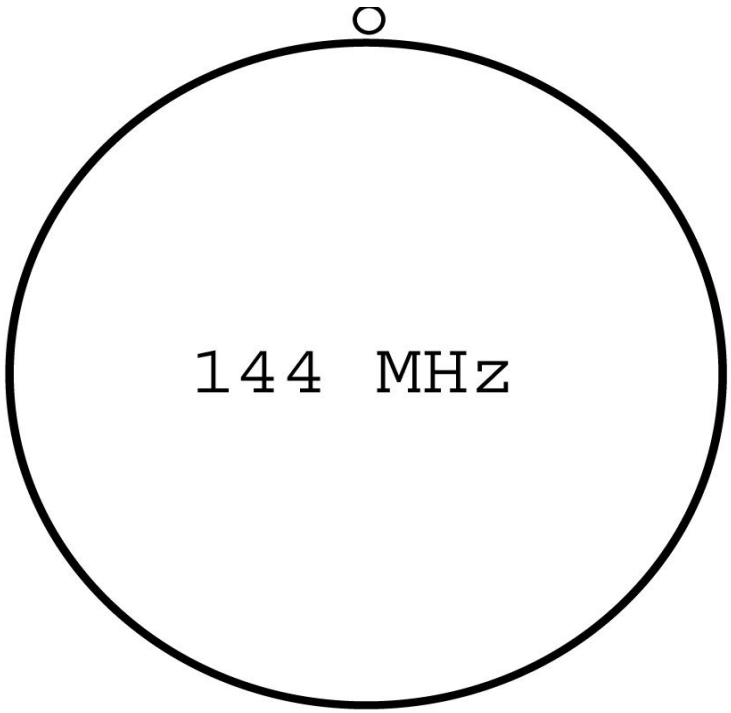
Radius .7 Meters

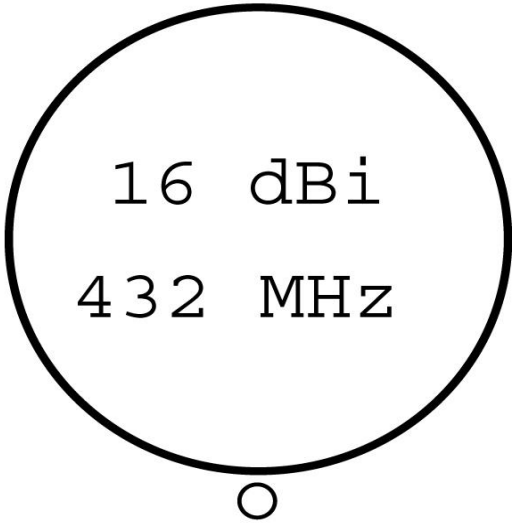

16 dBi
432 MHz
10 dBi
144 MHz

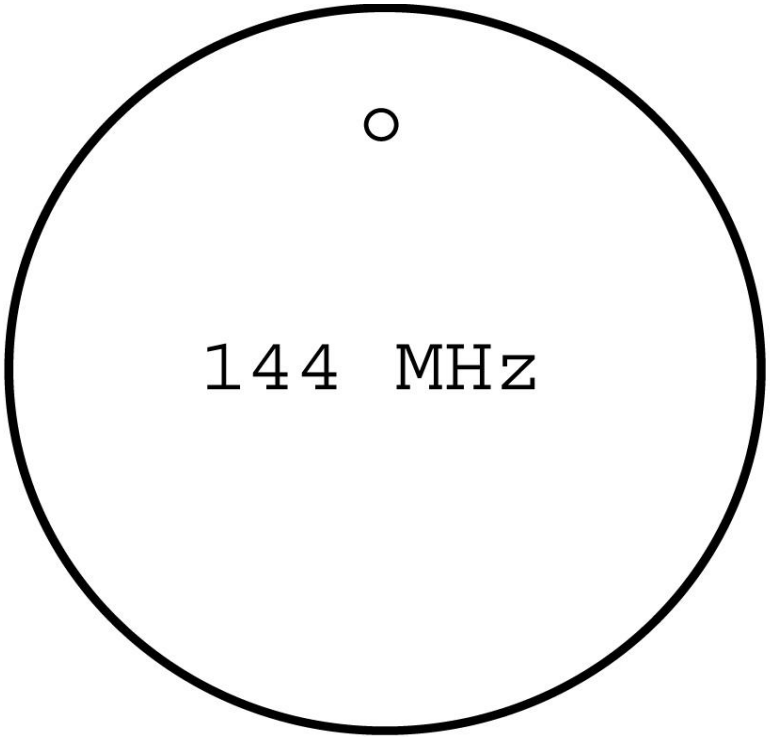
VHF Antennas

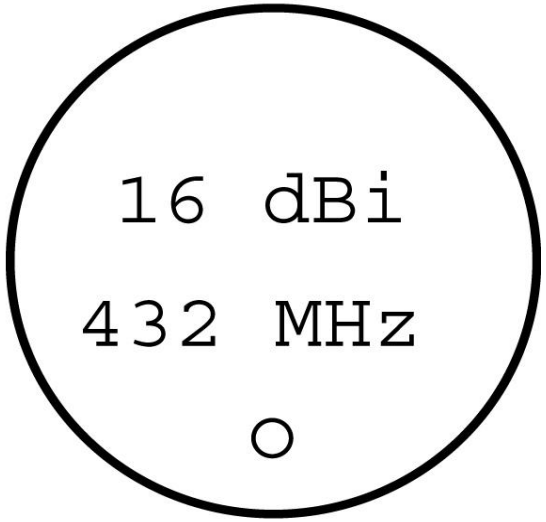
144 MHz	13 element K1FO
222 MHz	13 element TEM
432 MHz	19 element K2RIW

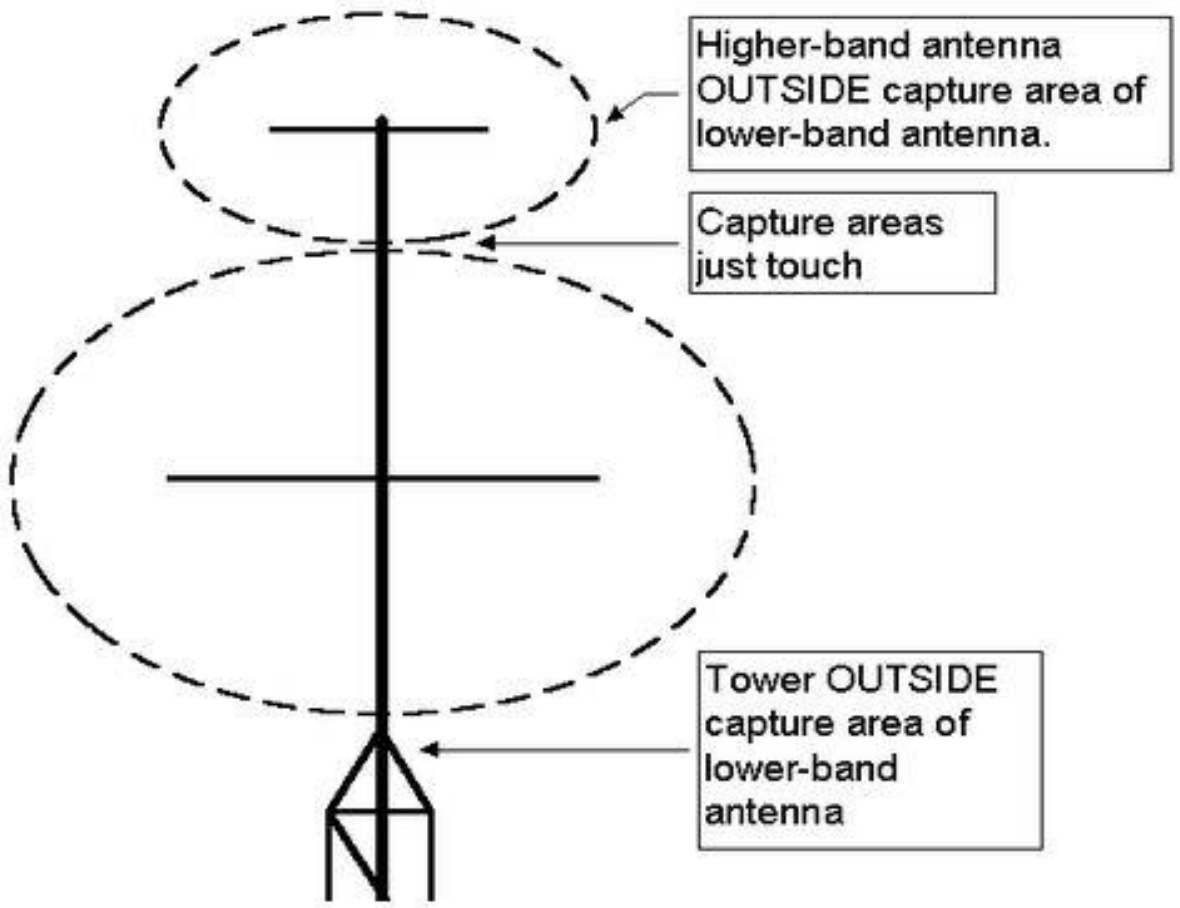
	144	222	432
144	7.0	.003	.016
222	.002	1.9	.04
432	.006	.00008	1.7

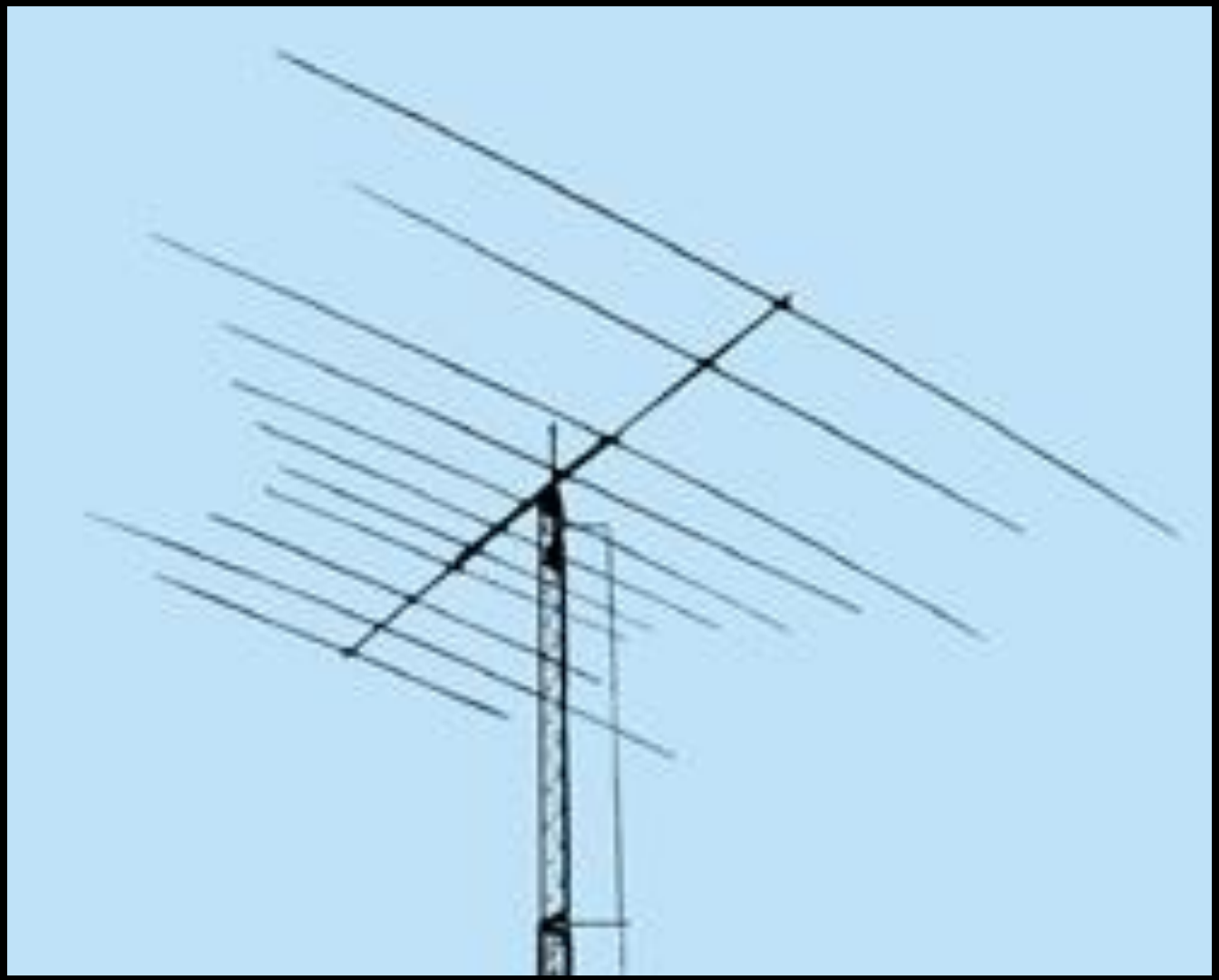

144 MHz

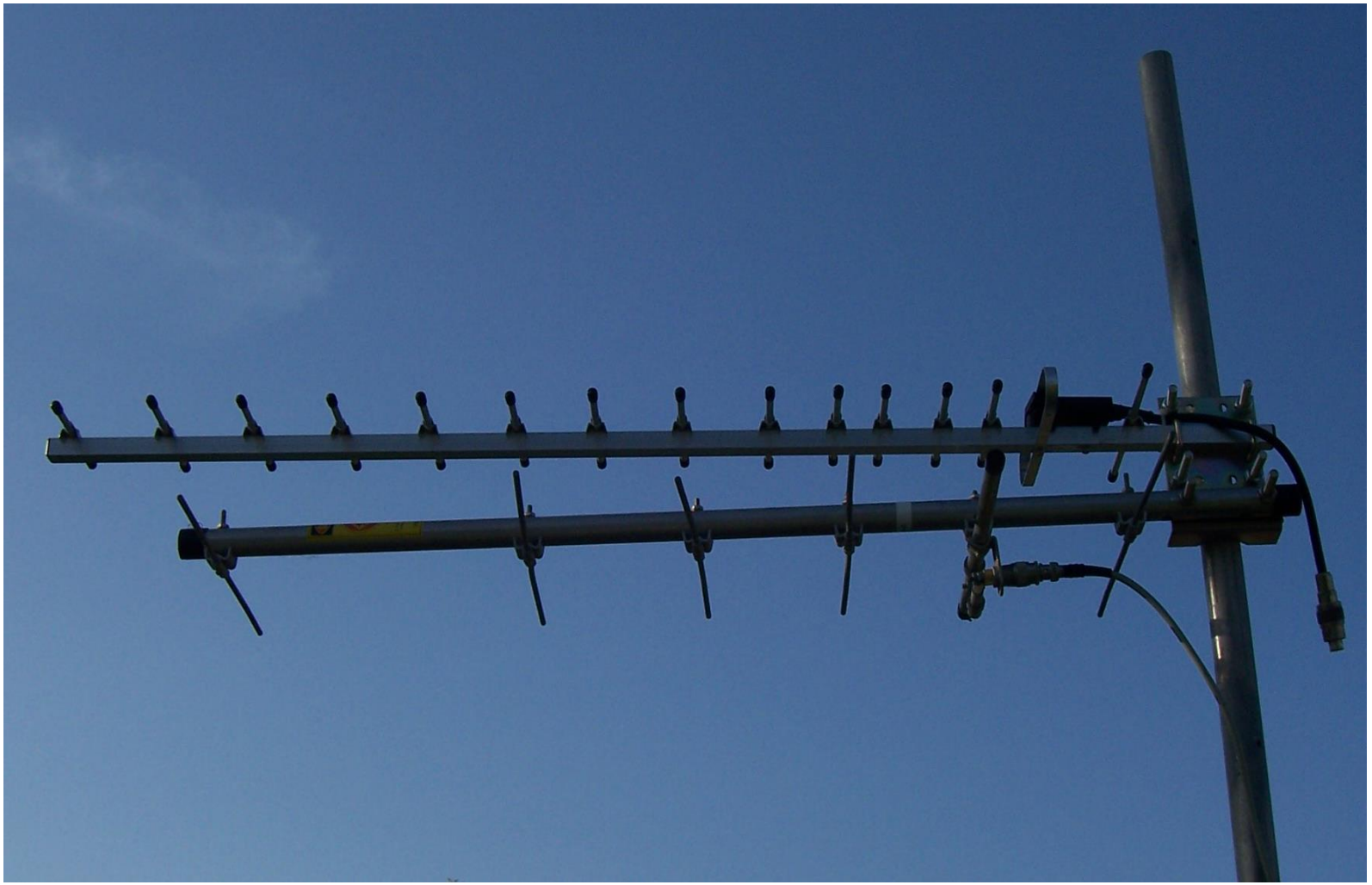

16 dBi
432 MHz

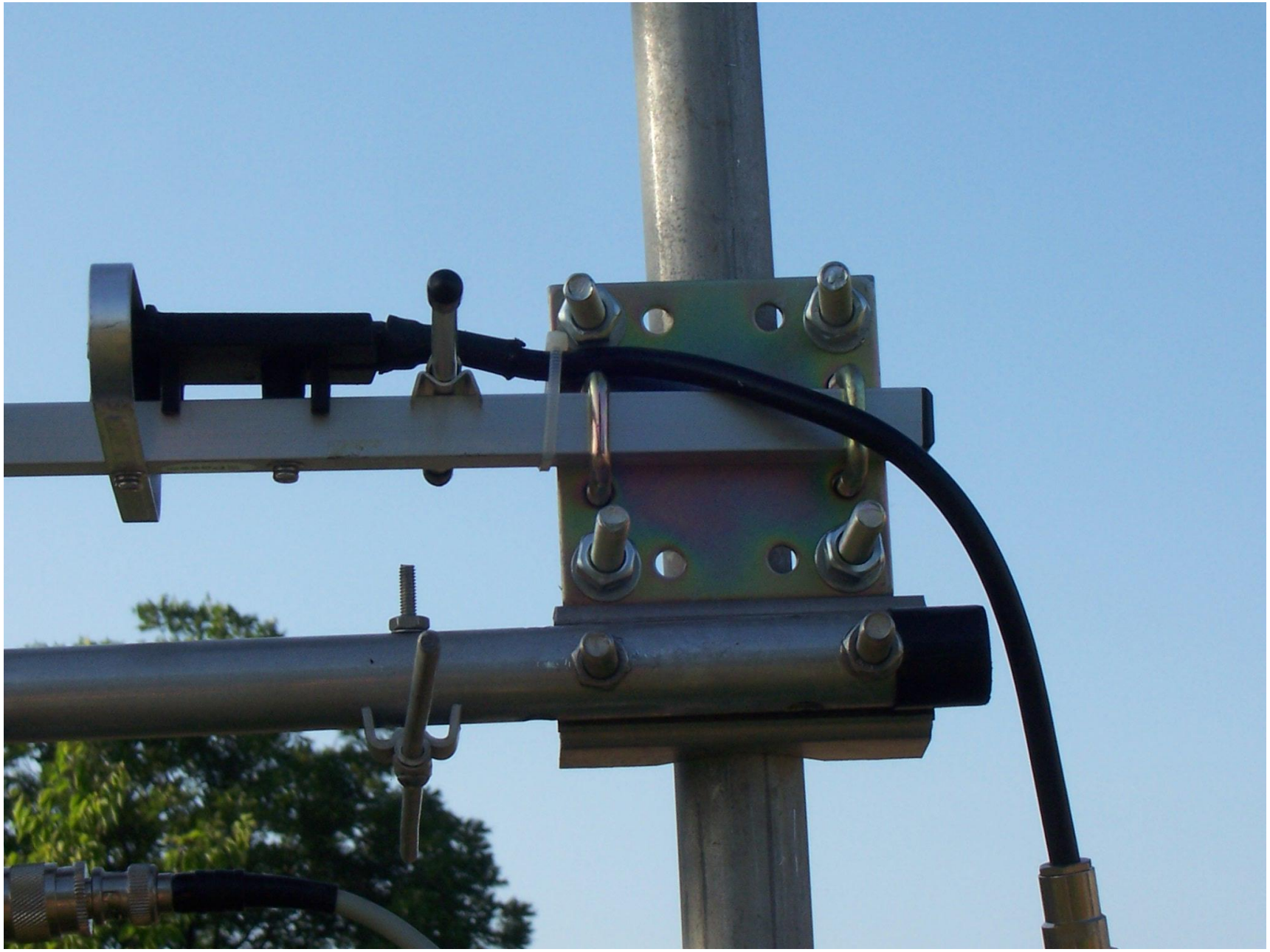

144 MHz

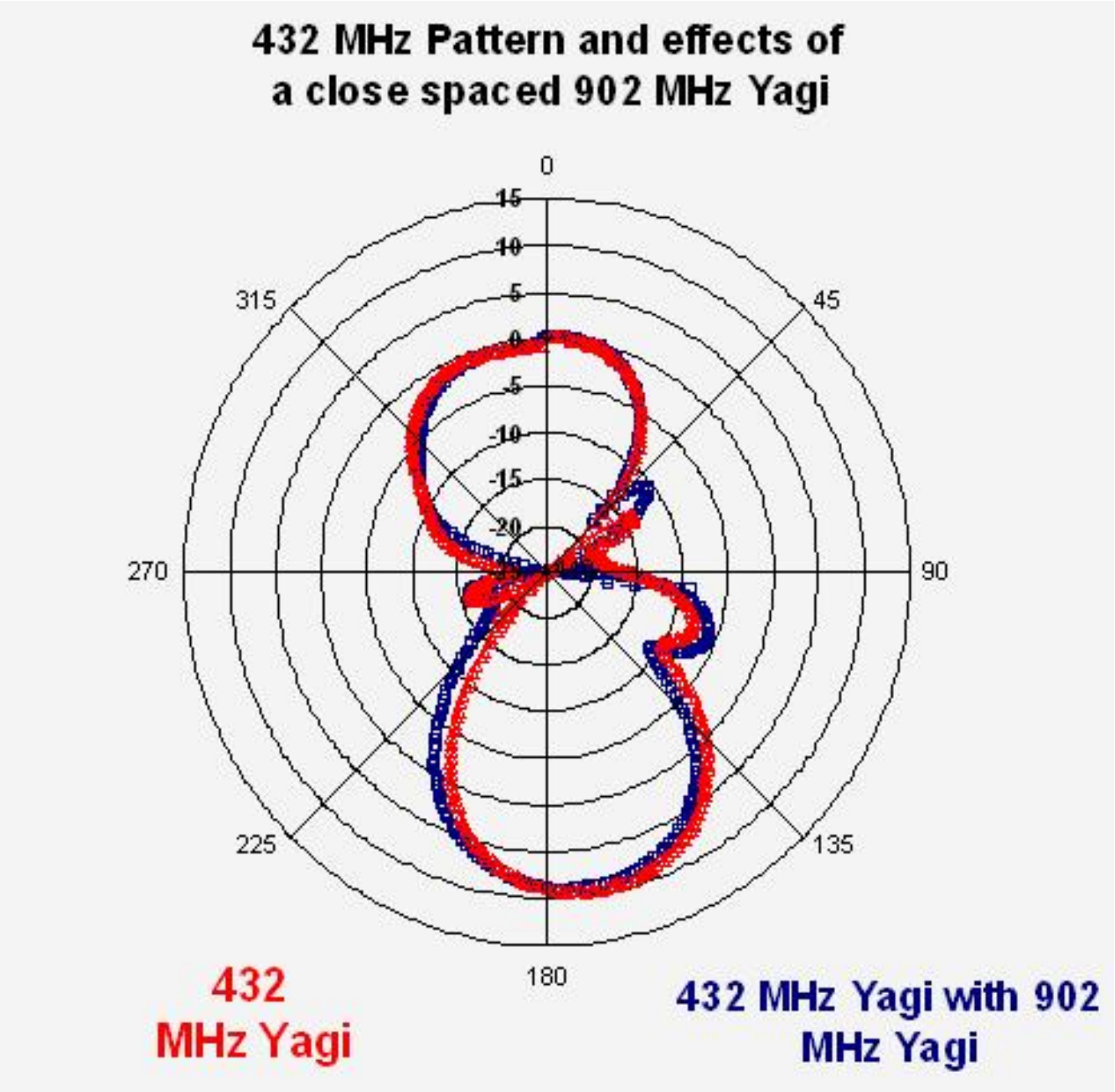

16 dBi
432 MHz


Higher-band antenna OUTSIDE capture area of lower-band antenna.
Capture areas just touch
Tower OUTSIDE capture area of lower-band antenna

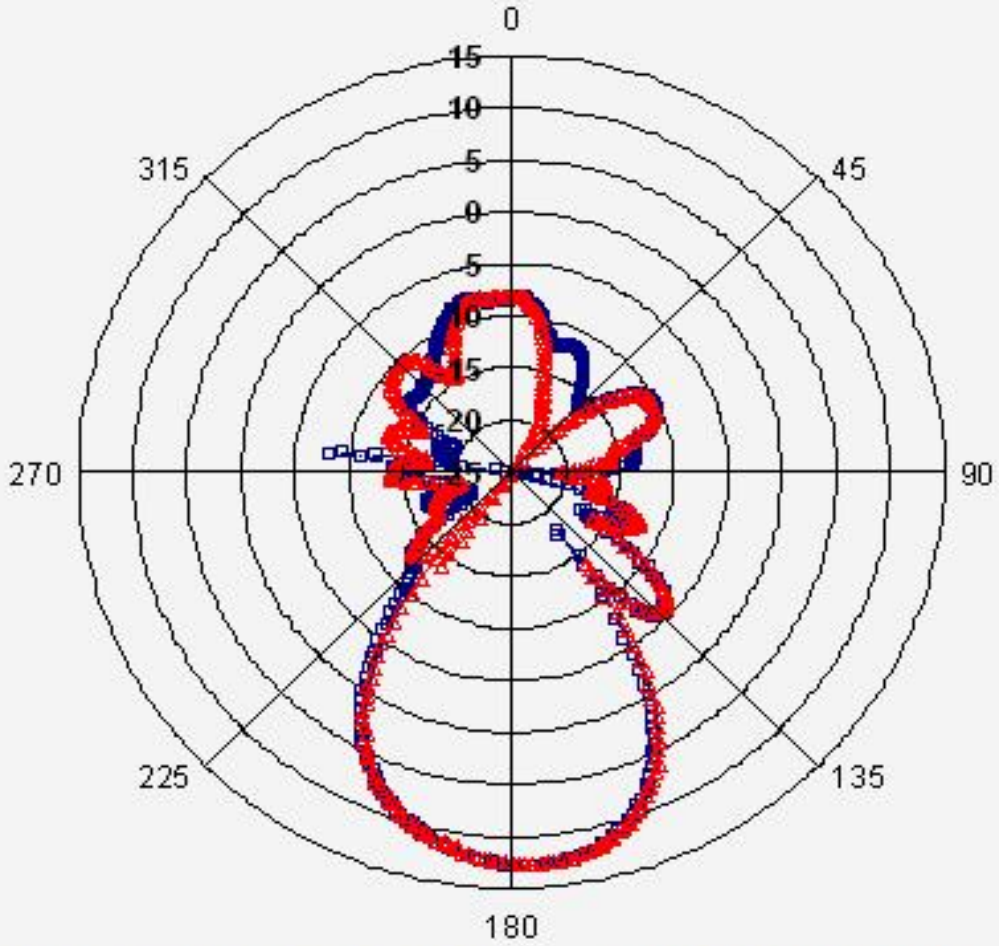




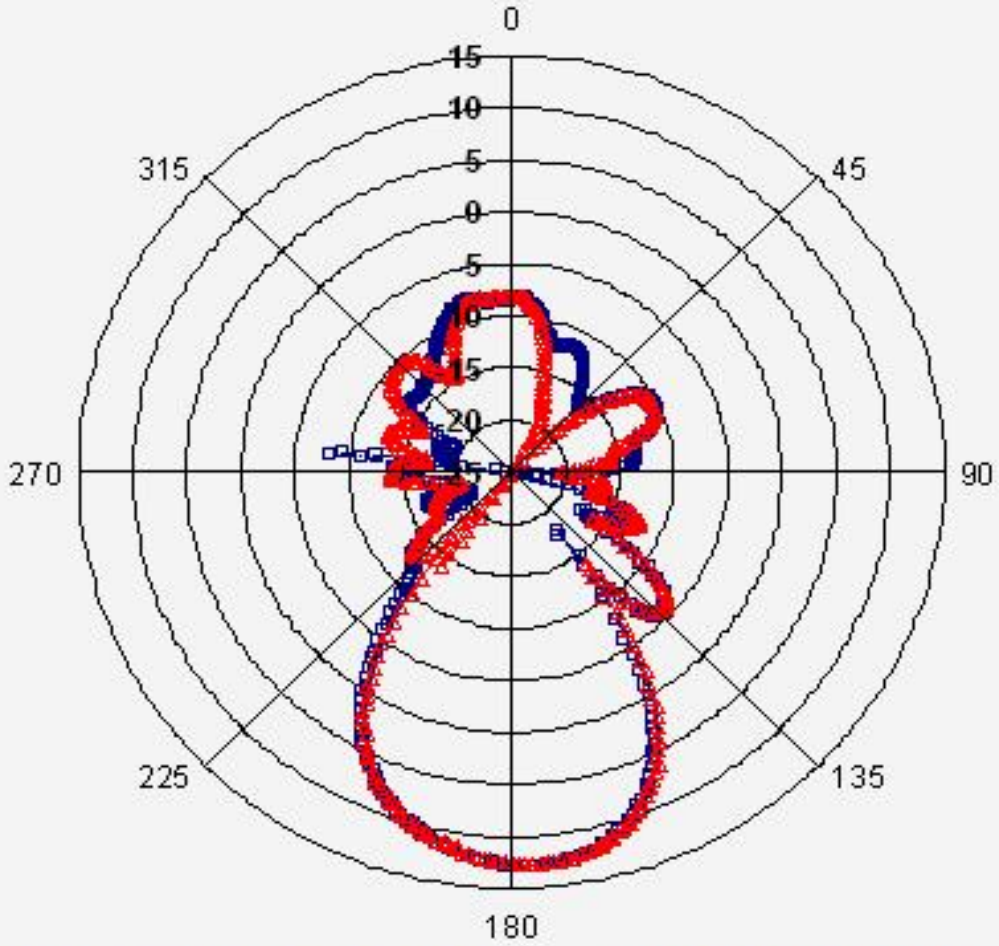


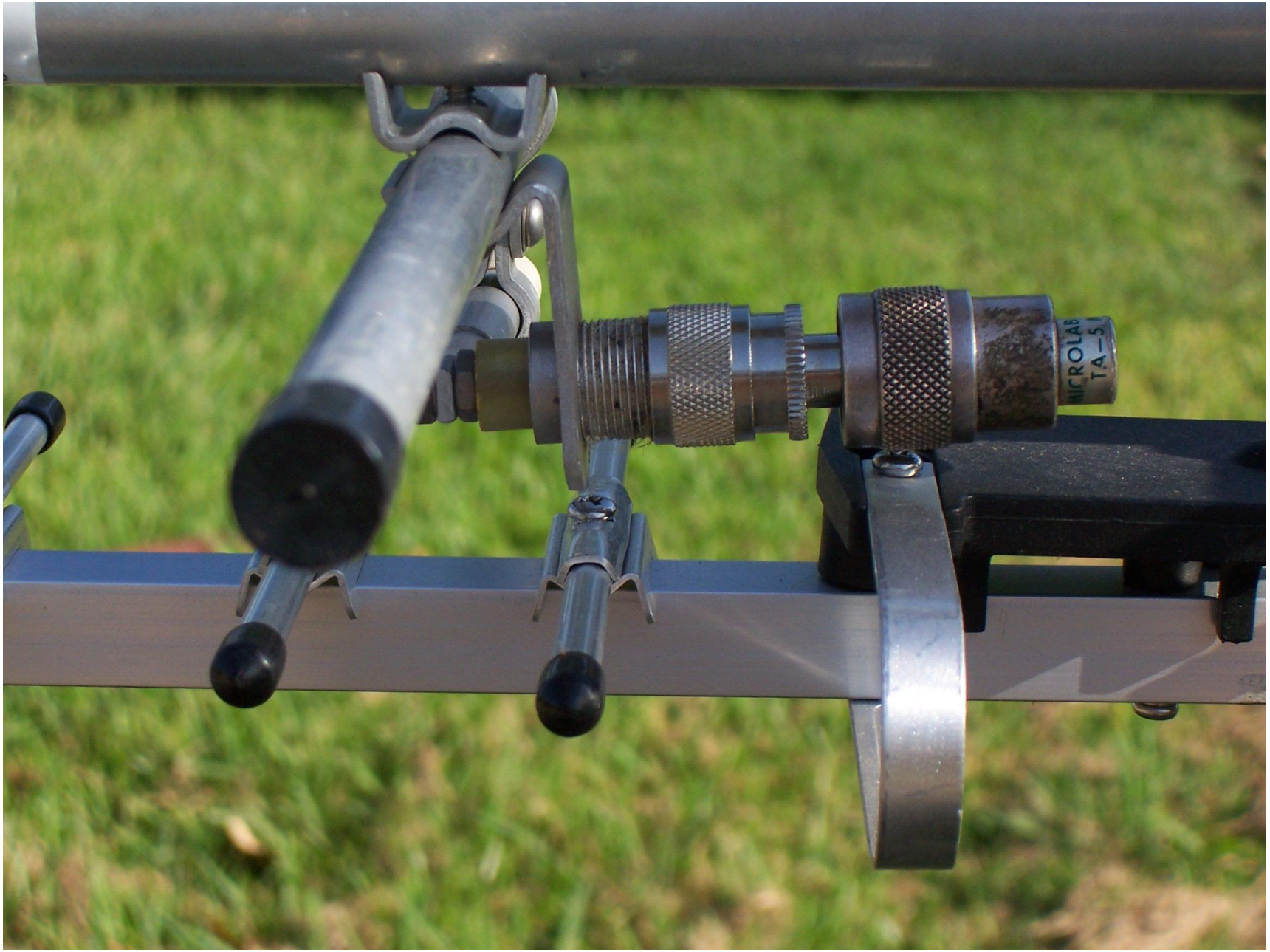

432 MHz Pattern and effects of
a close spaced 902 MHz Yagi
0
45
90
135
180
225
270
315
15
10
5
0
-5
-10
-15
-20
432
MHz Yagi
432 MHz Yagi with 902
MHz Yagi

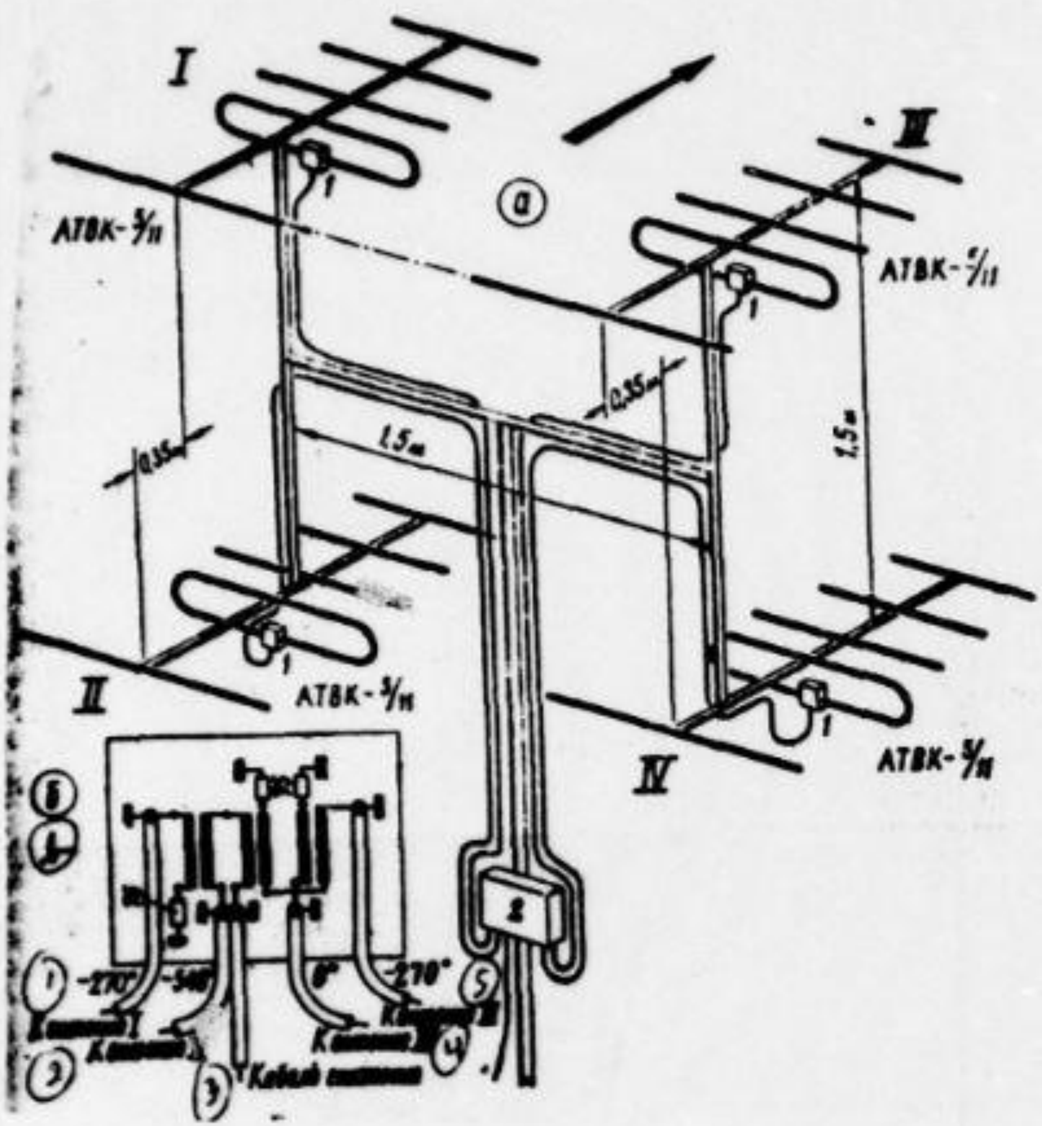
902 MHz Yagi Pattern when Stacked with a 432 MHz Yagi 5.5" seperation



902 MHz Yagi Pattern when Stacked with a 432 MHz Yagi 5.5" seperation



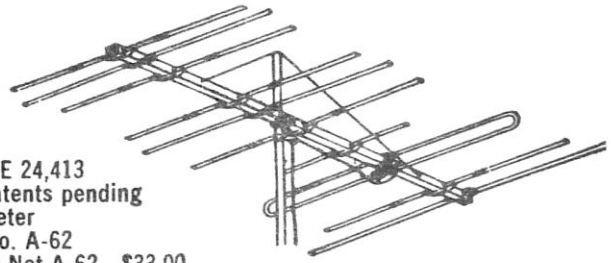

MICROLAB
T.A—5


I
III
IV
II
а
АТВК-5/11
1,5м
0,35м
б
-270°
-540°
0°
Кабель
2

NOW!

TWO ANTENNAS IN ONE*

*another *FIRST* from *FINCO*



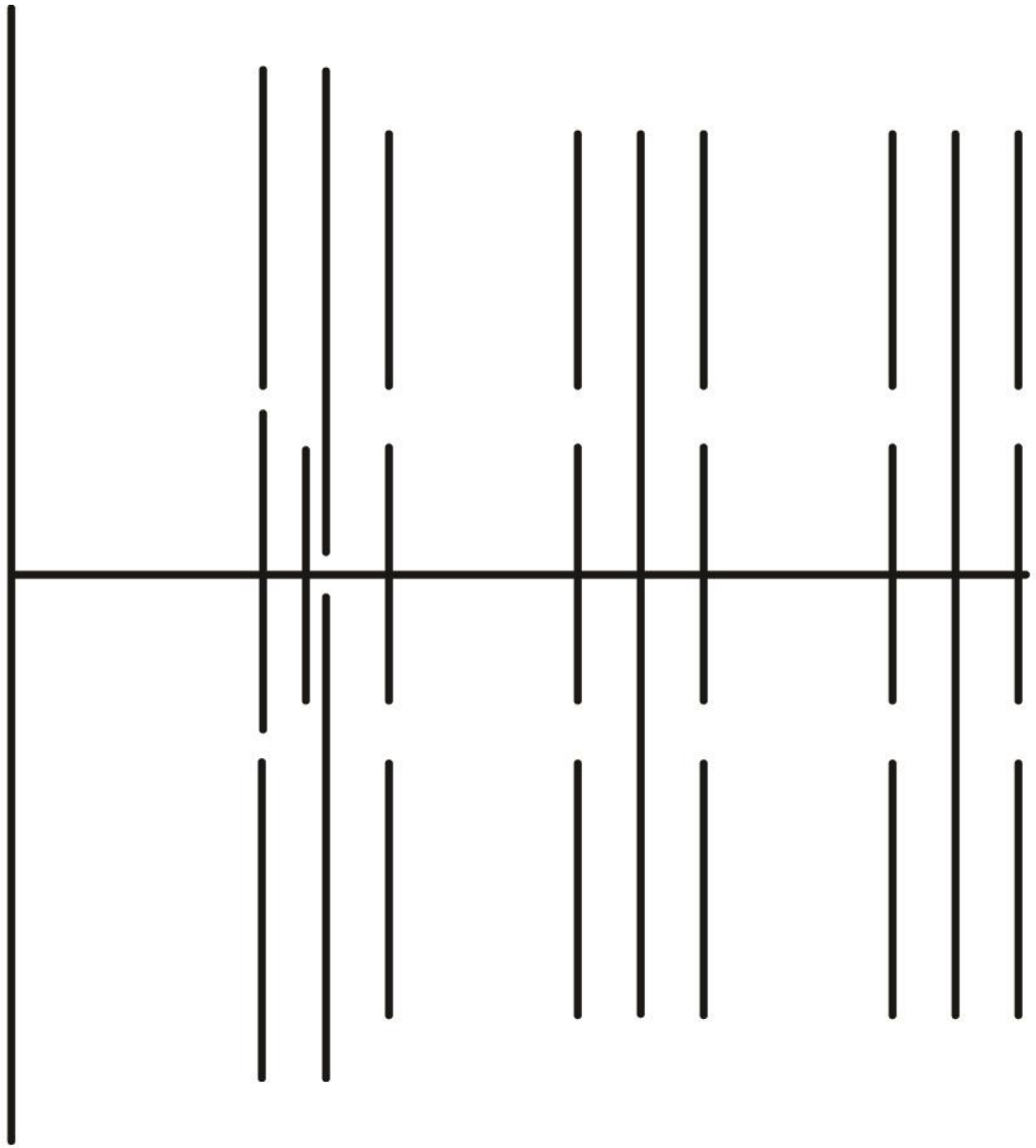
Patent RE 24,413
Other patents pending
6 & 2 Meter
Model No. A-62
Amateur Net A-62 $33.00
Stacking Kit AS-62 $2.19

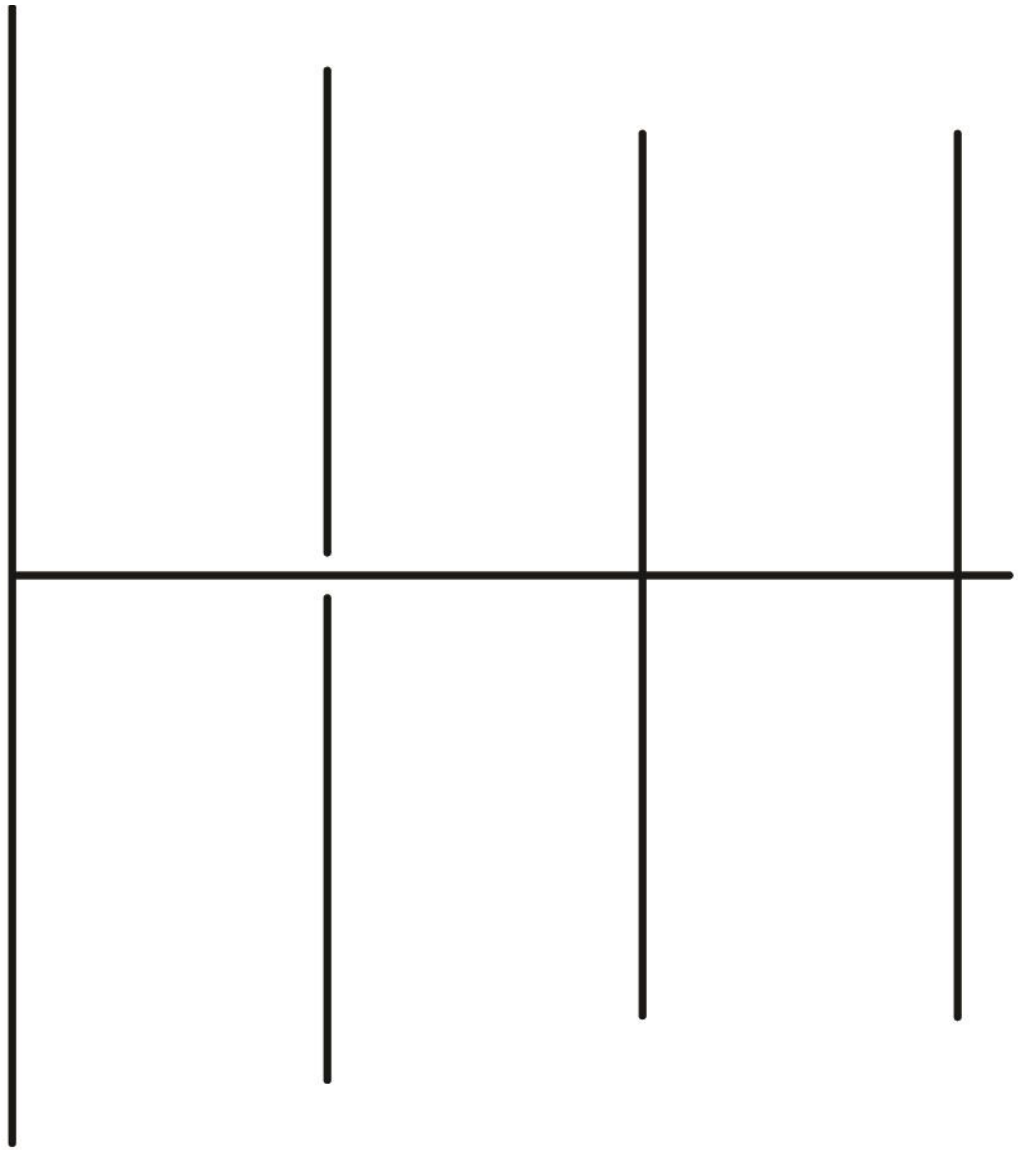
The Only Single Feed Line

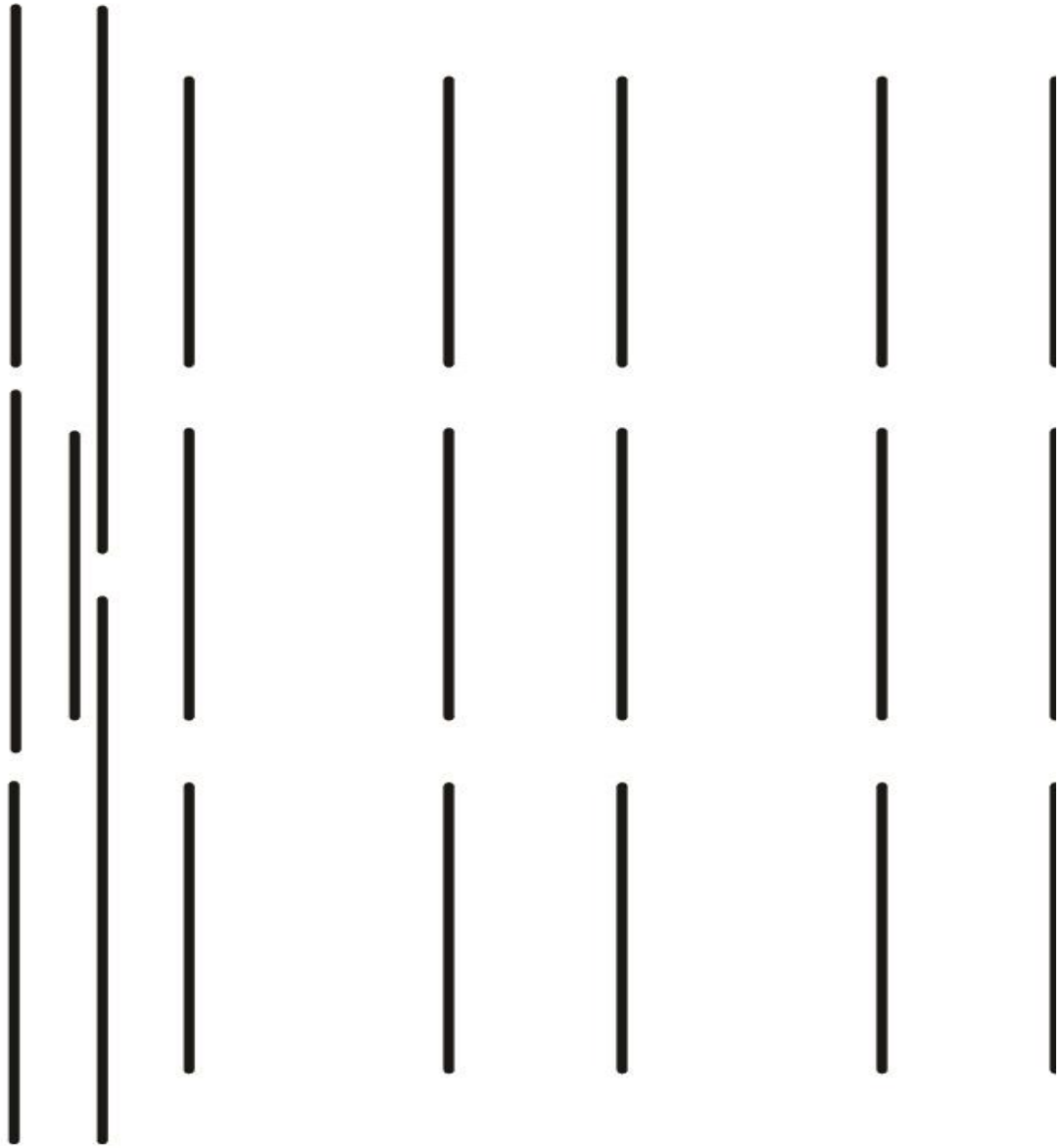
6 & 2 METER

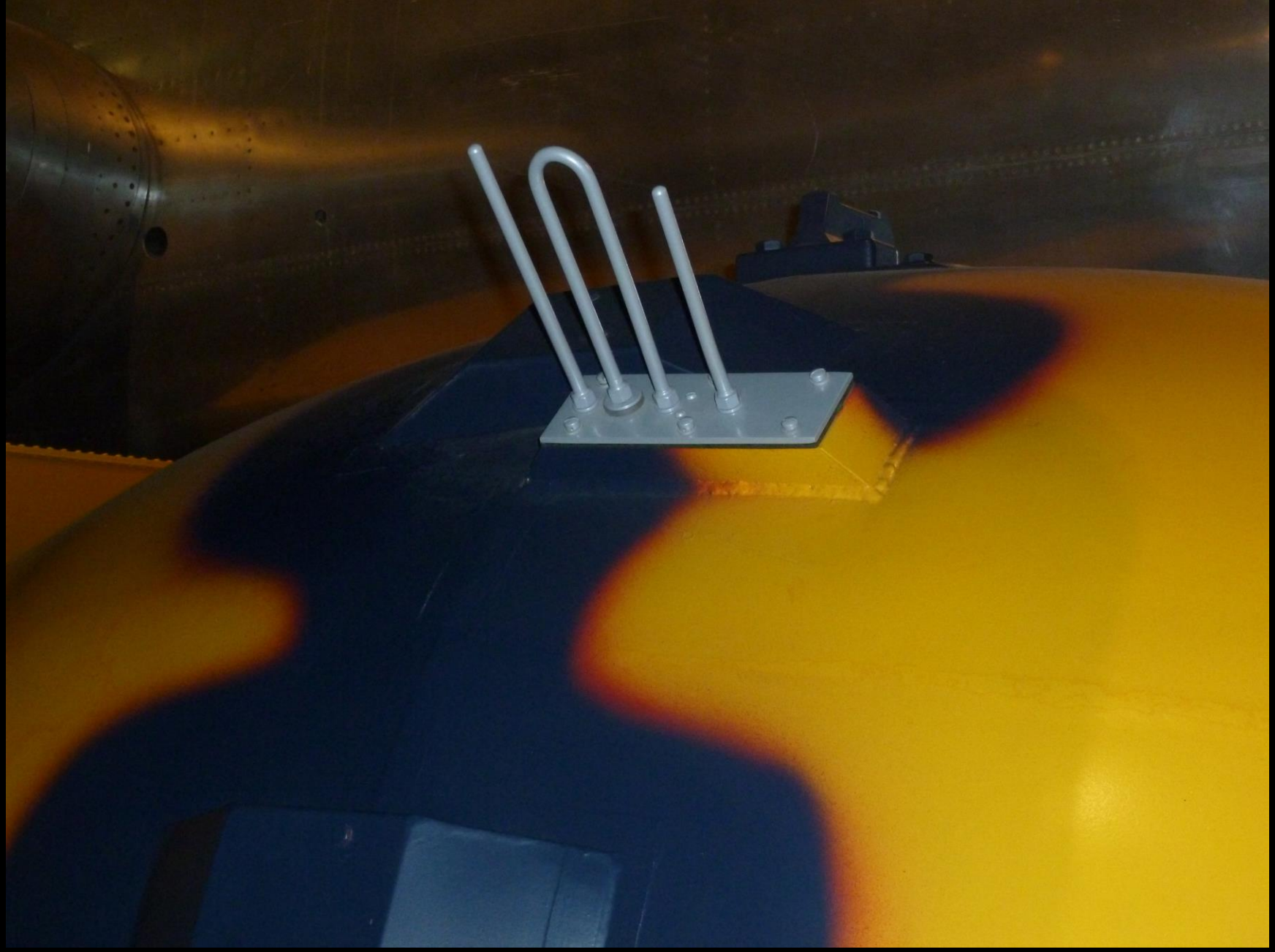
COMBINATION YAGI ANTENNA

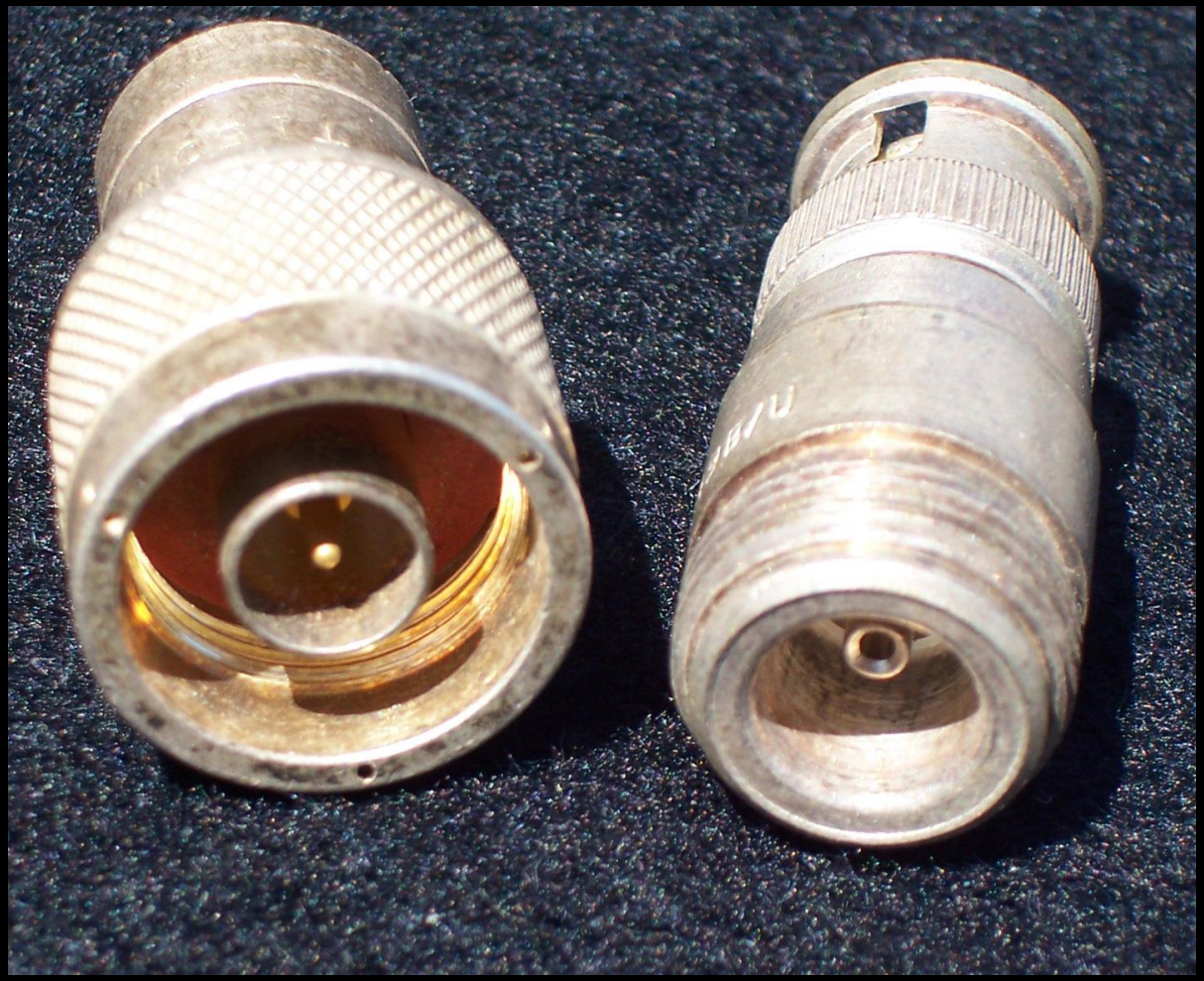
from **FINCO®**

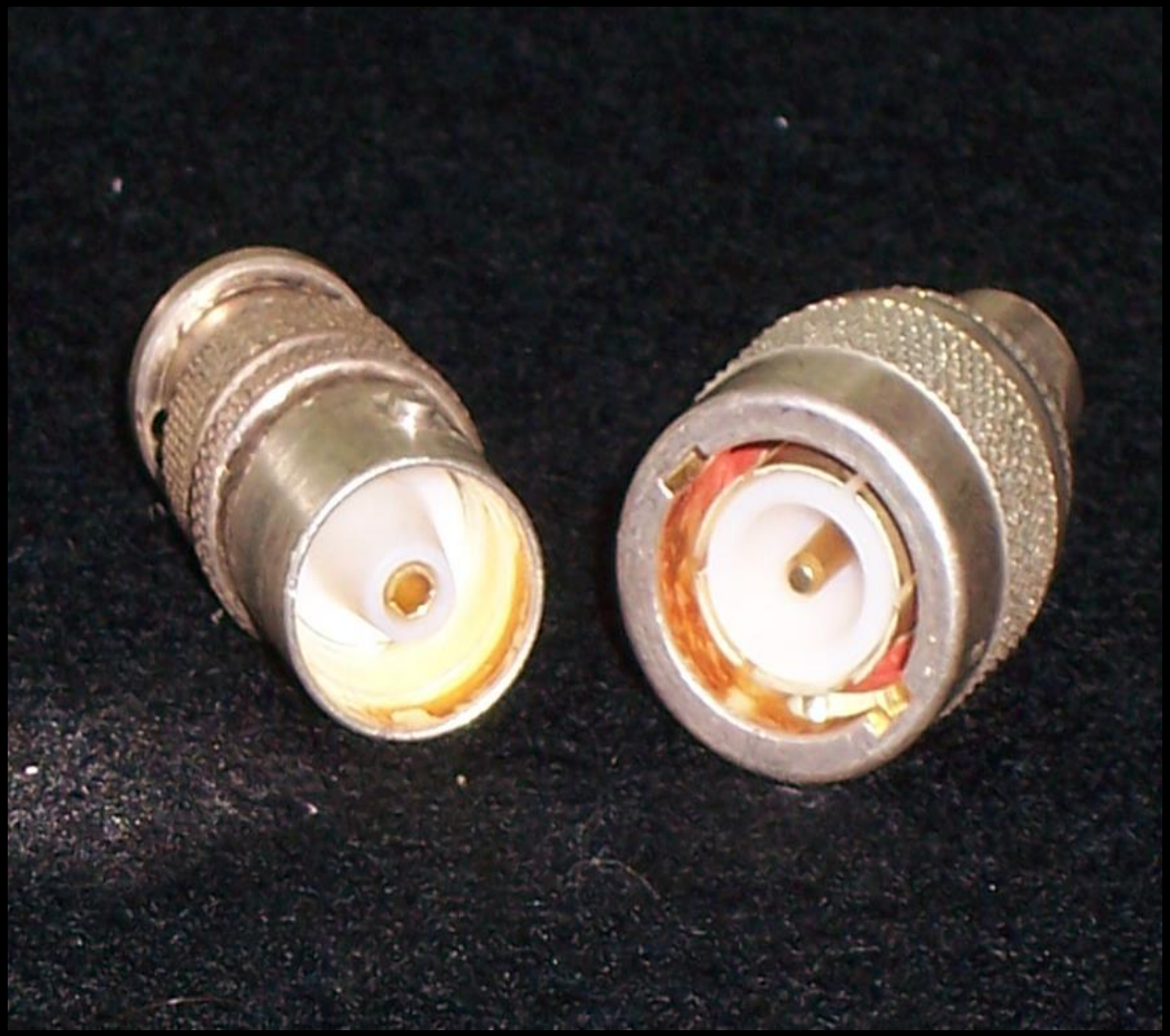


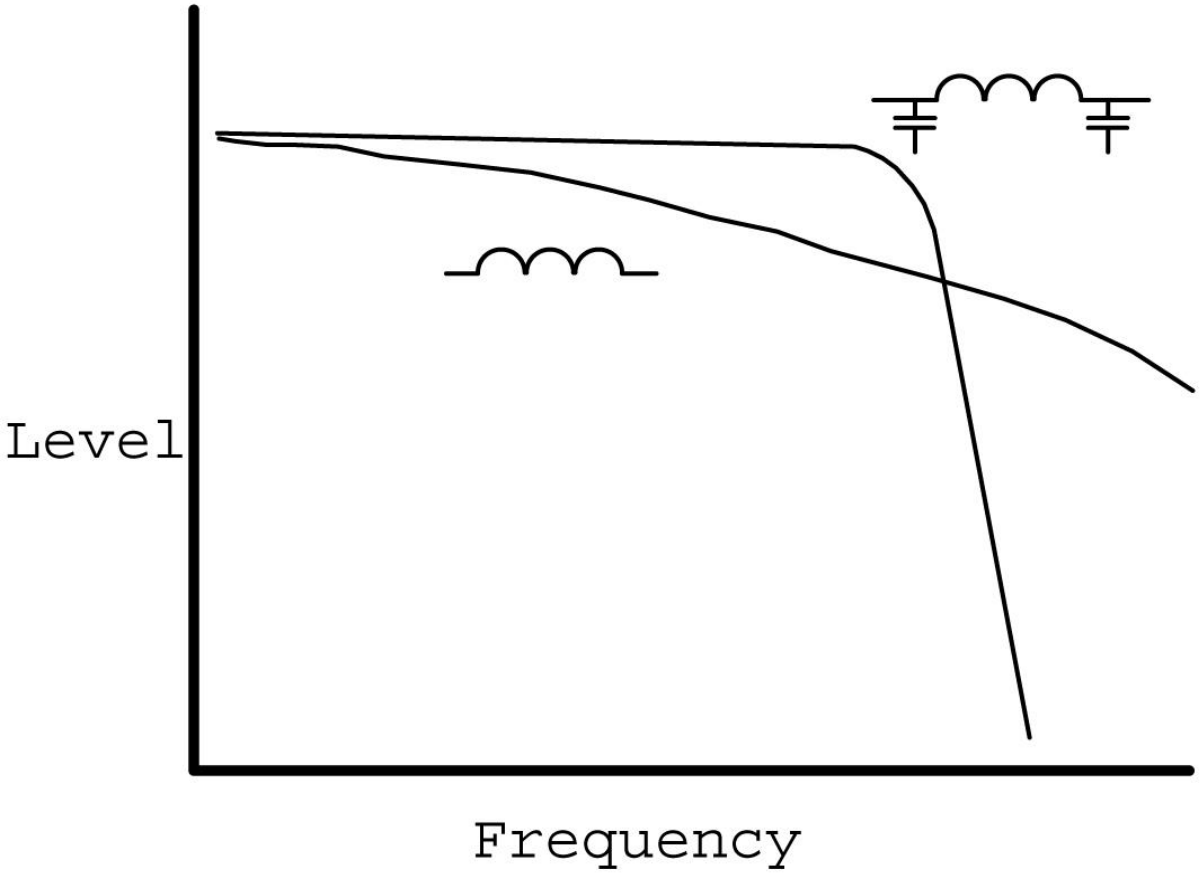











Level
Frequency