



# Contesting with a K2

“The Little Station with ATTITUDE”

Bob Tellefsen, N6WG

January 2005

# N6WG

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- QTH – Newark for 35 years
- First Licensed – 1952
- Extra in 1968
- Brass Pounder since dirt was NEW
- Full time QRP for more than 25 years

# Why a K2?

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- Met Wayne, N6KR and Eric, WA6HHQ at 1998 Pacificon
- Saw cardboard mockup
- Other potential buyers were enthusiastic
- Liked the idea
- Enjoy Kit building
- Became field Tester in 1999

# Experience with the K2

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old brass pounder – comments based on CW usage.

Receiver is all that the various articles claim for it

# S & S

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What else to start with!

- Sensitive and quiet
- Selective
  - Good nose selectivity
  - BW set during alignment
  - skirts flare – not brickwall
  - improved with DSP filter

# VFO A/B Operation

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- Good for working split
- Alternative to RIT control
  - easier to use main knob
  - slower tuning
- VFO memory – recall a station

# Contesting Issues

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- key clicks from loud stations – cause you can get closer to them
- AGC not strong enough – headphones are a problem
  - okay for non contesting: FAST, SLOW, off
- RIT disabled with internal auto-CQ

# Why contest with a K2?

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- Only rig in shack
- Previous rig was a TS180
  - it's been retired





# Contests!

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- ONLY QRP CW (what else is there?)
- Field Day
  - ACRC 1<sup>st</sup> place 8A battery QRP – 20 years
- 40M Fox Hunts
- DX contests
- Domestic contests
- Favorite contest bands (In order)
  - 160m, 10, 40m, multiband

# 40M Fox Hunting

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- Every Winter, once a week
- 2 stations in different parts of country, on separate freq.
- Much like working a DX pileup
- 100 QRPers in full cry raise a lot of dust
- 1<sup>st</sup> place team in 2000
- Fox 6 times in 6 seasons

# 40M Fox Hunting...

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- Good learning and practice for contesting
  - Timing of call
  - Calling Frequency
  - Speed difference – slower than pack





# DX Contest

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- DXCC QRP
- Improve on previous effort
- Contribute to NCCC fame and glory



**ARRL**  
The national association for  
AMATEUR RADIO

# QRPDXCC

This Certifies that

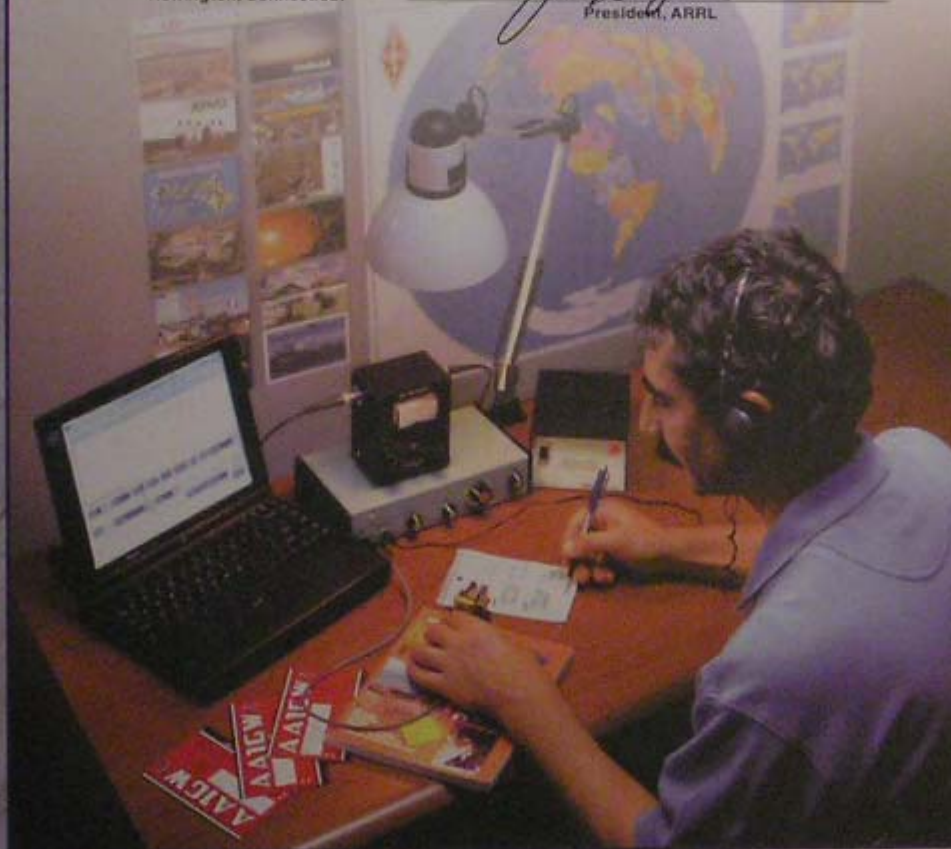
Robert N. Tellefsen, N6WG

Has this day submitted an application showing contacts with at least 100 different locations on the ARRL DXCC List and has certified that this has been accomplished using a transmitter power of five watts or less. In the proud tradition of DXCC, this award is issued in recognition of this outstanding achievement.

December, 2004

Newington, Connecticut

*Jon Hejz*  
President, ARRL



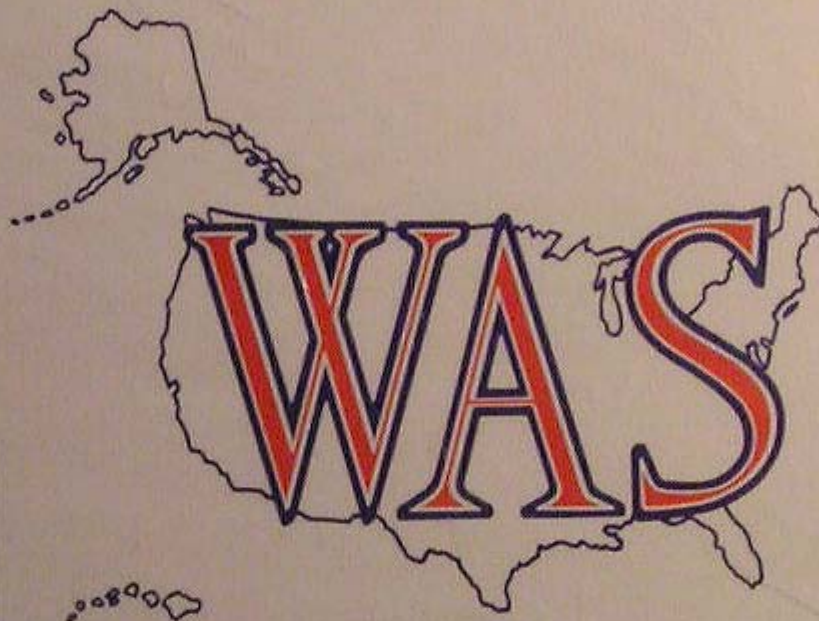
# Domestic Contests

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- Keep up the FD record
- W.A.S.
  - 40m QRP
  - 40m 2 way QRP
  - 160m QRP
- NCCC



# THE AMERICAN RADIO RELAY LEAGUE



**CW**

MAR 02 1993

**40  
METERS**

**BOB TELLEPSEN, N6WG**

has submitted confirmation of having conducted two-way communication  
with amateur stations in each of the states constituting the United States  
of America.

**46,819**  
Award Number

**March 2, 1993**

*Larry E. Price* N4VLA  
President

*John L. Lush* W1XX  
Communications Manager







30

# WAS ~ QRP

40

This is to certify that **Bob Tellefsen N6WG** has on  
the date of **January 5, 2002** submitted evidence of successful  
two-way communications with twenty of the United States of America, while running a power  
output of five watts or less.

This certificate is presented in recognition of this meritorious QRP operating achievement.

Endorsements:

**50 States - All CW - 5 Watts**

**40 Meters - 2 Way QRP**

20

50

Cert. No.

**480**

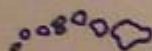
QRP ARCI

*John DeW* WI8W  
Awards Manager, QRP ARCI





# THE AMERICAN RADIO RELAY LEAGUE



Robert Tellefsen, N6WG

has submitted confirmation of having conducted two-way communication  
with amateur stations in each of the states constituting the United States  
of America.

#786

*Jim Sigel* W5JBP

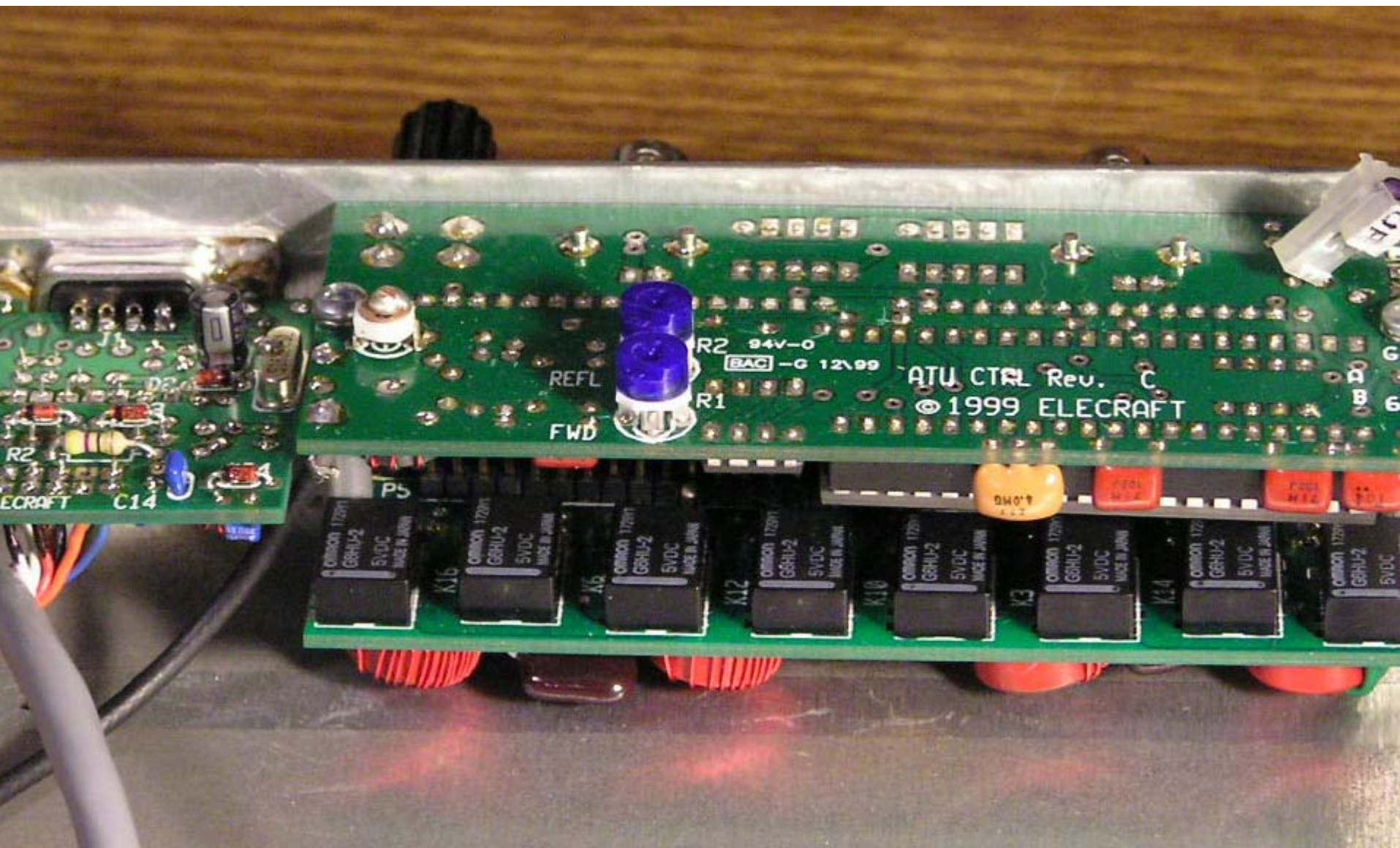


# N6WG Station

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- K2 needs some accessories
  - 160m – K160 aux RX input
  - ATU – KAT2
    - 2 TX/RX ant ports w/memory by band
  - Band Decoder – KRC2
  - Homebrew Antenna Switch



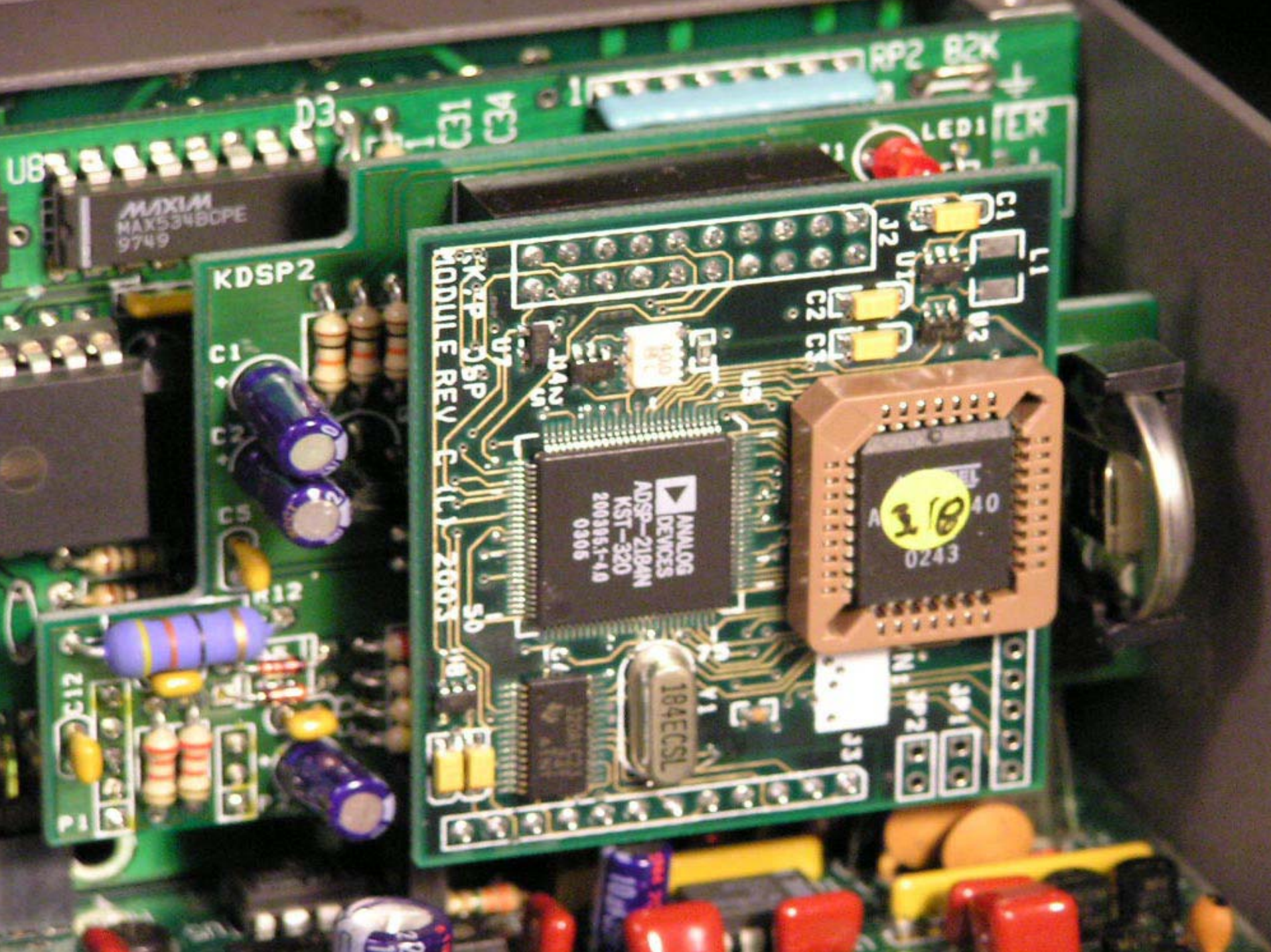


# DSP

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- Internal DSP – KDSP2
  - Selectivity Supplements IF crystal filter
  - Noise reduction is effective
- External DSP Timewave DSP-59+
  - additional noise reduction
  - additional selectivity
  - additional audio amplification





MAXIM  
MAX5348DPE  
9749

KDSP2

MODULE REV C (C) 2003

ANALOG  
DEVICES  
ADSP-2184N  
KST-320  
200306-10  
0305

318  
0243

184ECSL

# Logging

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- Laptop running TR
  - COMPAQ AERO @ 33MHz
  - External monitor and Keyboard
  - W1WEK KEYING I/F
  - Works FB with K2 data interface
  - still learning all the features in TR
  - No spotting – want to stay in QRP SO category.

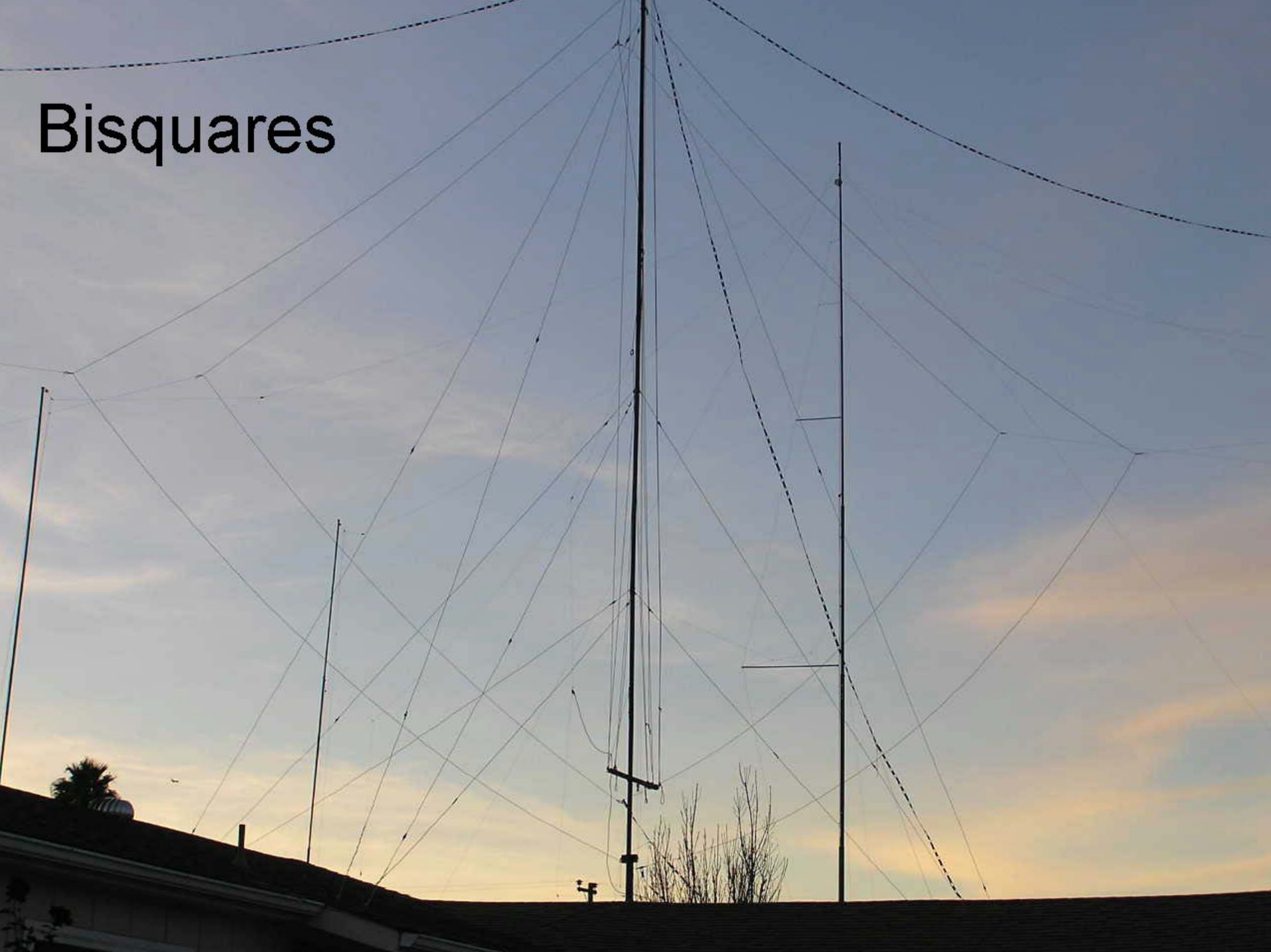
# Antennas

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- What QRP stations lack in power, they make up in antennas!
  - 10m bisquare E-W
  - 15m bisquare E-W
  - 20-40-80 60 ft dipole with tuned feeders
  - 160m has it's own array



# Bisquares



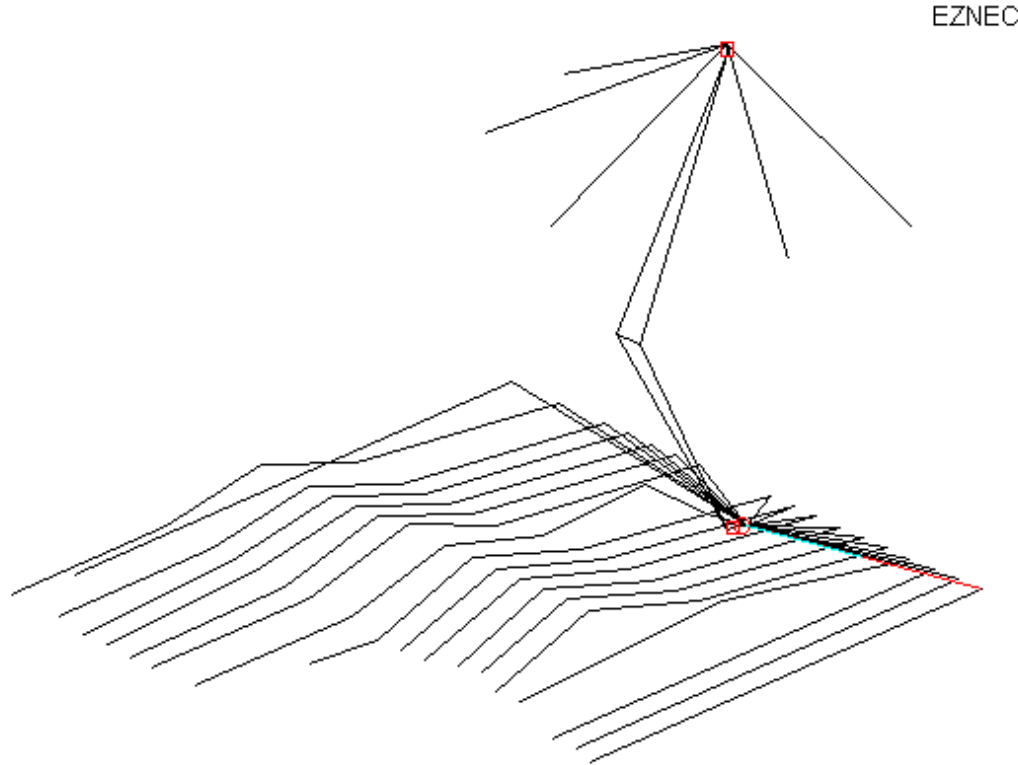
Dipole 80-40-20m



# 160m Antennas

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- TX 50 ft top loaded vertical
  - remotely tuned – 12v DC motor on cap
  - Overhead counterpoise
    - fence wires
    - counterpoise
- RX full size Flag loop
- RX rotatable fixed-tuned loop
  - slipping guy point
  - portable base



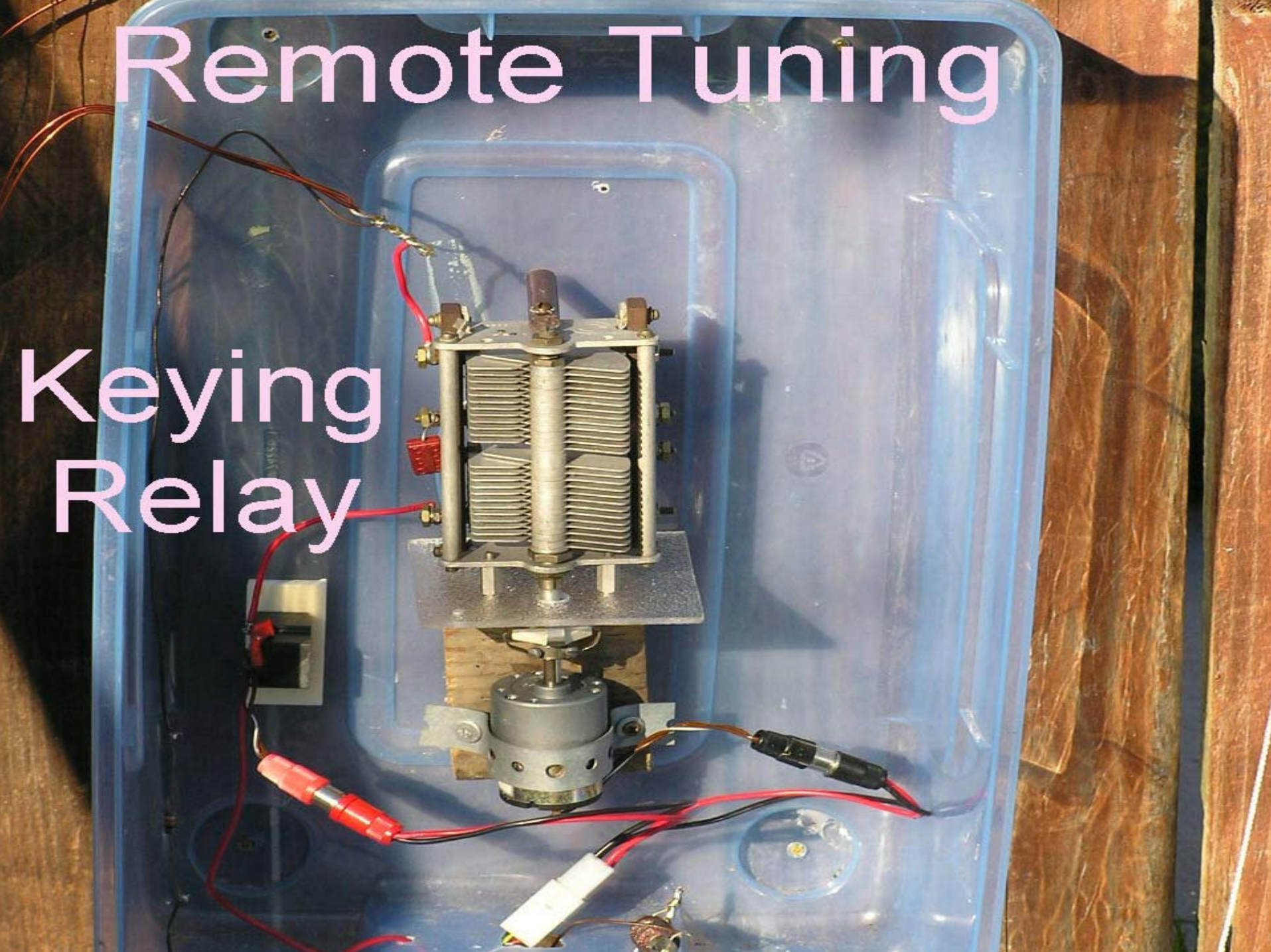
## Final version of N6WG Top Band Vertical

Counterpoise ranges from 6 ft to 13 ft above ground.



# Remote Tuning

## Keying Relay



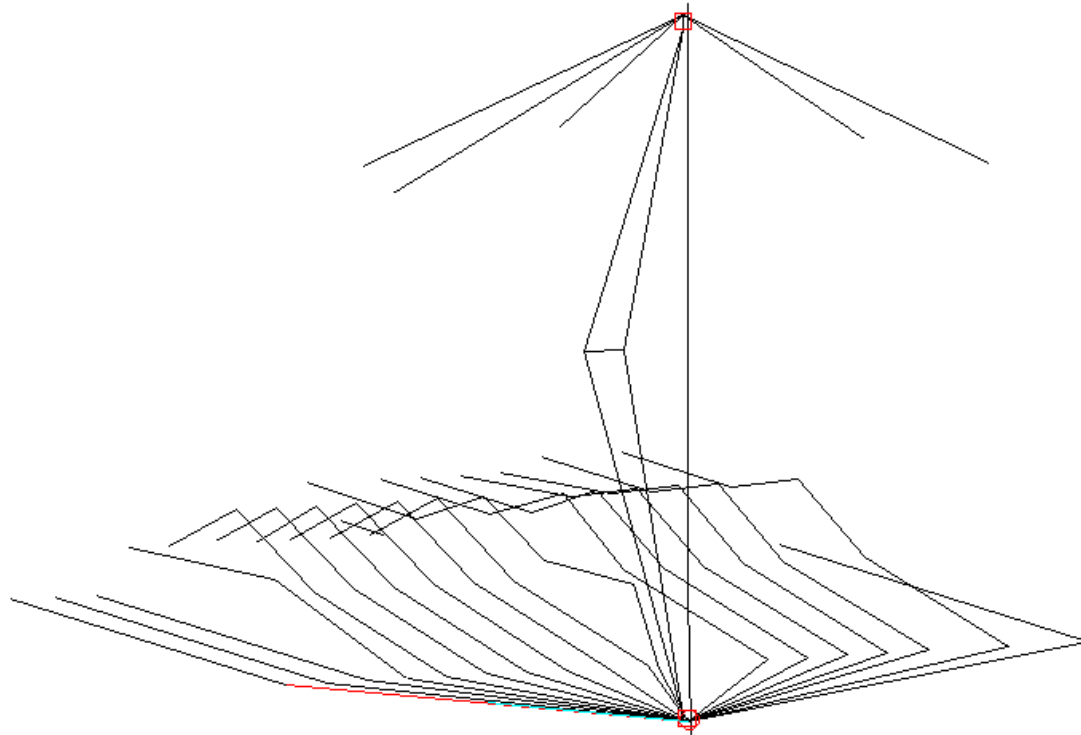


Matching  
Xfmr



A photograph of a cylindrical decoupling coil. The coil is constructed from many thin, dark-colored wire turns, which are densely packed and overlap each other. It is mounted on a white, circular, flat-topped core. The entire assembly is placed on a dark, weathered wooden surface, which appears to be a large spool or a piece of plywood. A single black wire extends from the side of the coil, hanging down. The background shows more wooden planks and some green grass at the bottom. The lighting is bright, casting shadows.

Decoupling  
coil

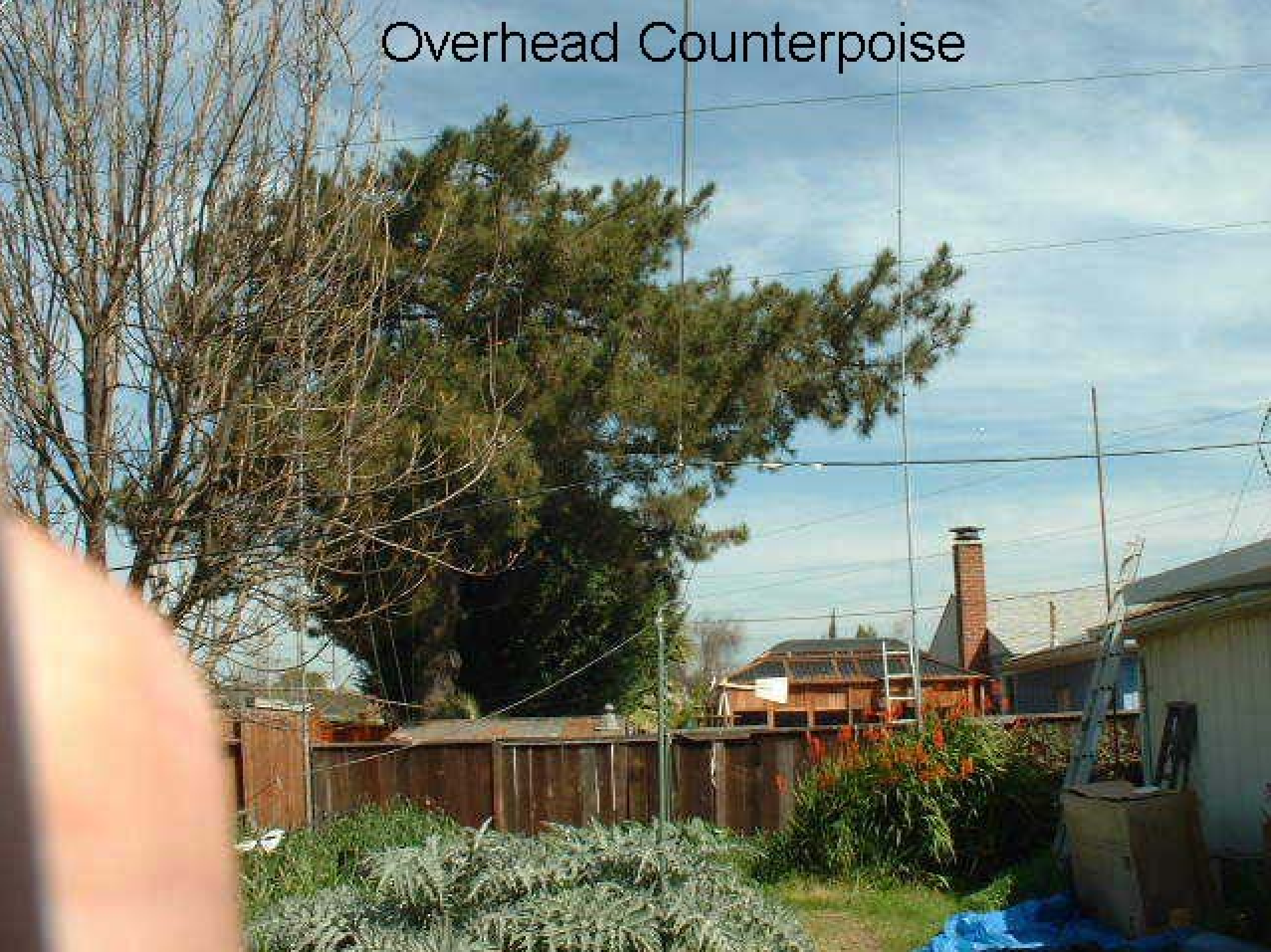


Counterpoise and vertical viewed from back corner of yard..

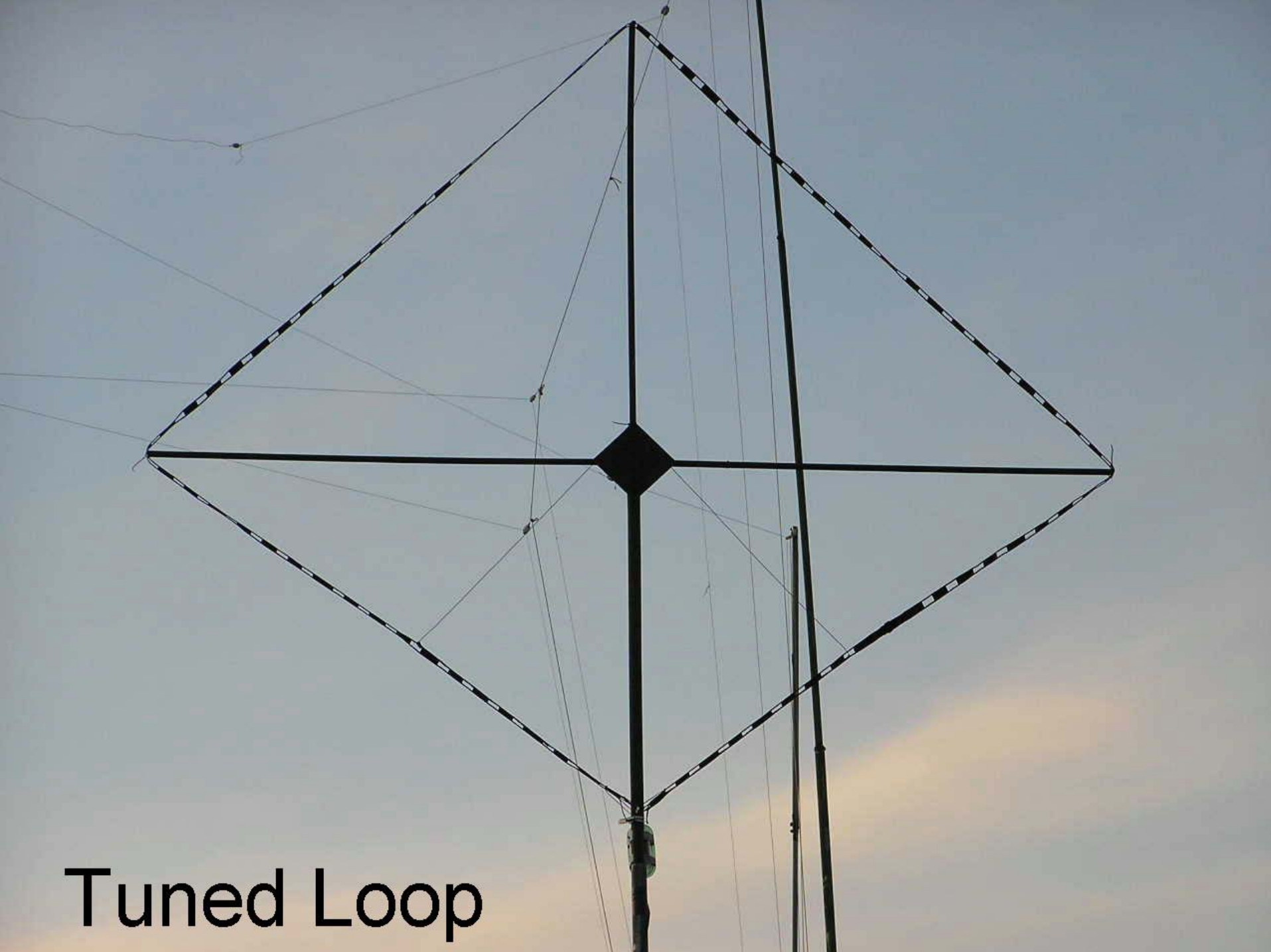




# Overhead Counterpoise







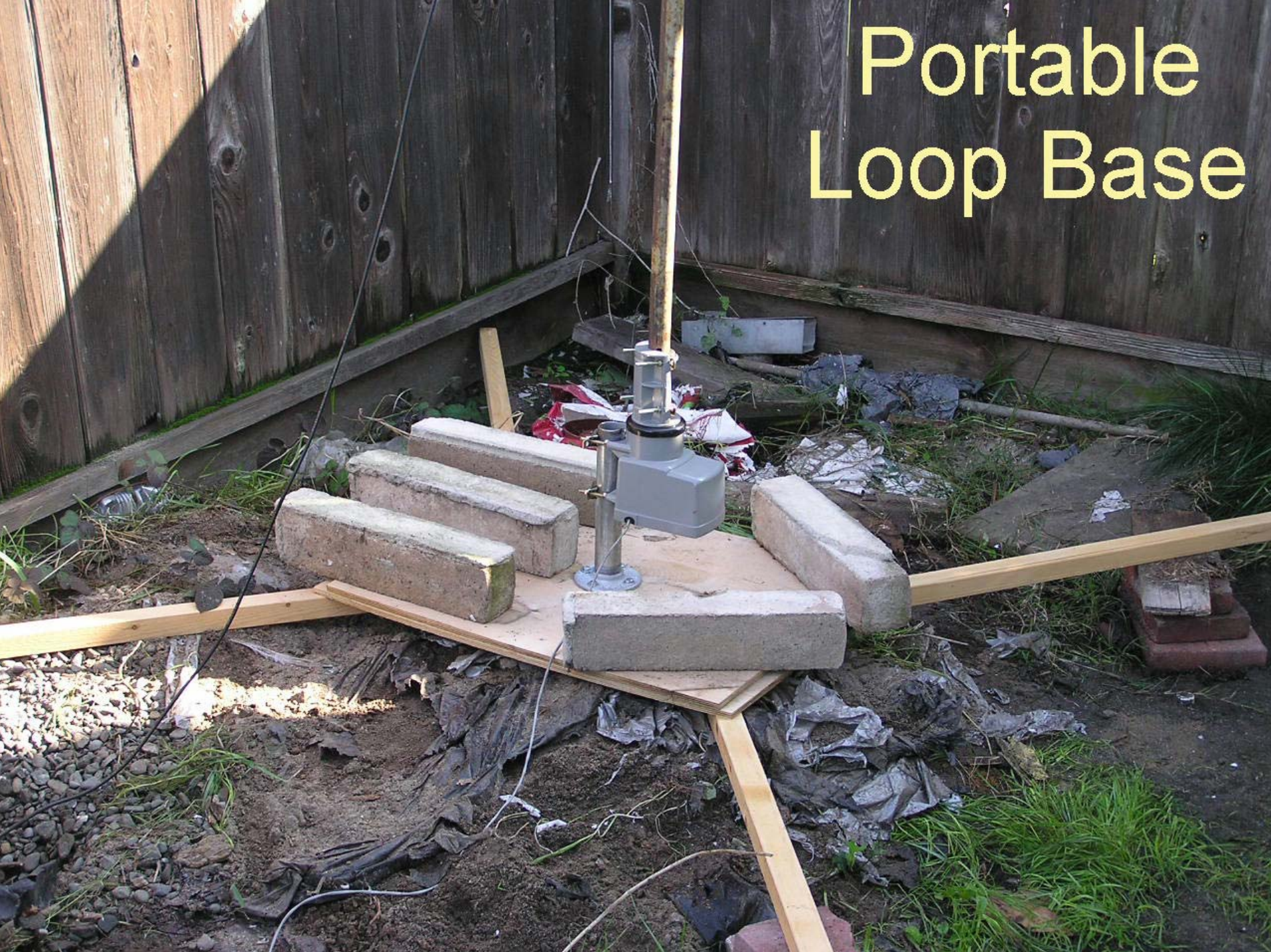
Tuned Loop

# Slipping Guy Point





# Portable Loop Base





# Contesting – The Problems

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- Can't hear weaker stations that others do
  - flag loop works
  - tuned loop works
  - receive on vertical in rare quiet conditions
  - need improvement!
- CW speed demons that never slow down
  - No QSOs with N6WVG!

# So...

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- Would I do it again – You Bet
- Would I recommend it?
  - that depends...
    - if experienced QRP op – yes
  - for those that haven't operated QRP
    - try QRPPing for awhile
    - Life may be too short for QRP
    - It definitely takes a person who enjoys a challenge