

Stealth Antennas

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Home Owners Associations

- CC&R's say the most ridiculous things
 - No transmitters on the property
 - No antennas on the property



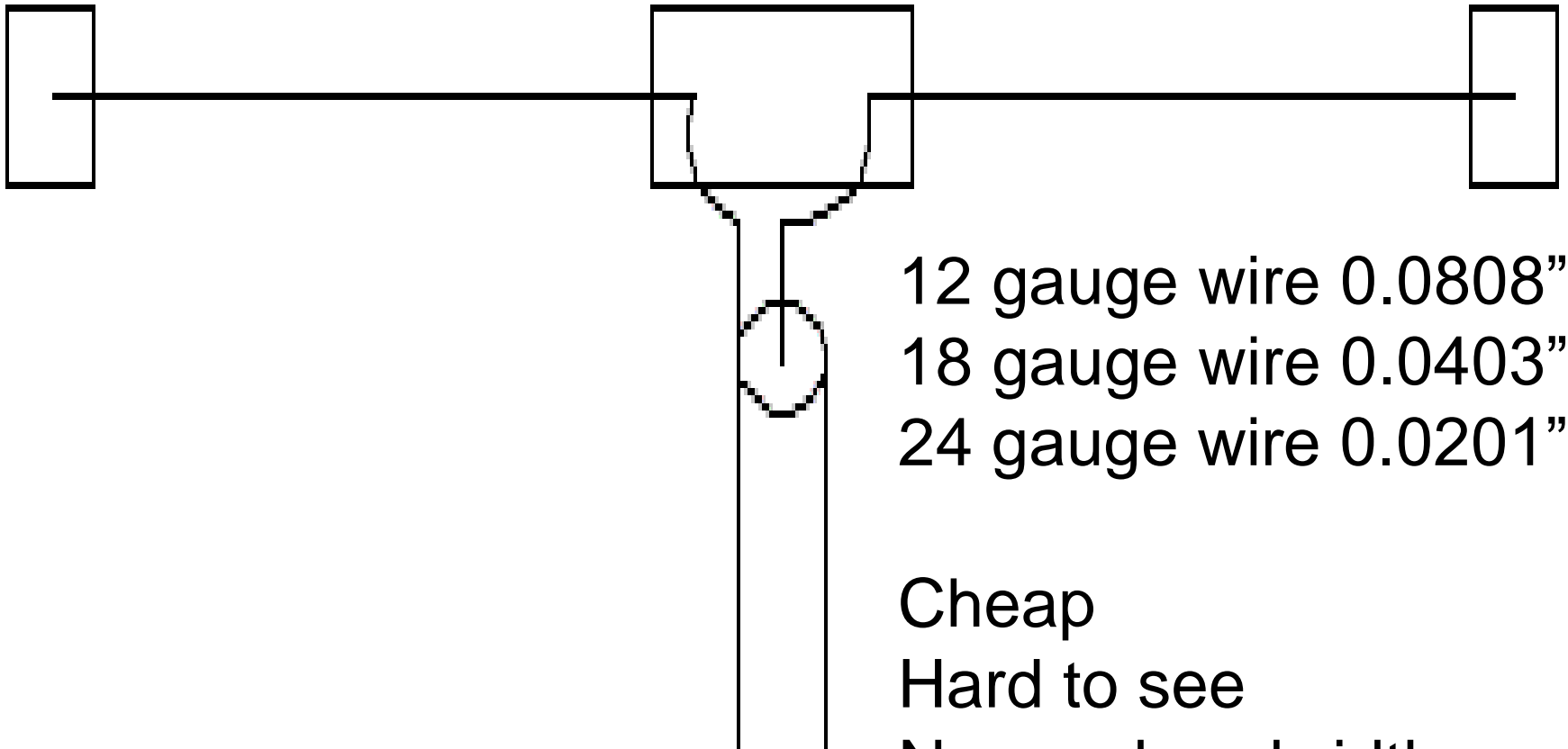
XM radio



WiMax



Dipole Antenna

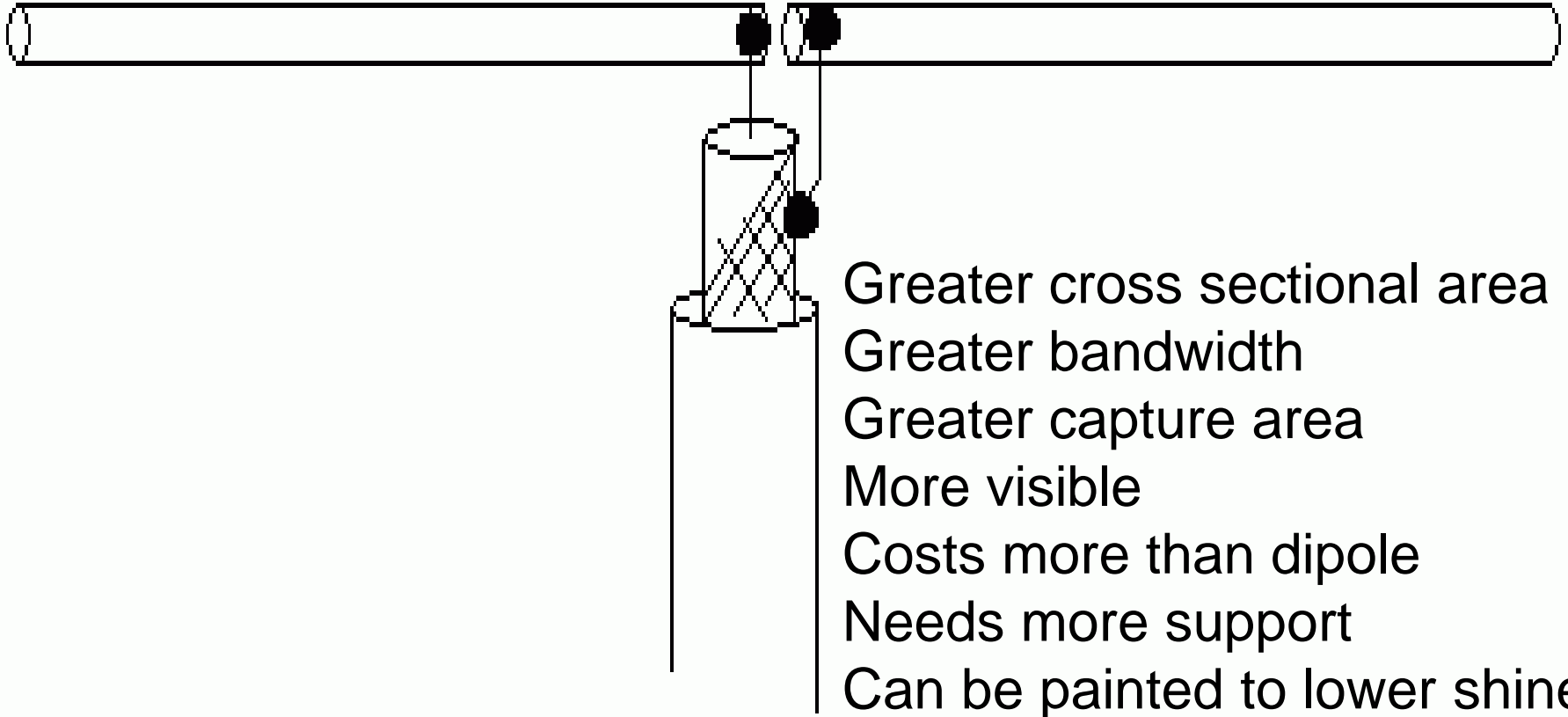


12 gauge wire 0.0808"
18 gauge wire 0.0403"
24 gauge wire 0.0201"

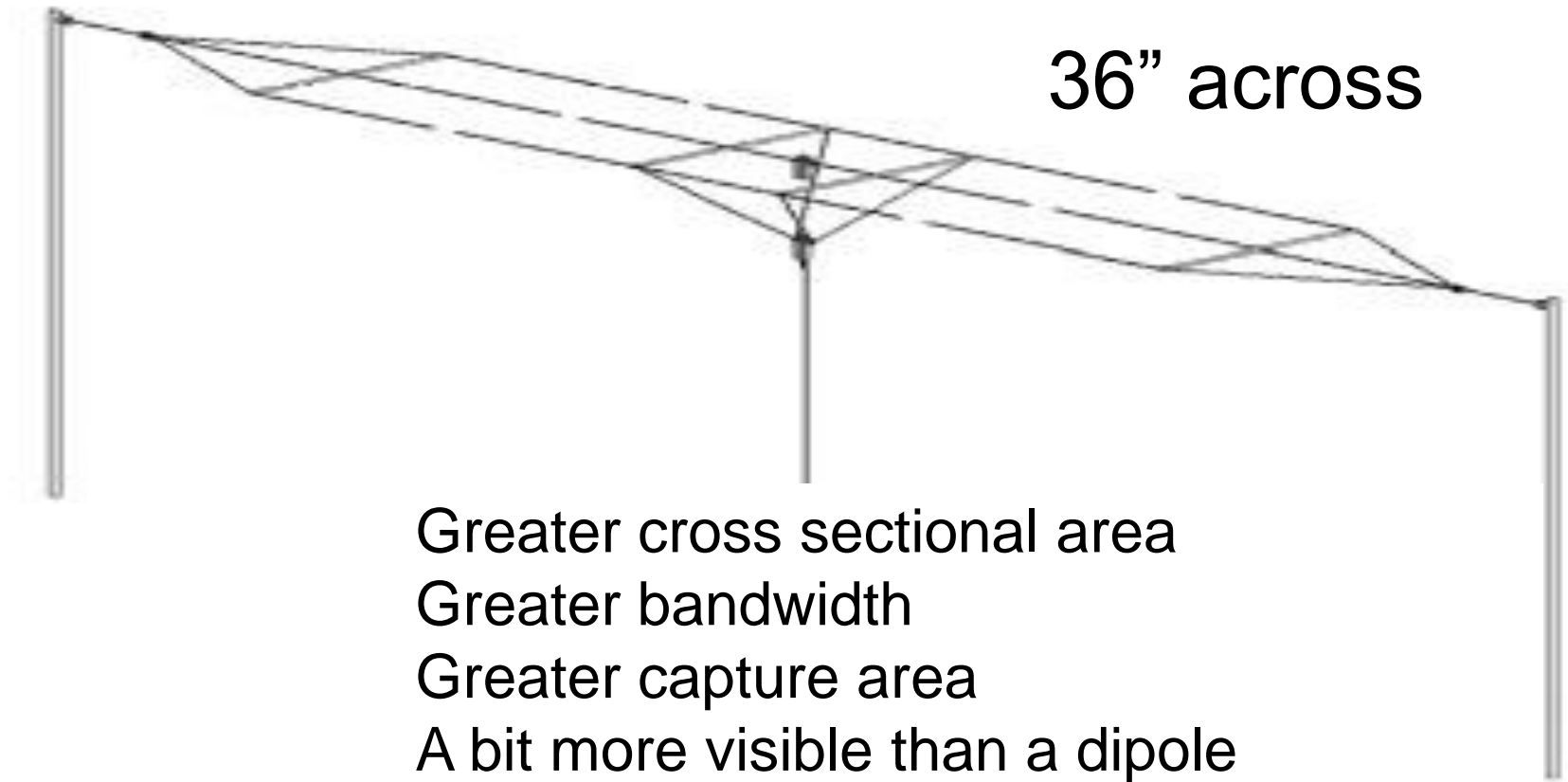
Cheap
Hard to see
Narrow bandwidth
Small capture area

Beam type Dipole

1" Diameter pipe

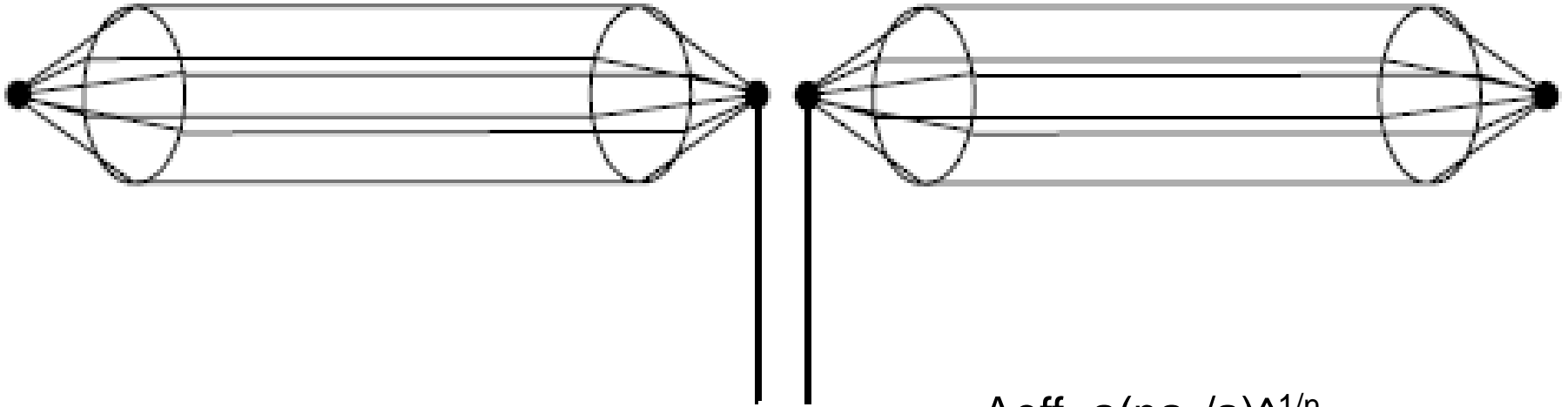


Fat Dipole



- Greater cross sectional area
- Greater bandwidth
- Greater capture area
- A bit more visible than a dipole
- Costs more than a dipole

Cage Dipole



$$A_{\text{eff}} = a(na_0/a)^{1/n}$$

a = radius of cage

a_0 = radius of each conductor

n = number of conductors

Broadband Dipole

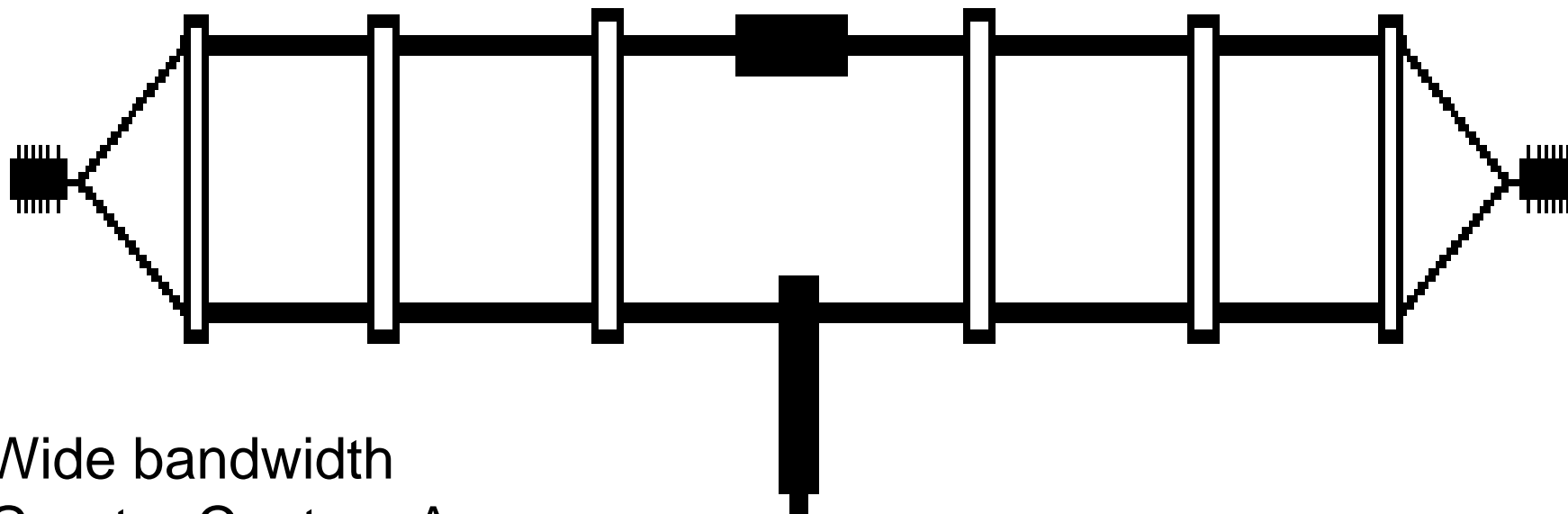


Greater bandwidth
Greater capture area
Costs more
More visible

Discone Antenna



Folded Dipole Antenna

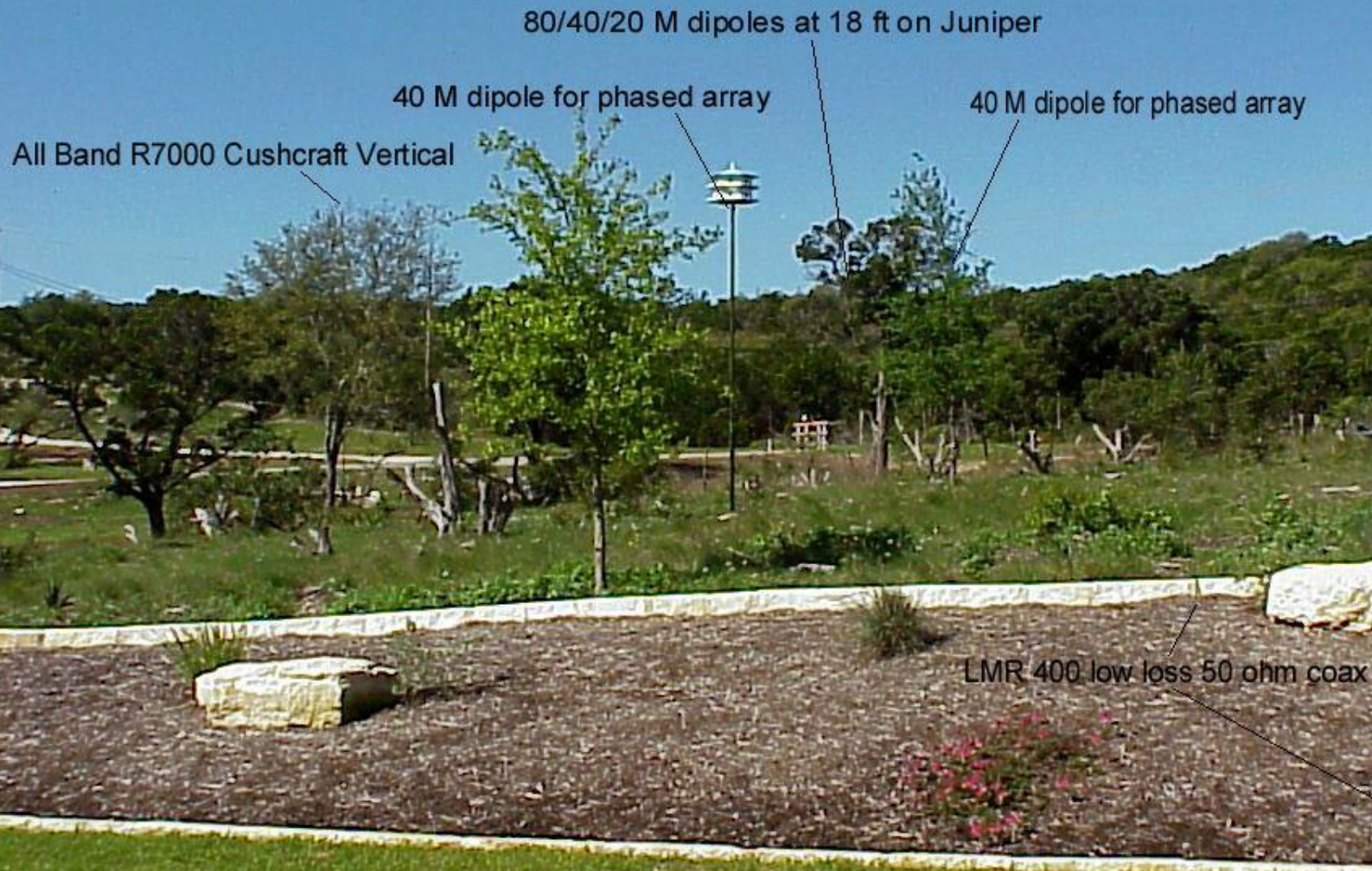


Wide bandwidth
Greater Capture Area
Low noise (Shorted ends)
Very minimal Tuning

Where is it?



K5GP Hidden Antenna Farm



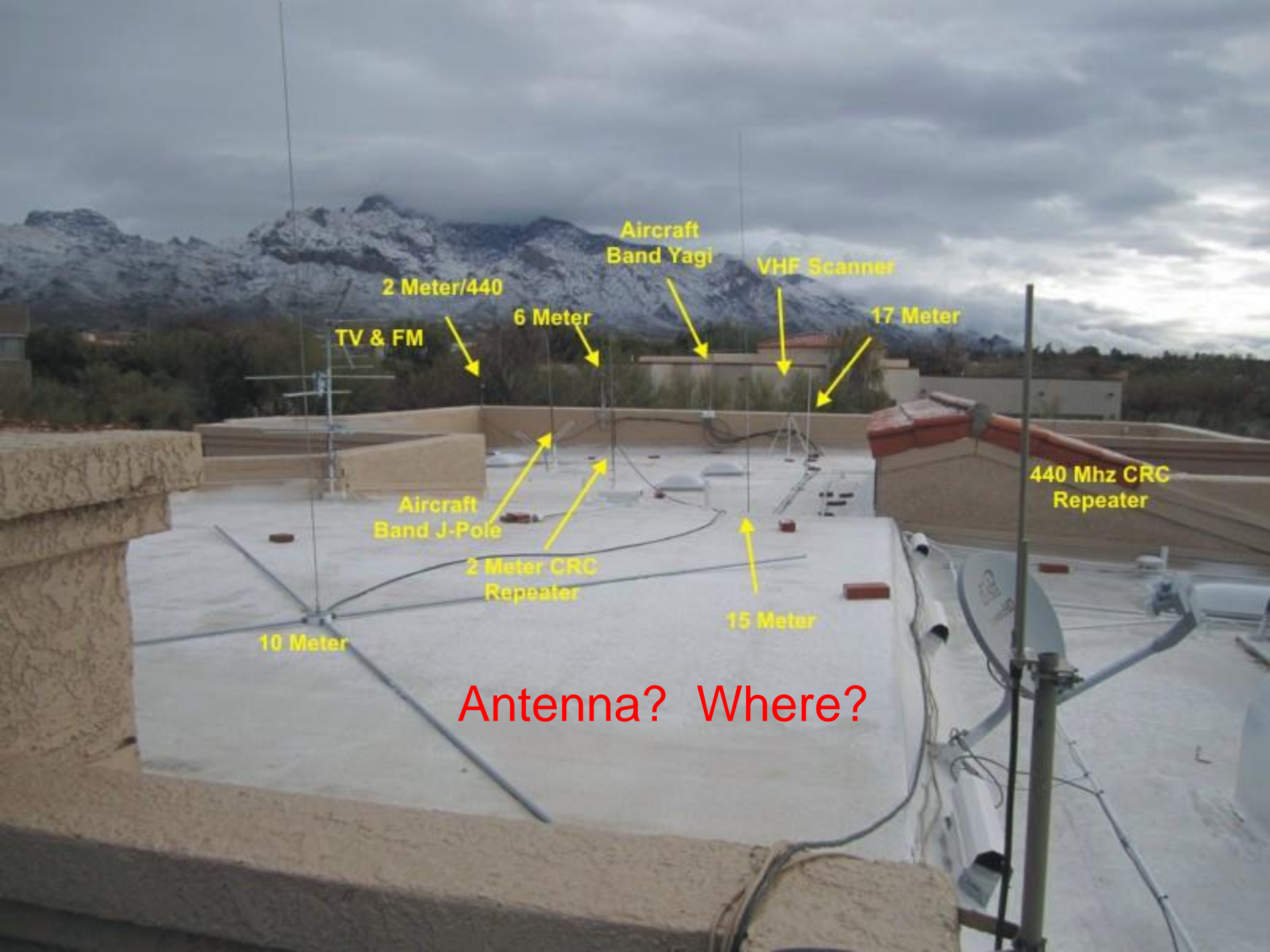
80/40/20 M dipoles at 18 ft on Juniper

40 M dipole for phased array

40 M dipole for phased array

All Band R7000 Cushcraft Vertical

LMR 400 low loss 50 ohm coax



TV & FM
2 Meter/440
6 Meter
Aircraft Band Yagi
VHF Scanner
17 Meter
Aircraft Band J-Pole
2 Meter CRC Repeater
15 Meter
10 Meter

440 Mhz CRC Repeater

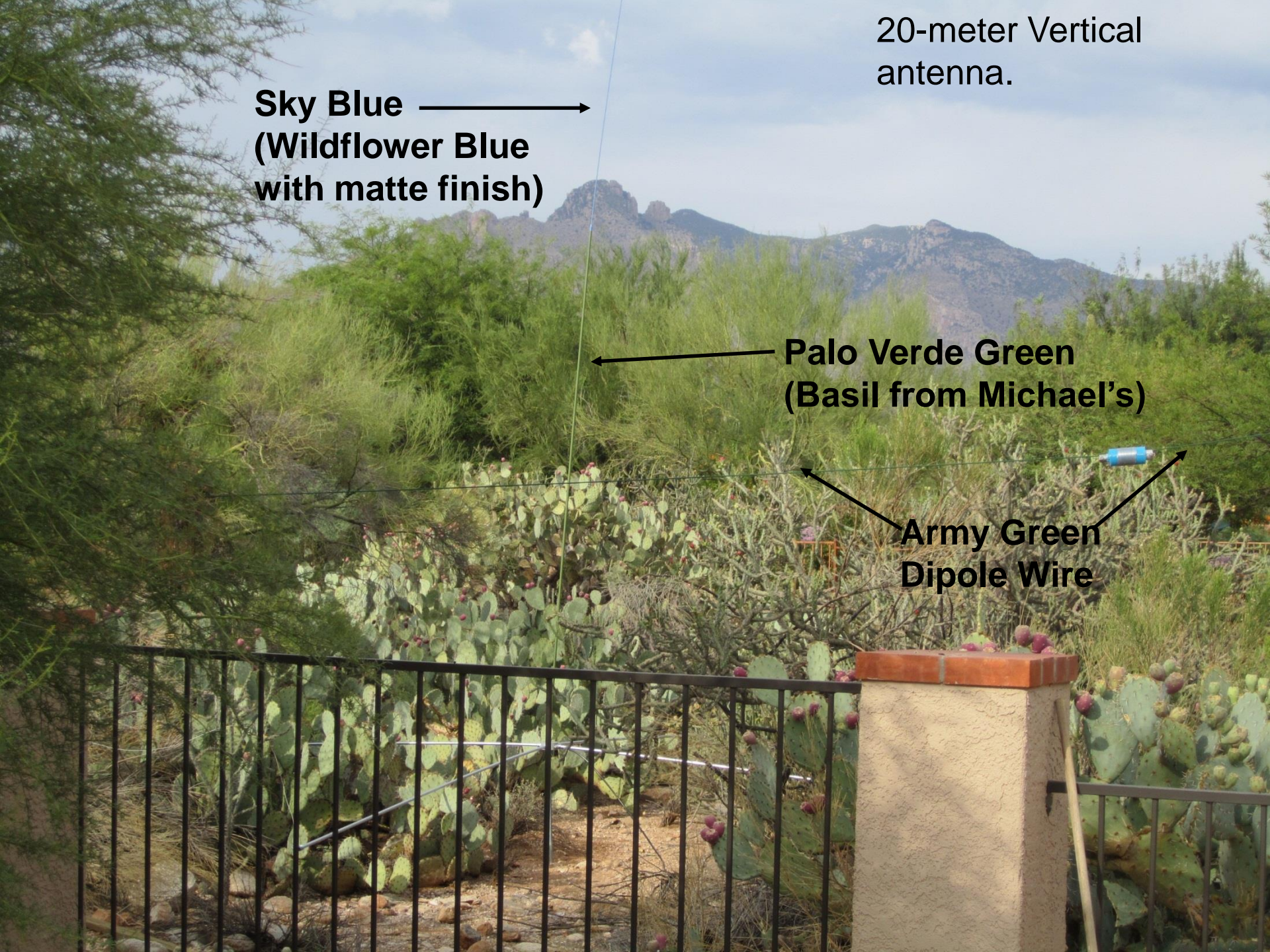
Antenna? Where?

20-meter Vertical antenna.

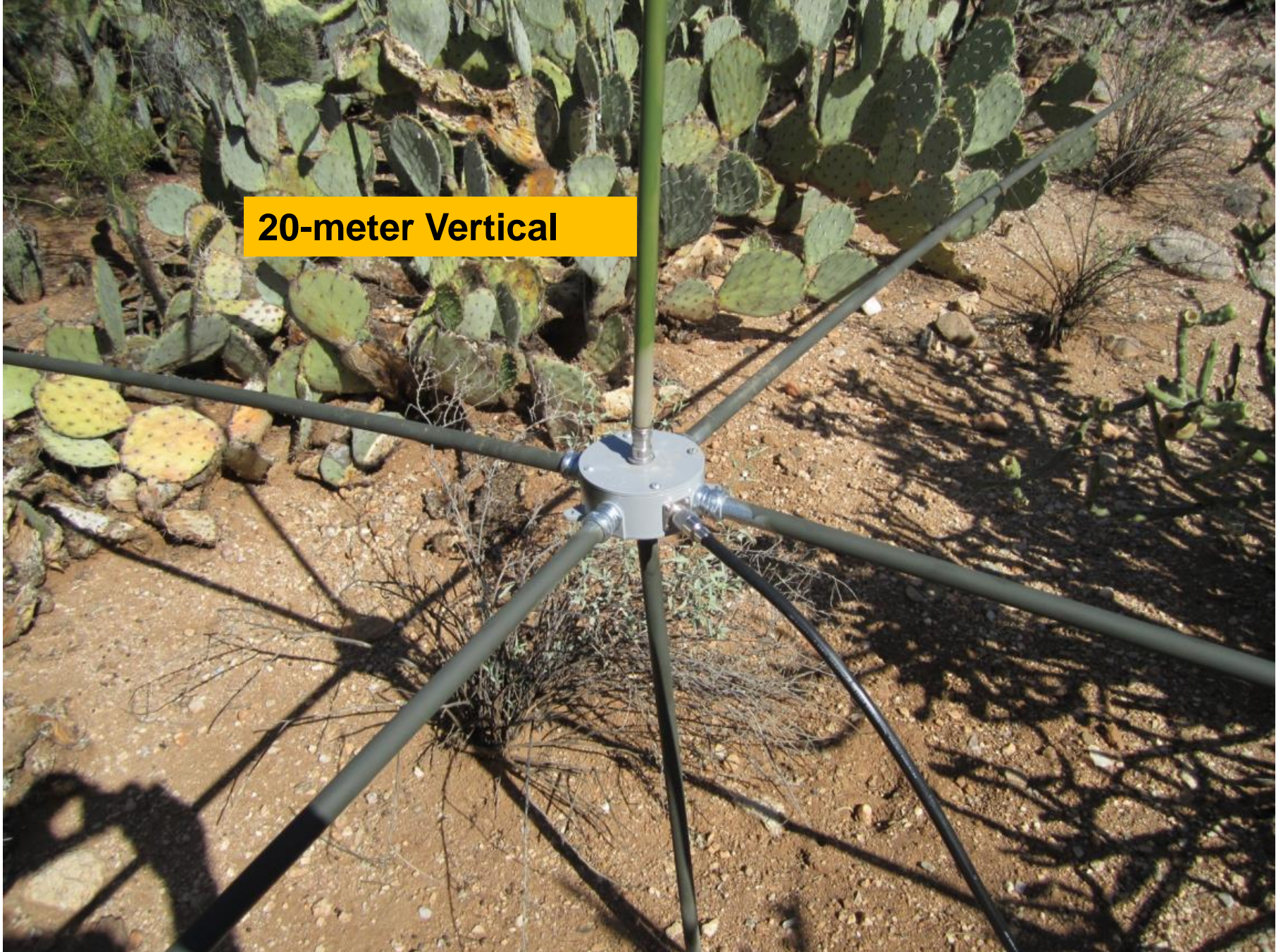
Sky Blue →
(Wildflower Blue
with matte finish)

← Palo Verde Green
(Basil from Michael's)

← Army Green
Dipole Wire →



20-meter Vertical





Dipole out of a fence (Fatness Factor) Feed with Balun



Fatness factor

2 meter Vertical
Vent-antenna





Hide with Neutral
Grey Paint

Attic antennas











Slinky Antenna

Fatness Factor

Dipole laying on roof

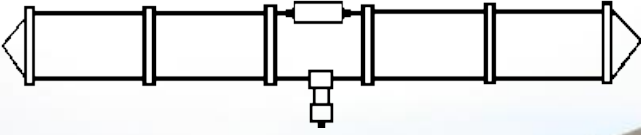




Under Eave

Very Slick installation San Diego CA



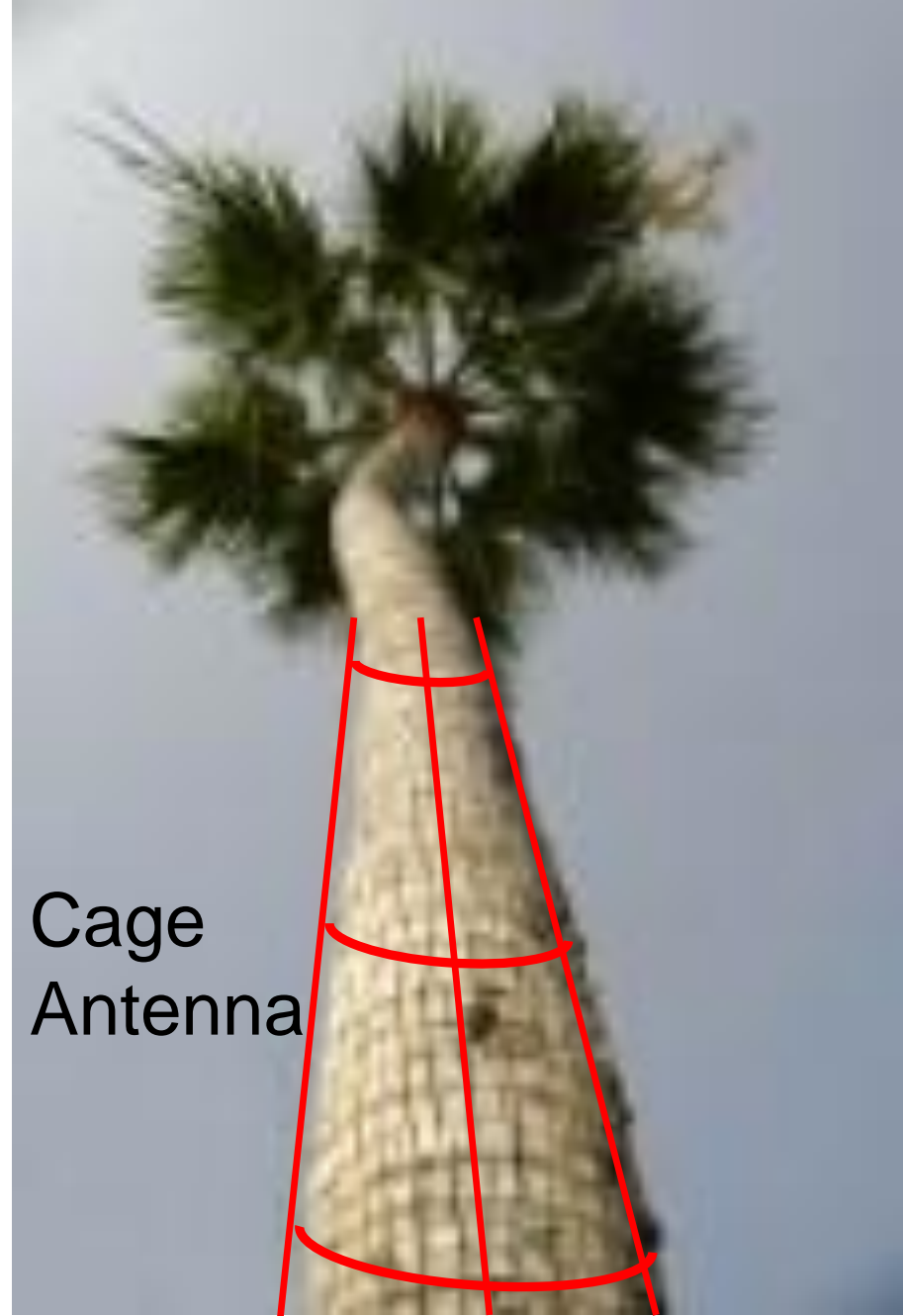


Barker & Williamson
Folded Dipole
80-6m

Fatness Factor
Low Noise
Broadband
Used by the military



Inverted
Discone

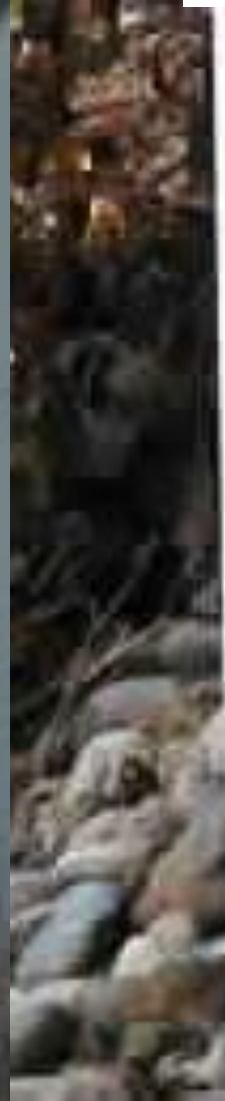


Cage
Antenna

- Mobile antennas will provide good results in confined areas
- Made by Hustler and Hot Stick
- Require a counterpoise



Rain Gutter Antenna



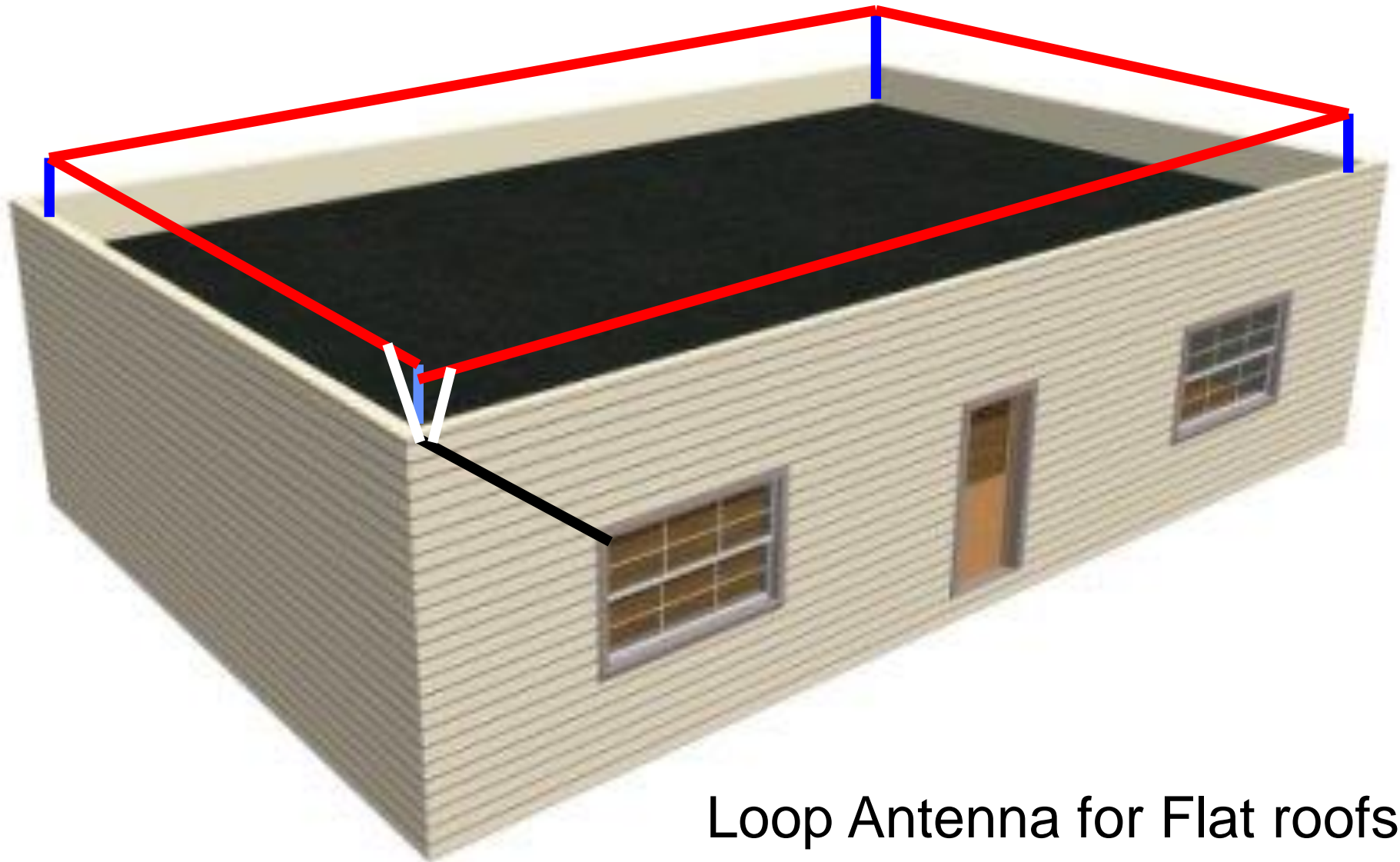
Fatness Factor



I'll turn
anything into
an antenna

Larson Antennas Tucson AZ

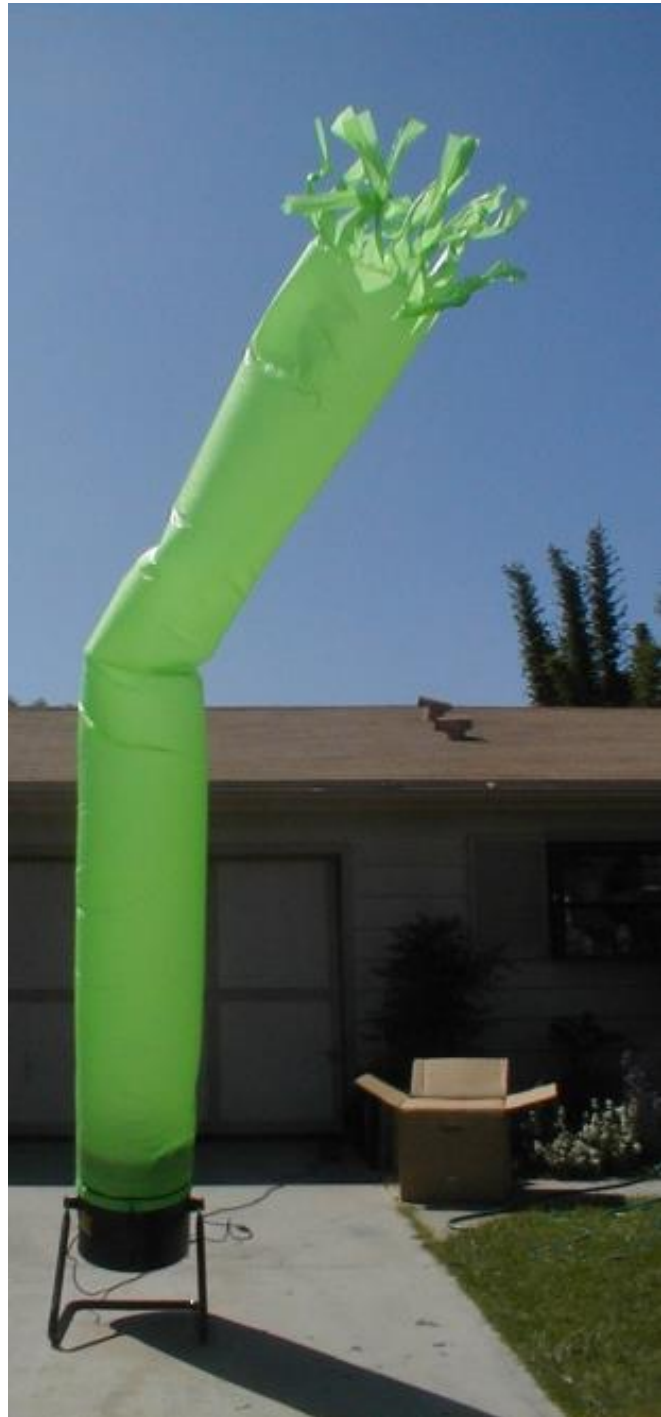




Loop Antenna for Flat roofs



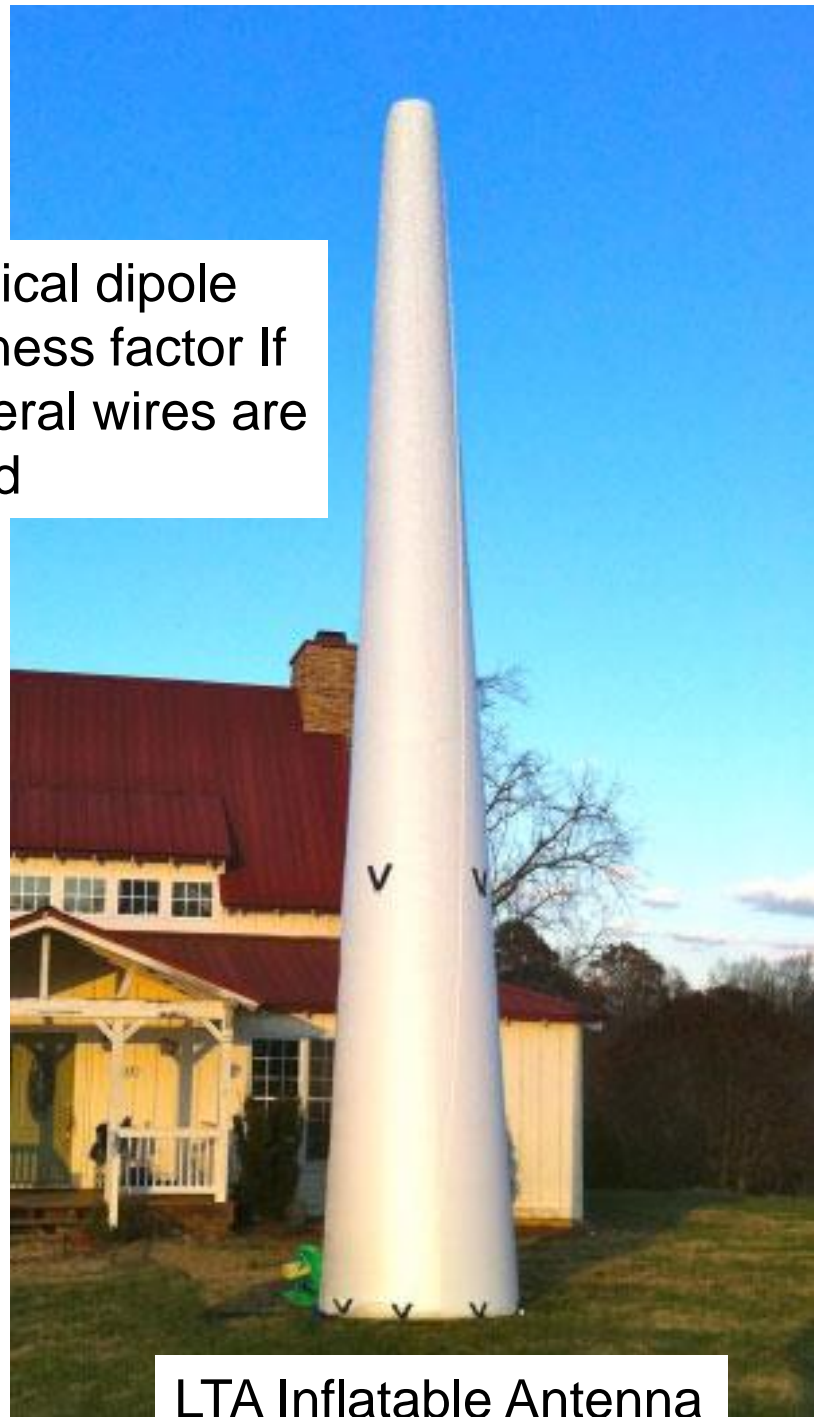
February 15, 2018 K7DF





Force 12 Sigma 5
20m-6m
Vertical dipole
Fatness factor

Vertical dipole
Fatness factor If
several wires are
used



LTA Inflatable Antenna

N6BT Bravo 5A Antenna

- Tom Schiller N6BT
 - Founder of Force 12, Inc
 - Next generation of antennas that are great for HOA's.
 - Less than 9 feet tall
 - Low profile, high efficiency
 - 5-band, remote-switched
 - 20-10m works on 6m too
-
- Bravo 7A is 7 bands 40-10m



N6BT new antennas

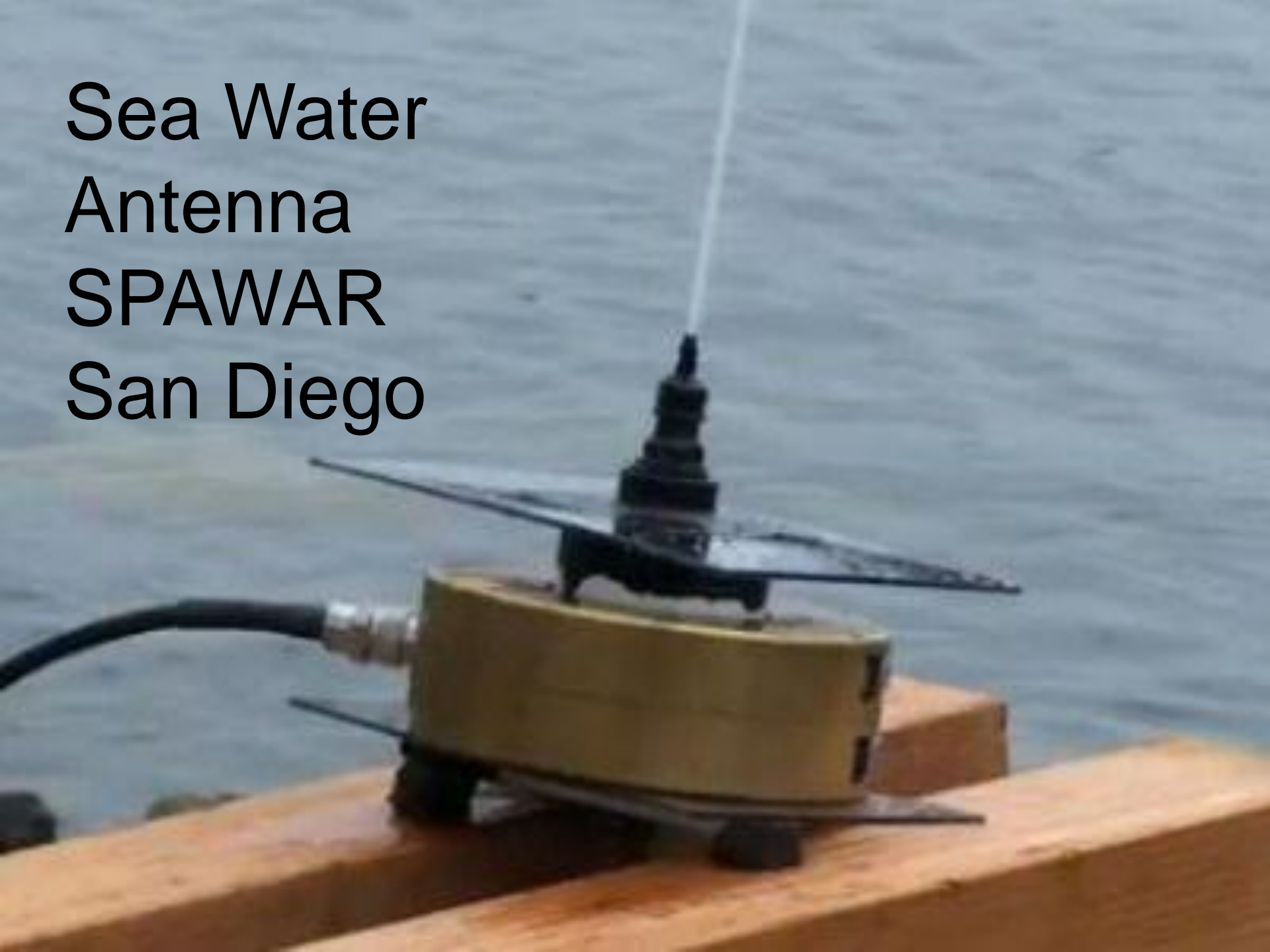
- N6BT has a new antenna
- FP-1 Sun Flower
- Operates on 20, 17 and 15m
 - *“Shown in a simple 5-gallon bucket, but should be “planted.” Remote band change or manual; only a bit over 7' tall “*
 - It was demonstrated at the ARRL Southwestern Division Convention and it worked great.
- Flamingo, Cactus and Dolphin metal sculpted antennas now available
- <http://www.n6bt.com/>
- <https://nextgenerationantennas.com/>



Antenna Tuner

- **Small/Cheap antenna tuners normally use a L-Network which is a high pass filter.**
 - **Any mis-tuning will result into harmonics and spurs**
 - **Use a Low Pass filter on the output to cut down interference.**
 - **Automatic antenna tuners optimize tuning faster than you could ever manually tune one.**

Sea Water
Antenna
SPAWAR
San Diego





Daniel Tam KE6FRY



Recirculating seawater in clear pipe

<http://www.youtube.com/watch?v=9tIZUhu21sQ>

QUESTIONS?

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