









EI7TRG March 2016

EI1A



Olivier Vandenbalck ON4EI/EI8GQB

AGENDA

- Introduction
- 2008 – 2009 1st HF Contests EI/ON4EI 
- 2010 Islands expeditions EJ8GQB  
- 2011 Campervan period EI8GQB 
- 2012 Caravan & Green Energy  
- 2013 EI1A SO2R Top Europe station  



INTRODUCTION

INTRODUCTION

- Olivier V. born in 1967.
- 1st receiver SW @ 12 years old.
- Telecommunication Engineer.
- HAM license in 1986 with ON1KOP.
- Member ON7WR Waterloo (contest U-SHF 90's)
- HAREX license in 2004 with ON4EI.
- Wedding in 2006 with Irish princess.
- Irish call in 2010 with EI8GQB.
- Contest call in 2012 with EI1A

INTRODUCTION

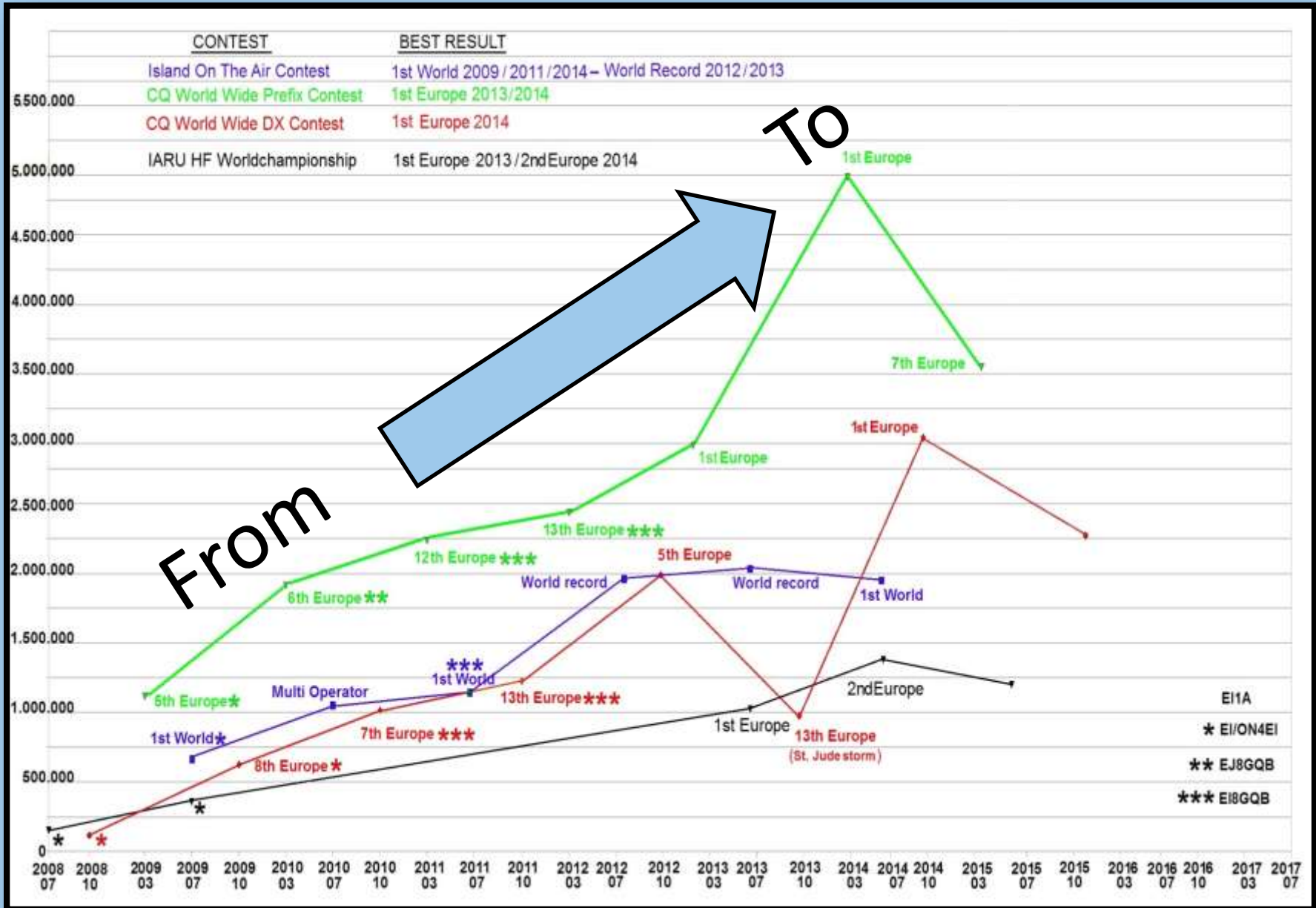
From



To



INTRODUCTION



1st Contests HF EI/ON4EI 2008-2009



2008 – 2009 1st Contests HF EI/ON4EI

Fethard



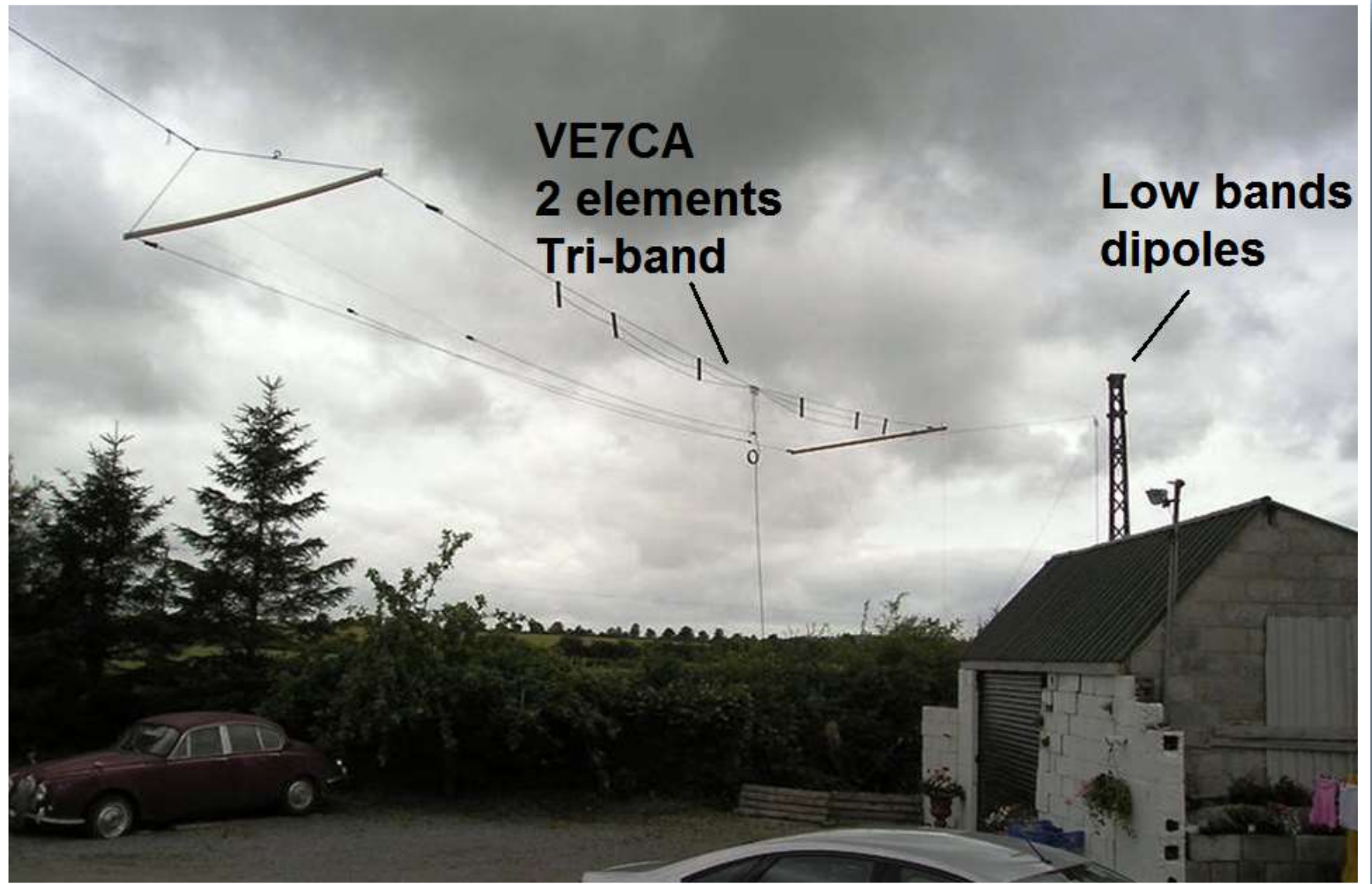
Tipperary county



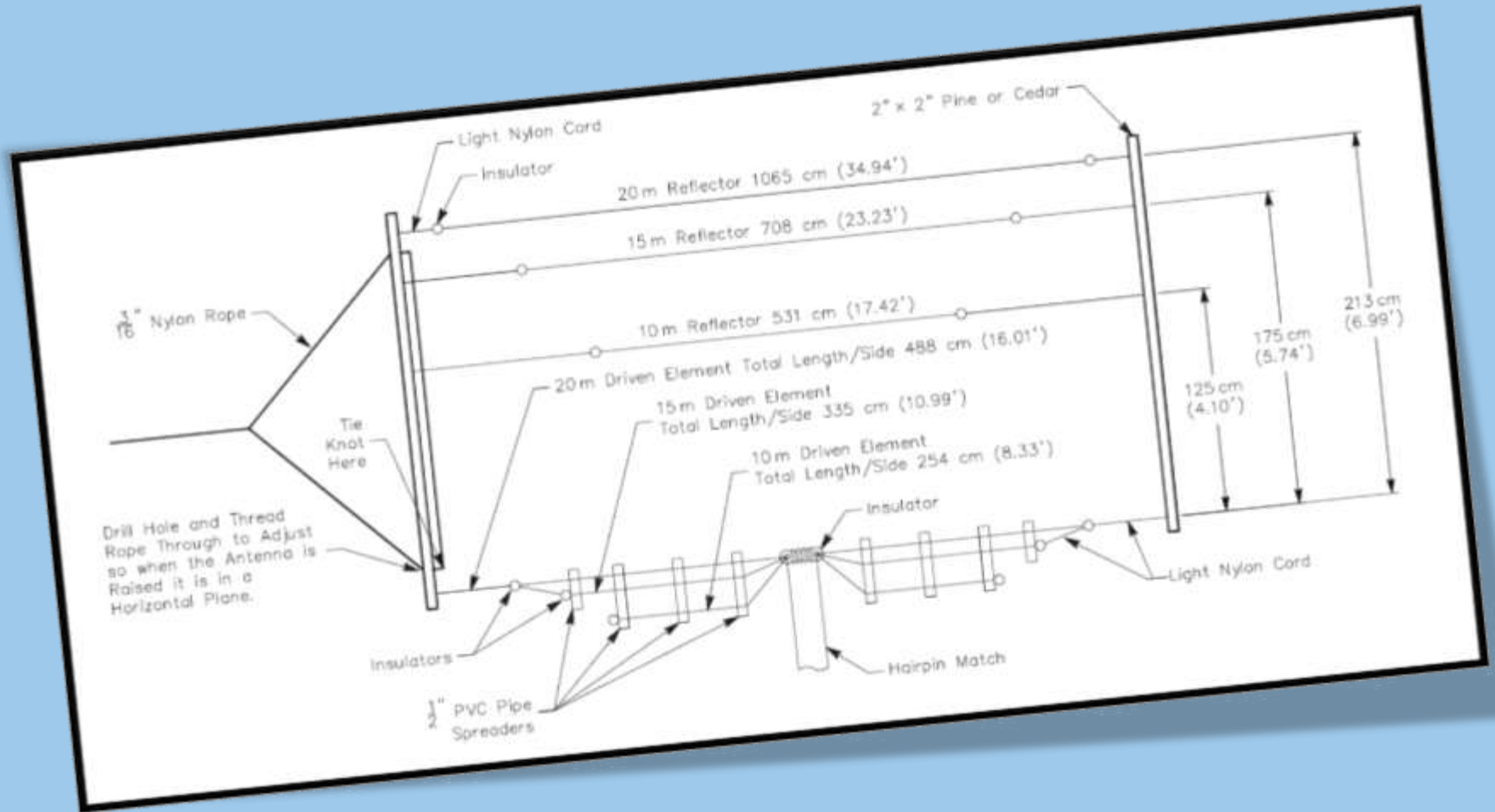
2008 – 2009 1st Contests HF EI/ON4EI



2008 – 2009 1st Contests HF EI/ON4EI

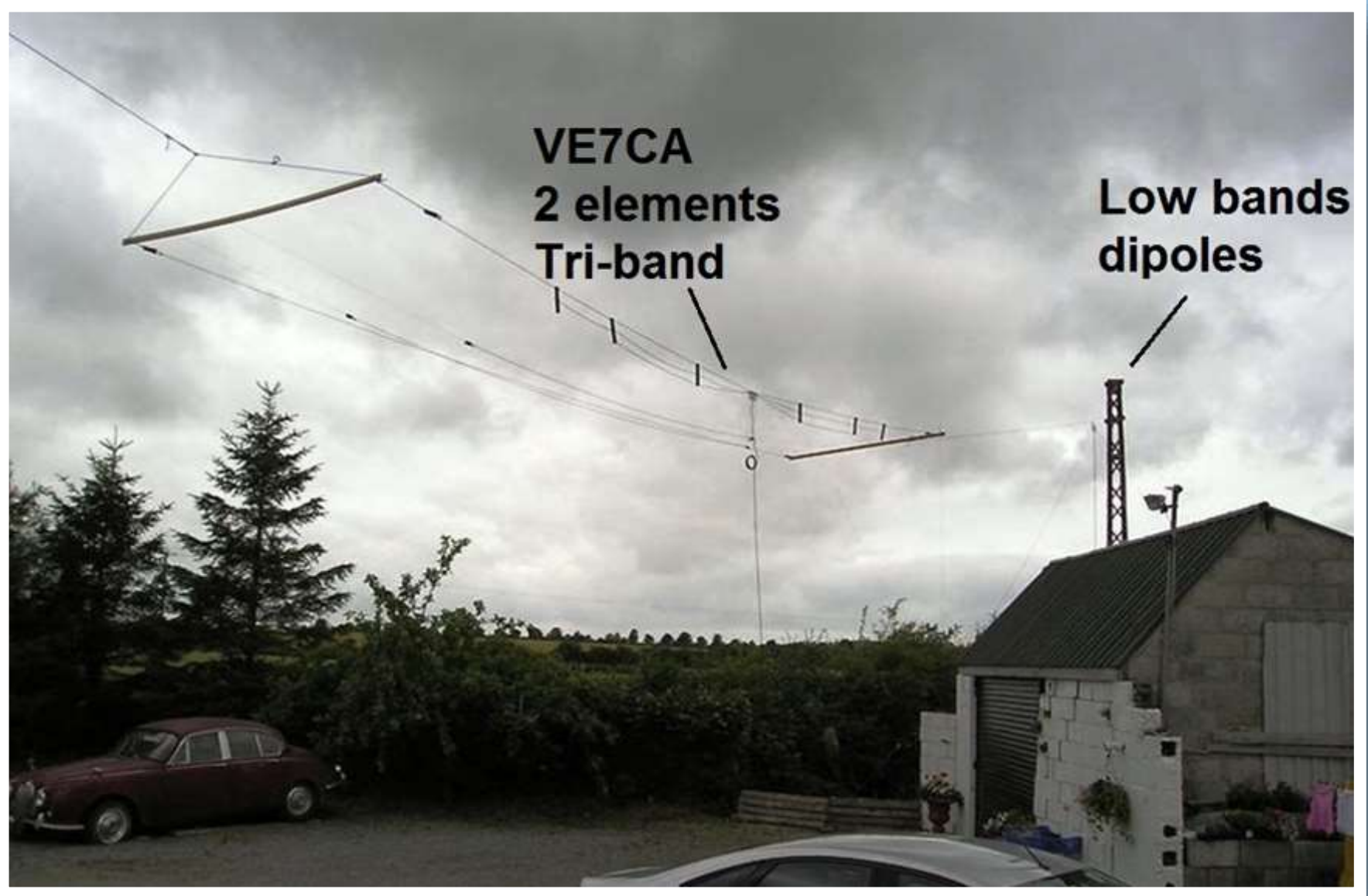


2008 – 2009 1st Contests HF EI/ON4EI



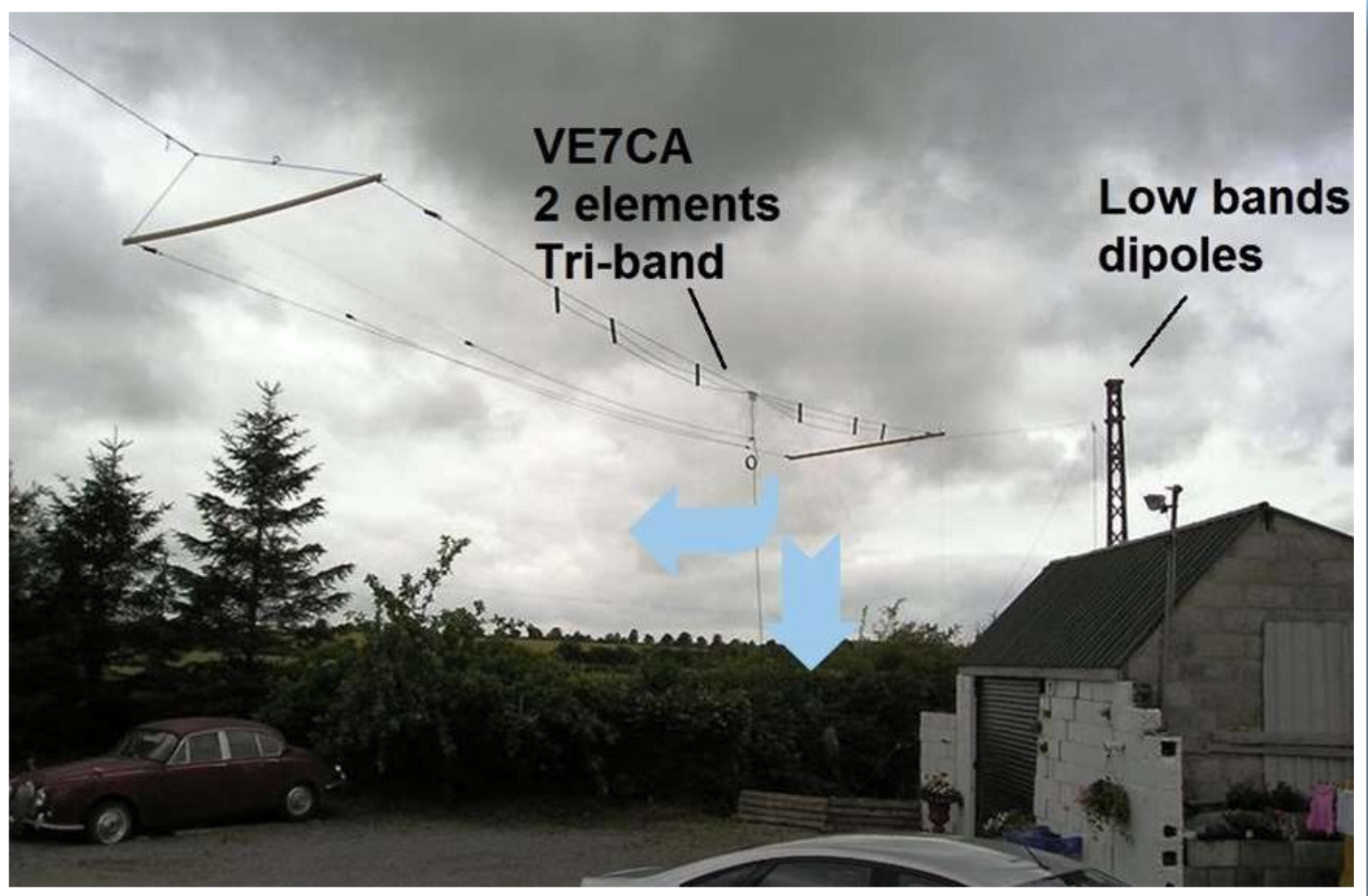
VE7CA 2 elements Tri-band wirebeam 

2008 – 2009 1st Contests HF EI/ON4EI



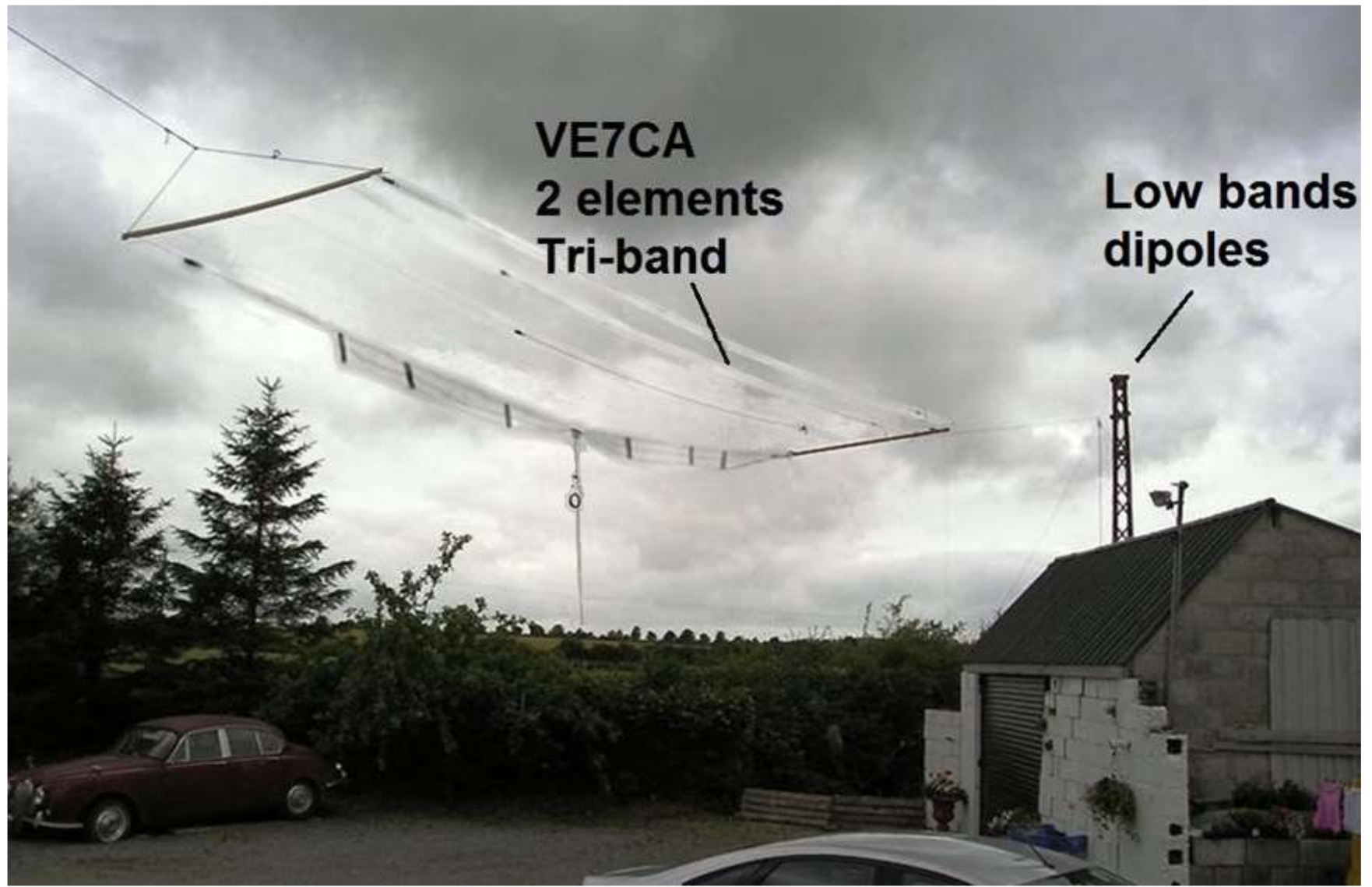
Bidirectional antenna

2008 – 2009 1st Contests HF EI/ON4EI



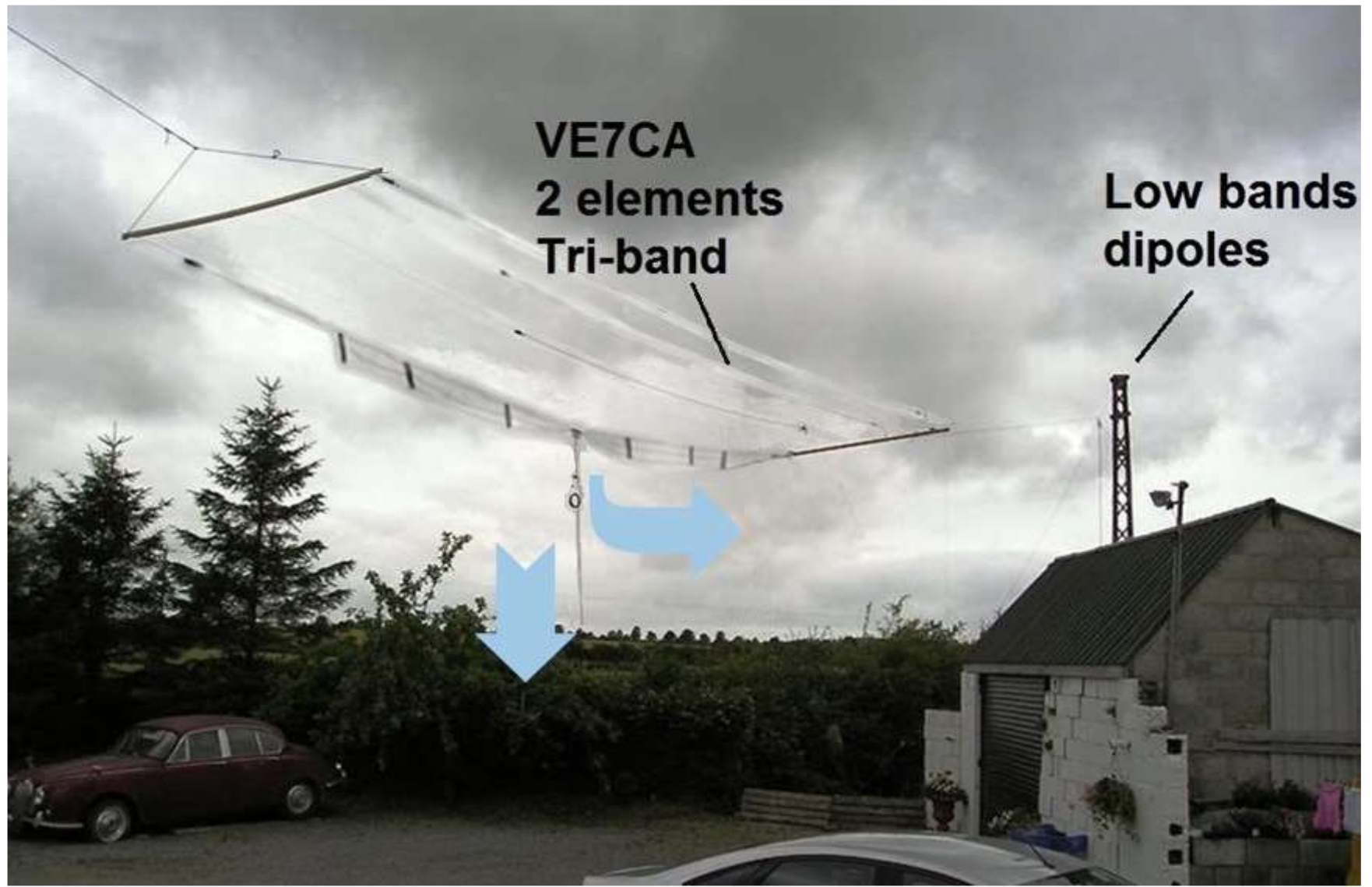
Bidirectional antenna

2008 – 2009 1st Contests HF EI/ON4EI



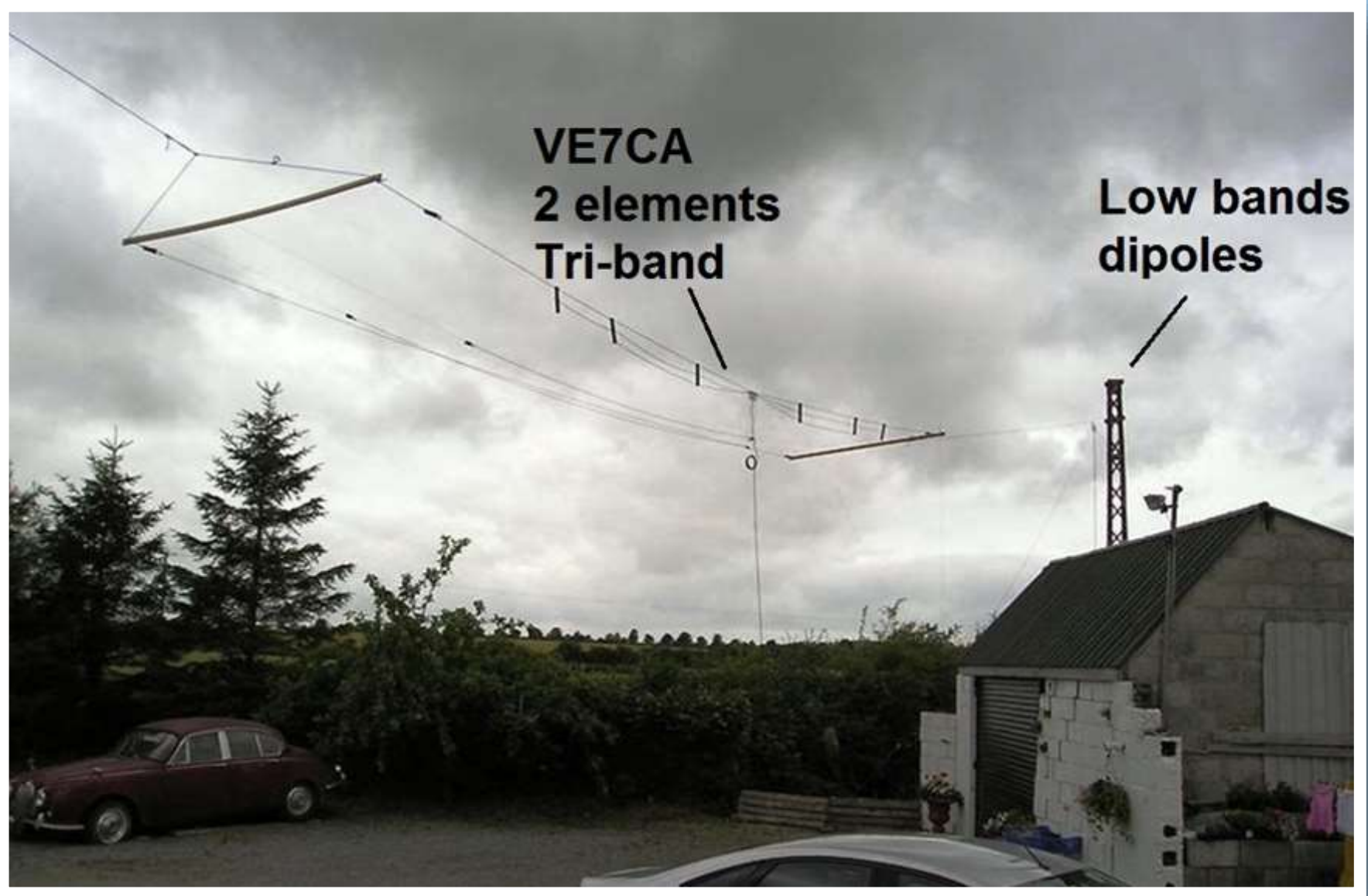
Bidirectional antenna

2008 – 2009 1st Contests HF EI/ON4EI



Bidirectional antenna

2008 – 2009 1st Contests HF EI/ON4EI



Bidirectional antenna

2008 – 2009 1st Contests HF EI/ON4EI



More info see : <http://www.qrz.com/db/EI8GQB>

2008 – 2009 1st Contests HF EI/ON4EI

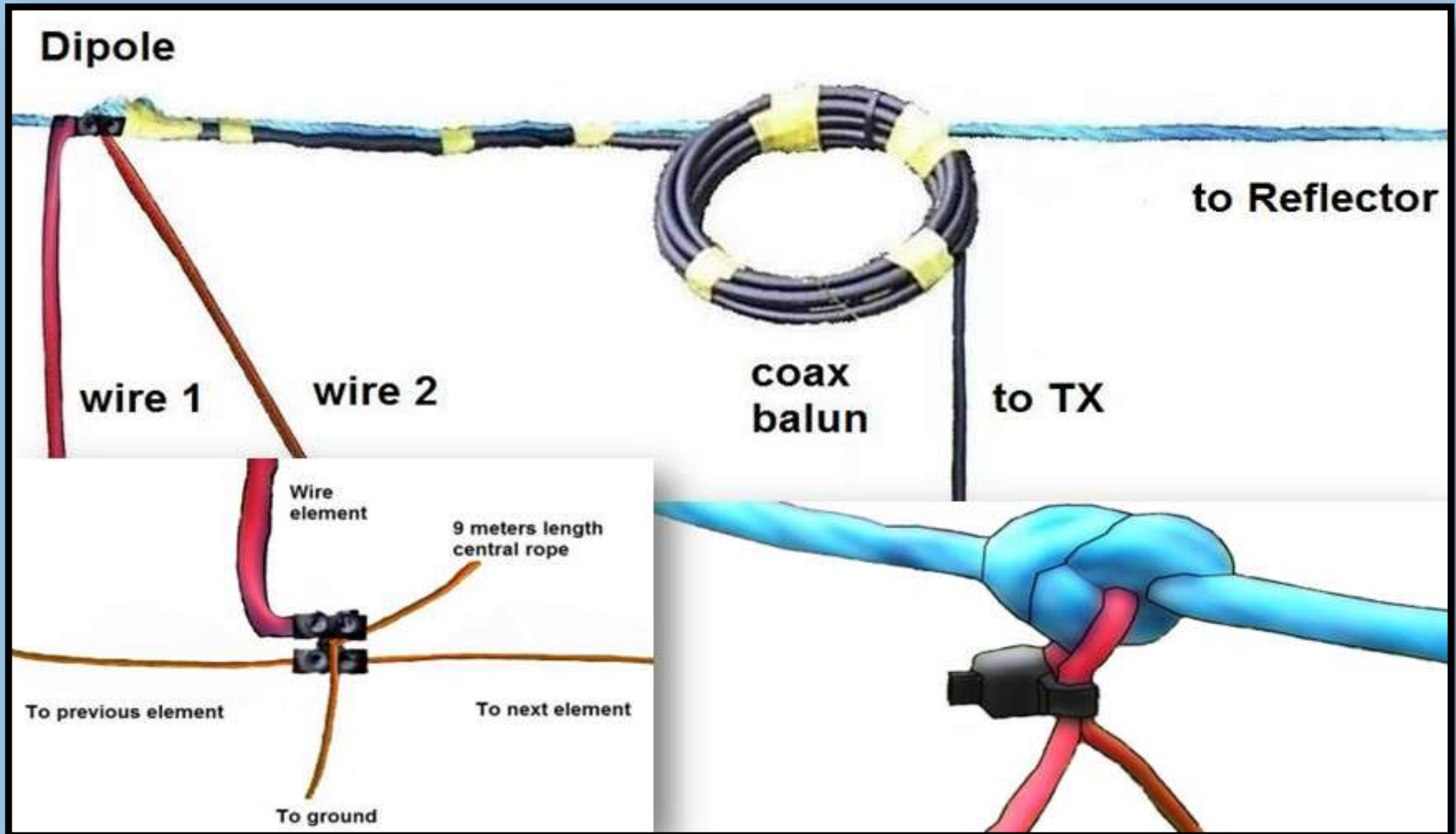


Height : 9m
Length : 33.57m
Bidirectional antenna

2008-2009 Poor sun activity period
10m band closed
75% High band QSO traffic on 20m band

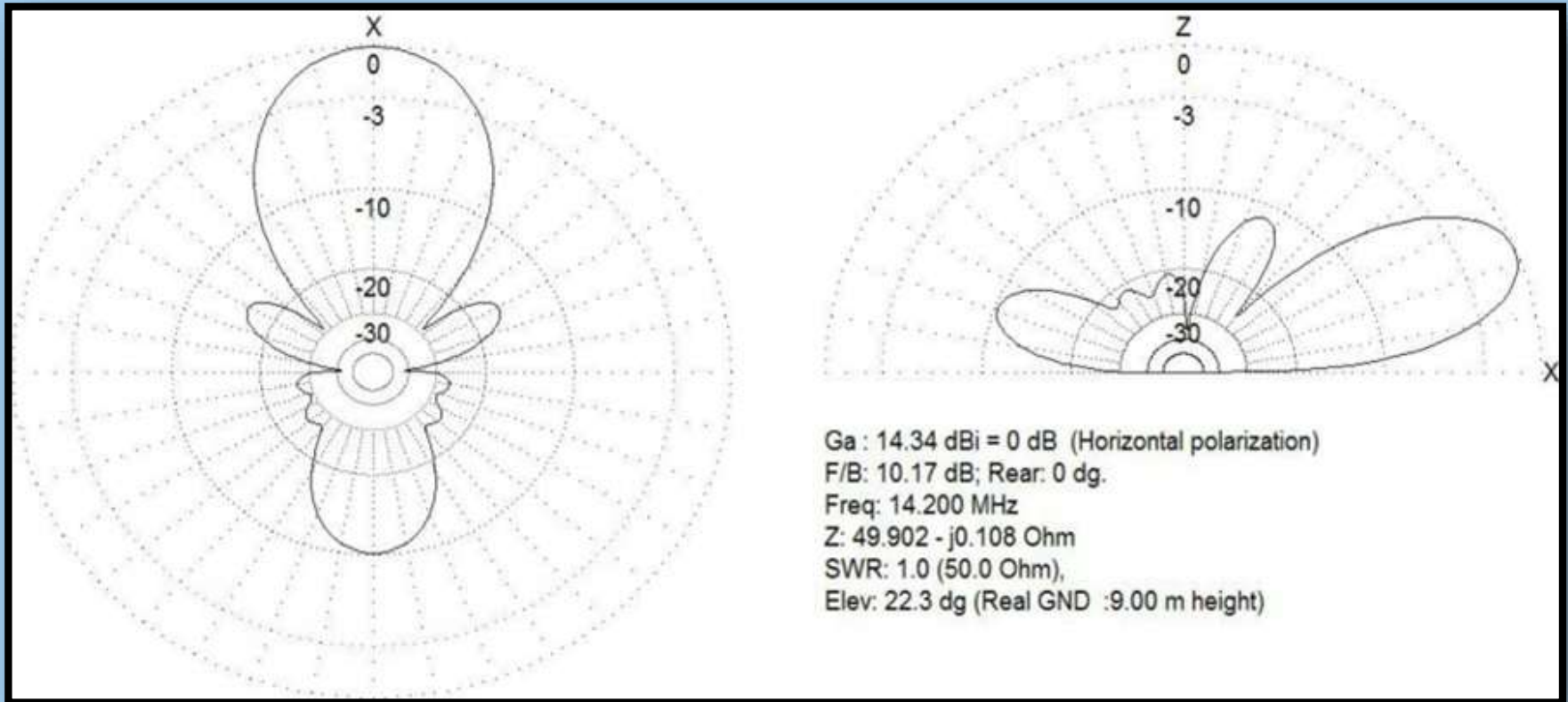
10 elements 20m band 

2008 – 2009 1st Contests HF EI/ON4EI



Easy built

2008 – 2009 1st Contests HF EI/ON4EI



Forward gain : 12.12 dBd

Front to back ratio : 10.17 dBd

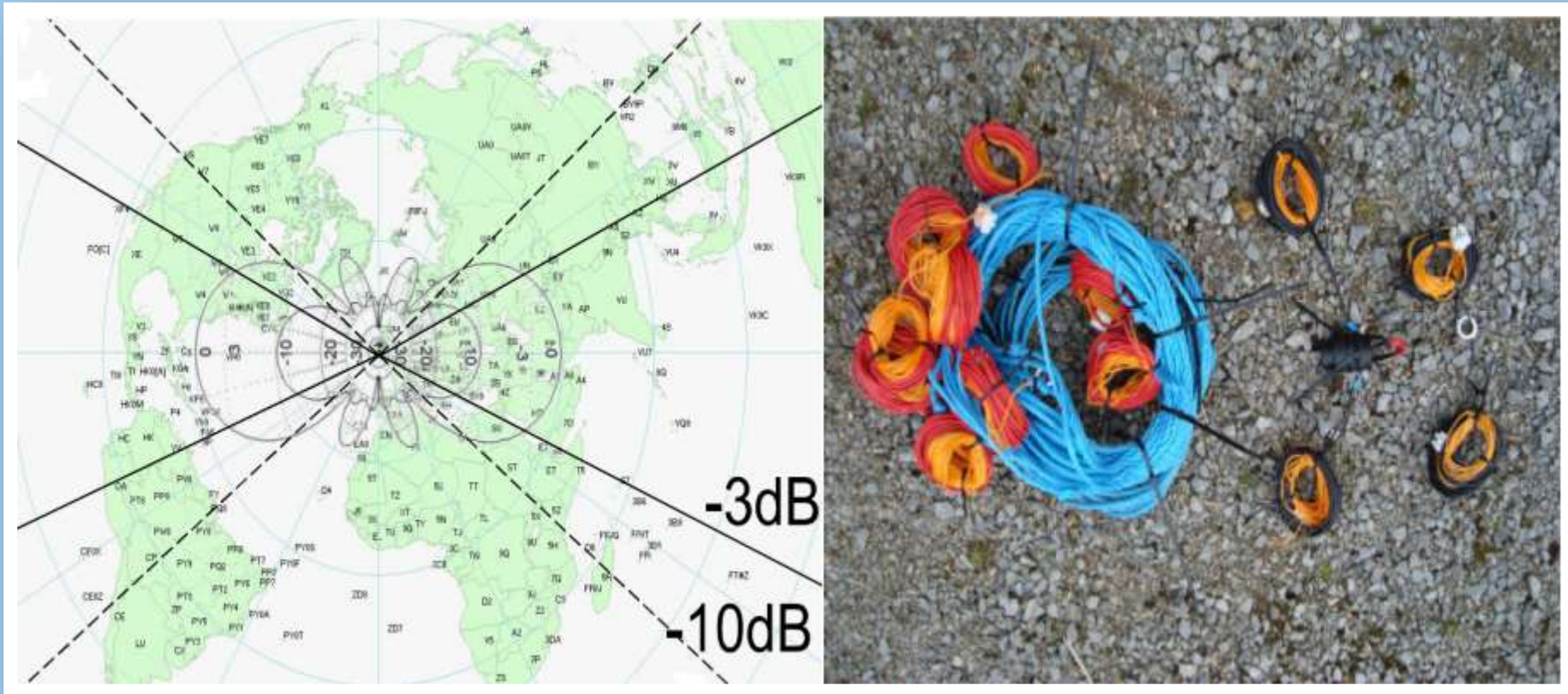
Rear gain: 1.95 dBd

Bandwidth : 40°

Designed with MANNA-GAL

Measured with MiniVNA

2008 – 2009 1st Contests HF EI/ON4EI



Forward gain : 12.12 dBd

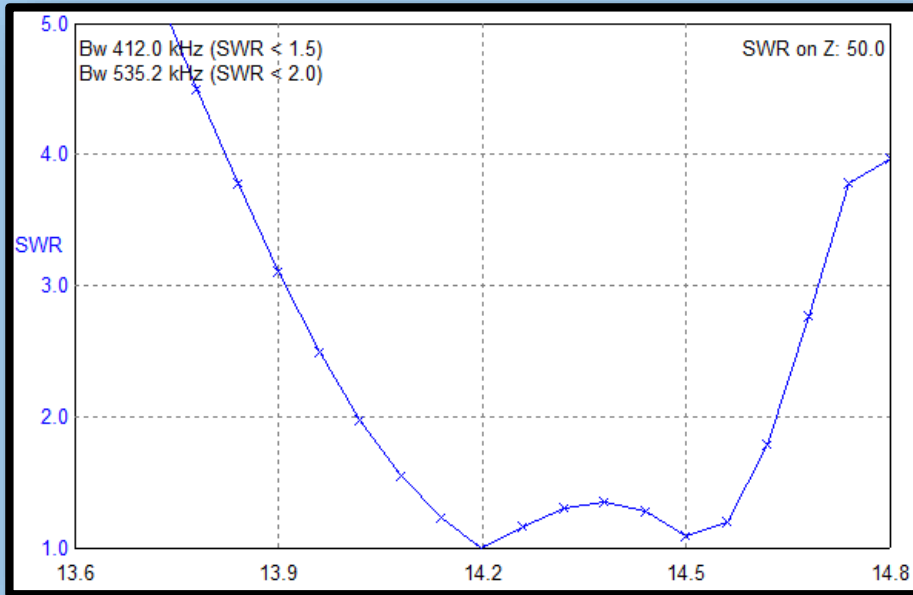
Front to back ratio : 10.17 dBd

Rear gain: 1.95 dBd

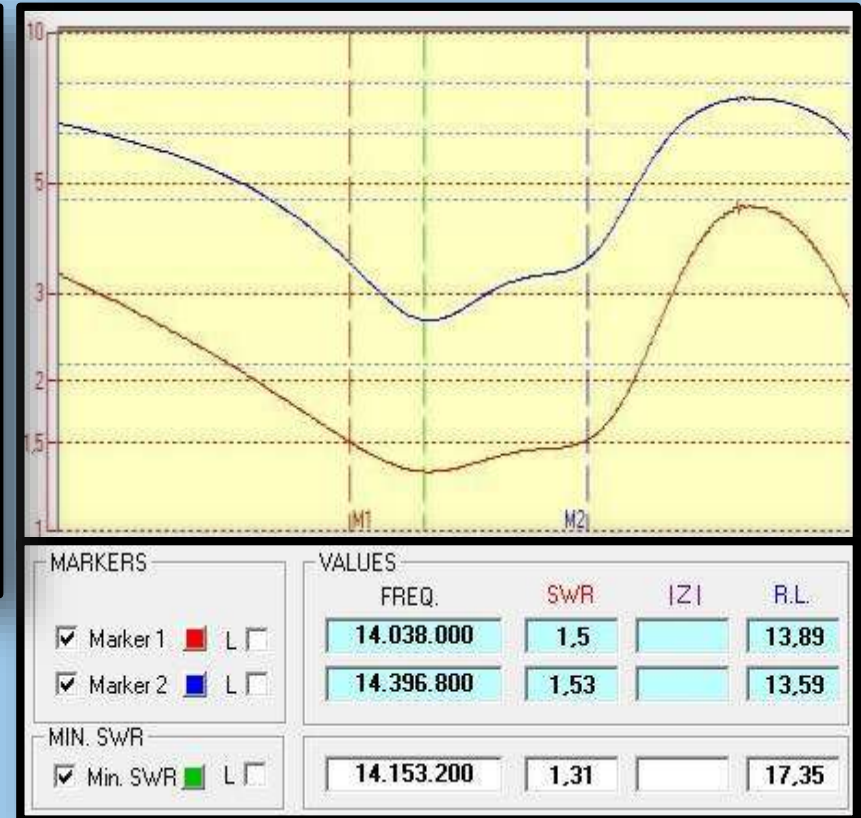
Bandwidth : 40°

Ireland location is ideal for contest as 70% traffic is Est-West.

2008 – 2009 1st Contests HF EI/ON4EI



MANNA-GAL simulation (SWR)



MiniVNA measurements

1st results (without any optimisation)

2008 – 2009 1st Contests HF EI/ON4EI



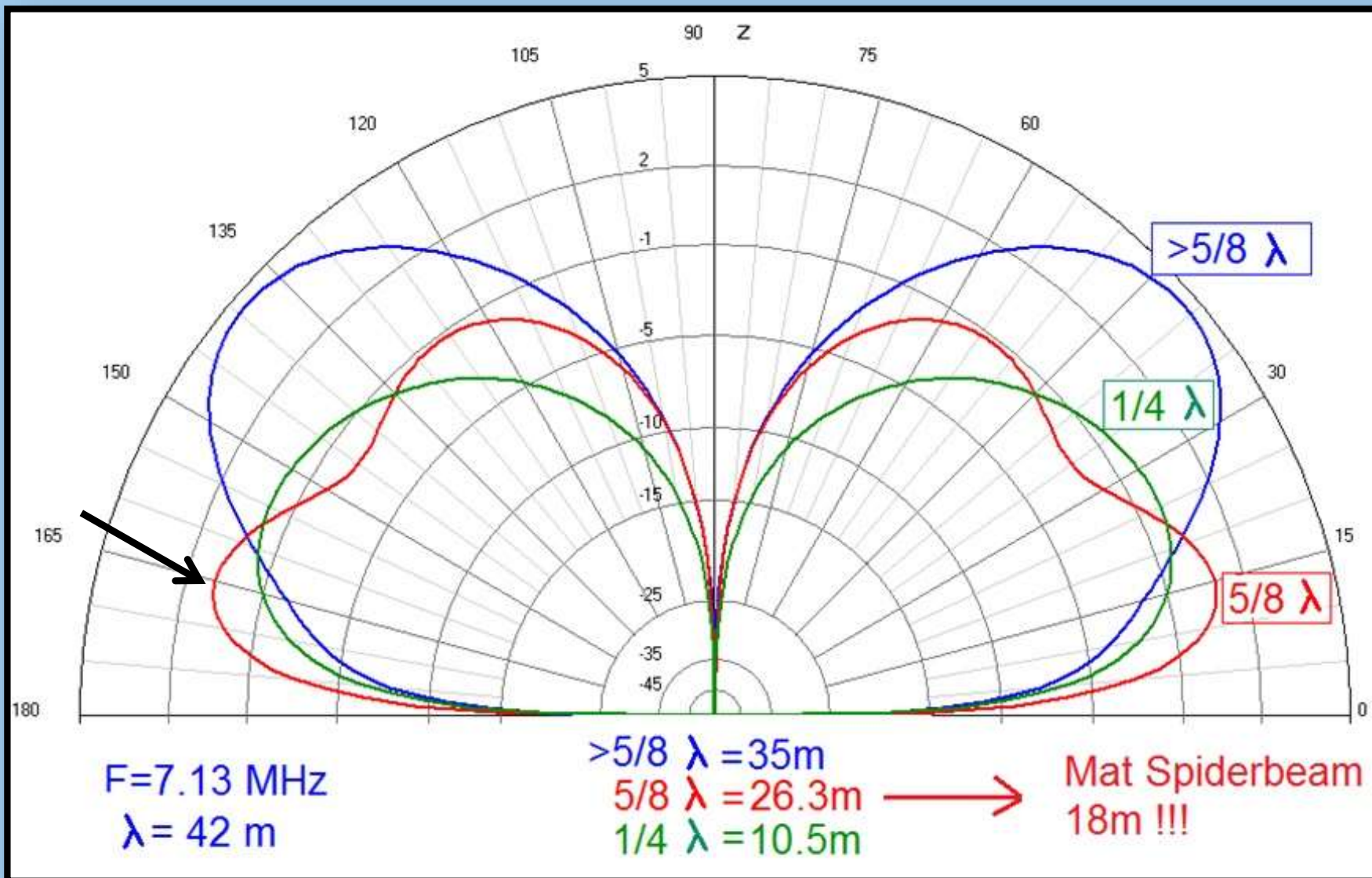
More info see : <http://www.qrz.com/db/EI8GQB>

2008 – 2009 1st Contests HF EI/ON4EI



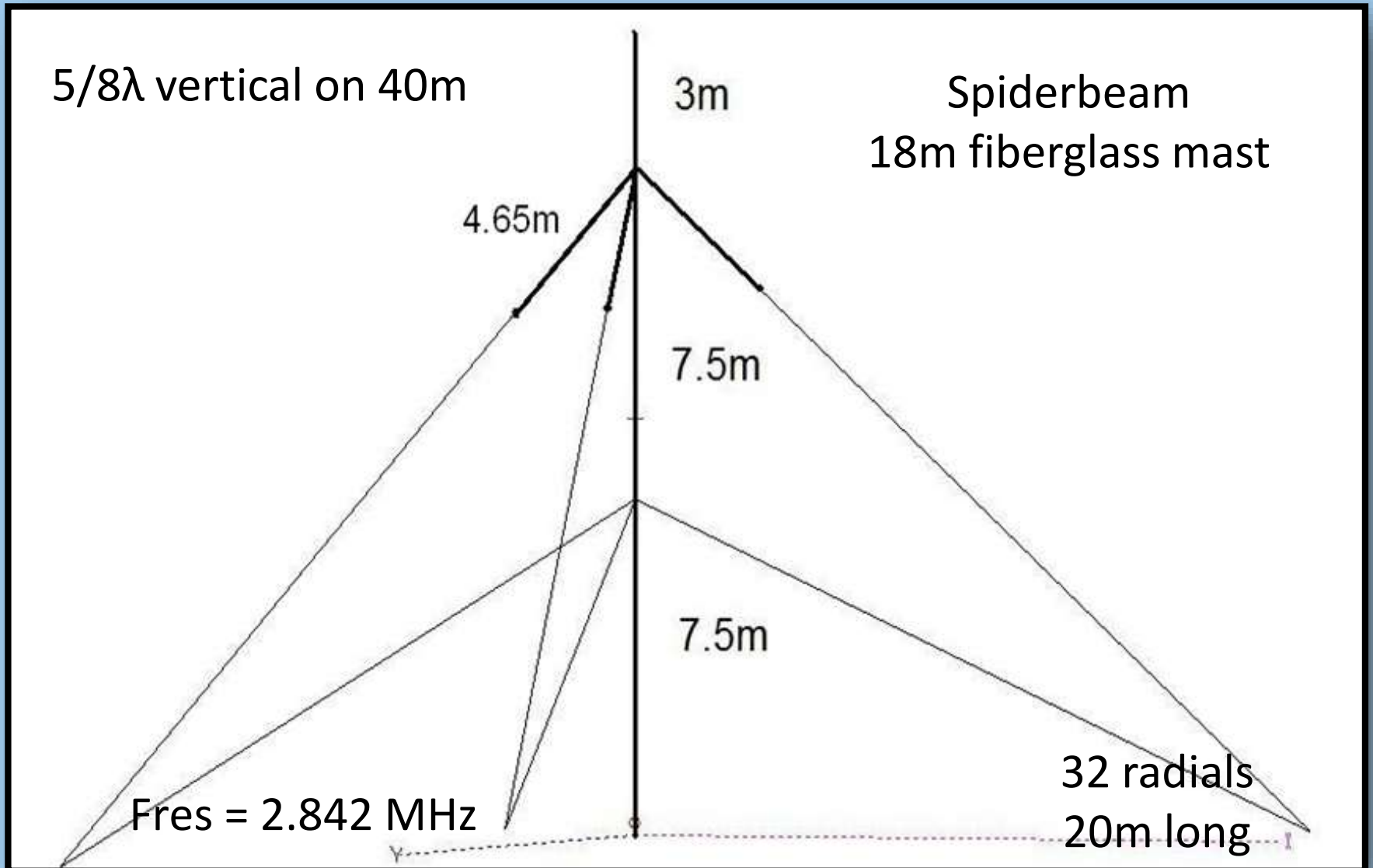
Low band antenna 

2008 – 2009 1st Contests HF EI/ON4EI



Vertical for 160m-80m-40m

2008 – 2009 1st Contests HF EI/ON4EI



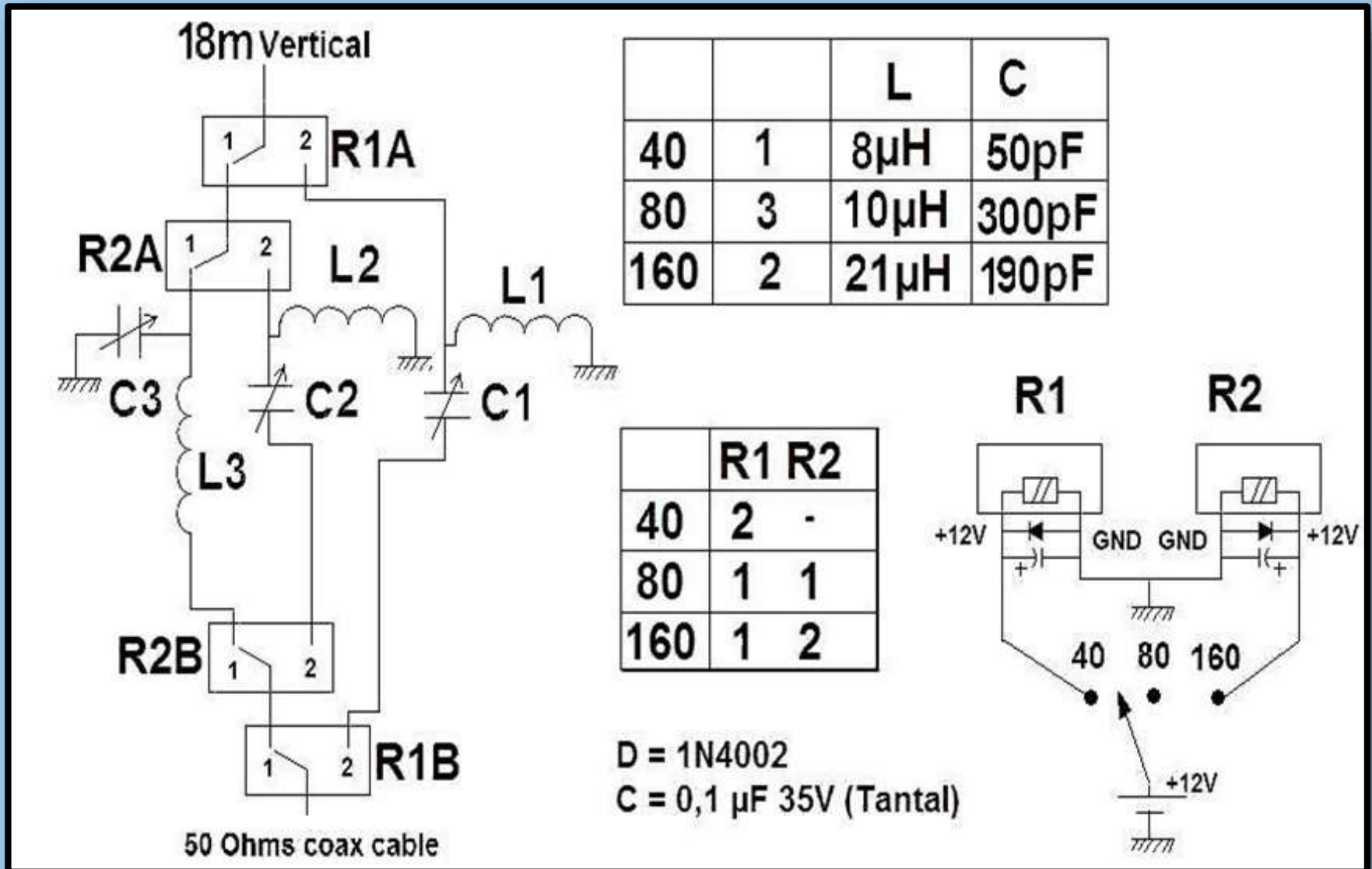
Top Loading

2008 – 2009 1st Contests HF EI/ON4EI



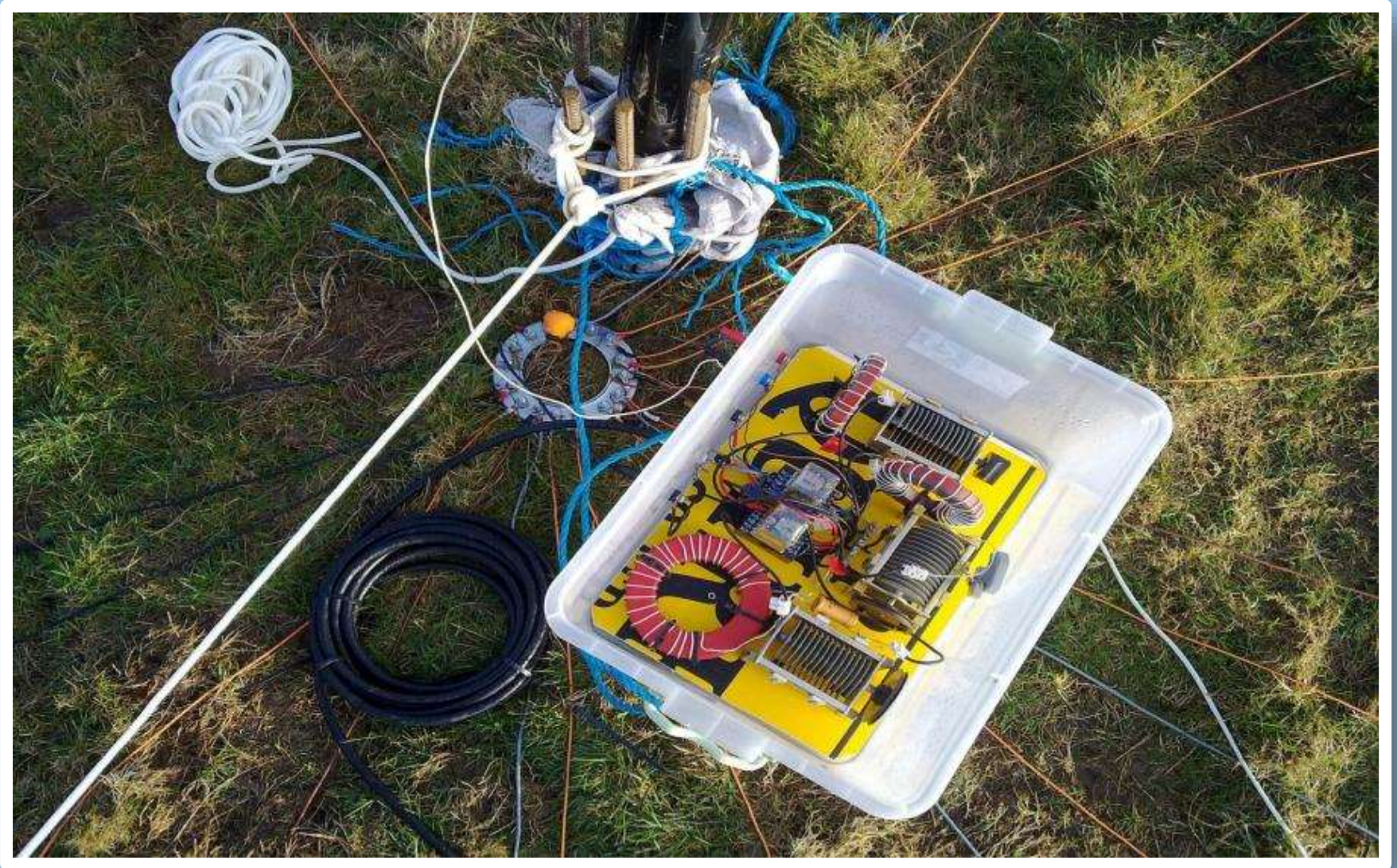
Tuning box

2008 – 2009 1st Contests HF EI/ON4EI



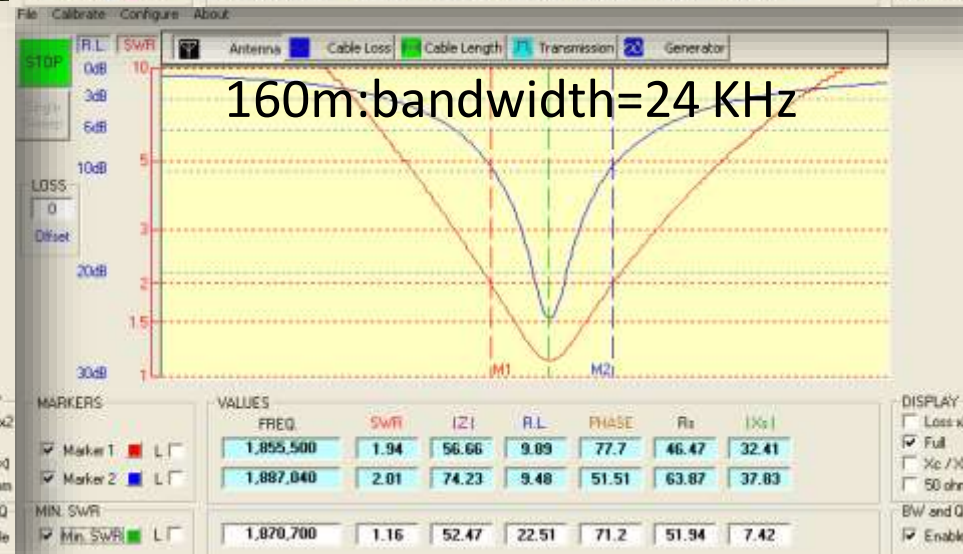
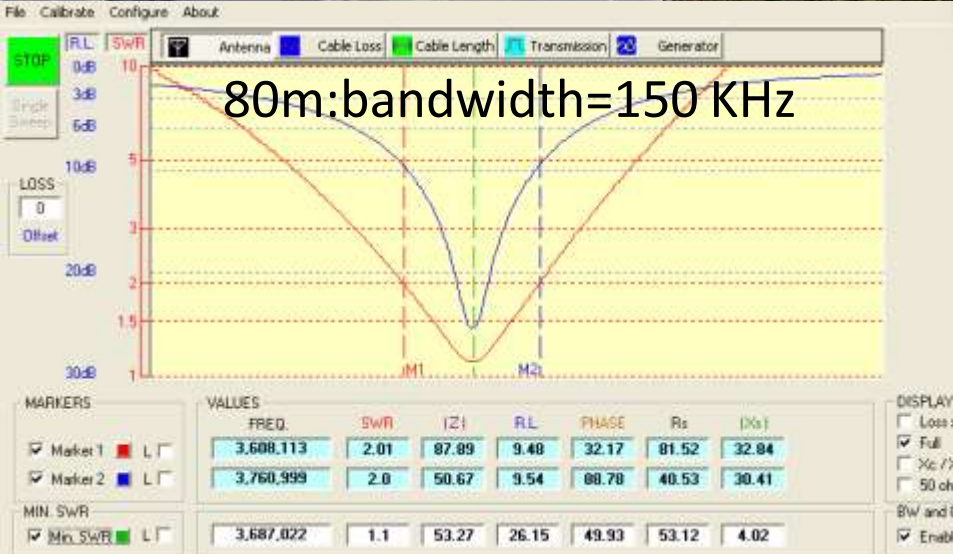
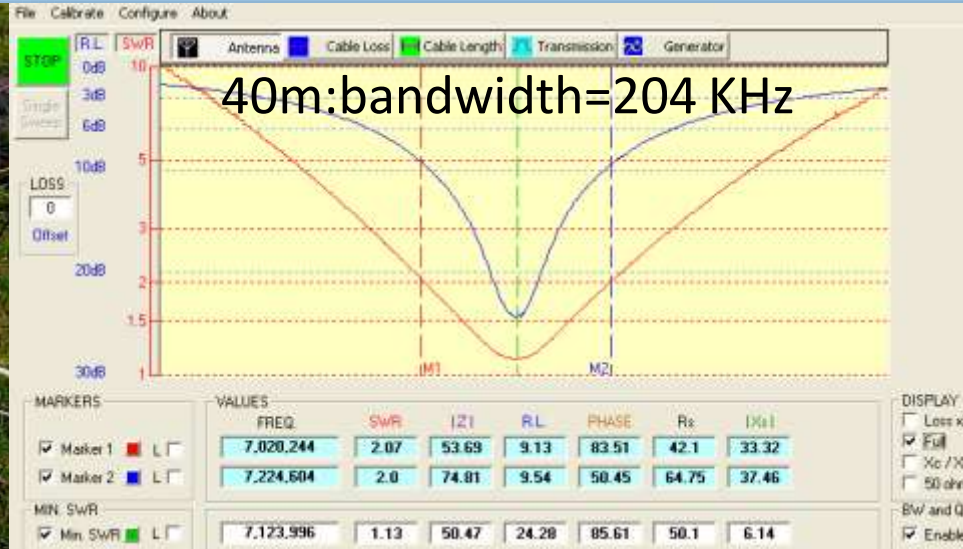
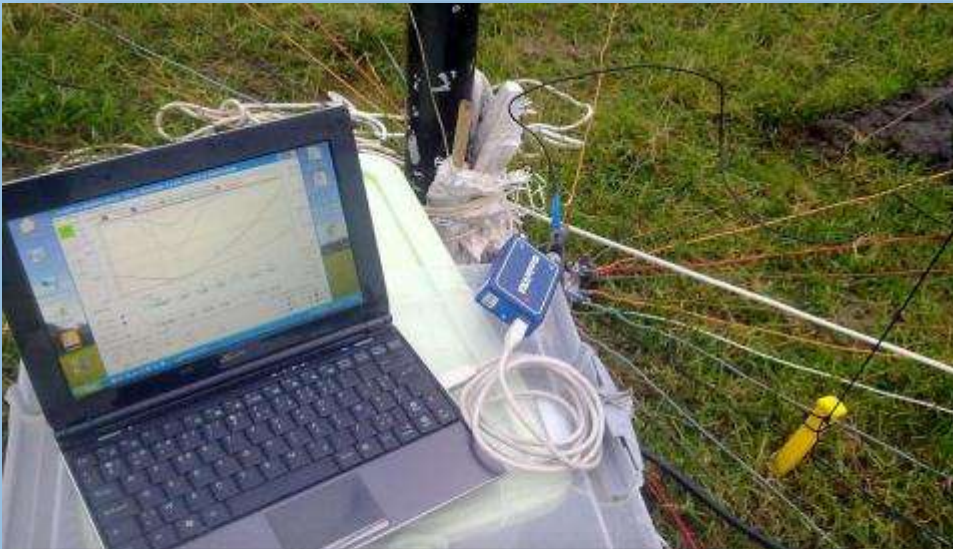
Tuning box

2008 – 2009 1st Contests HF EI/ON4EI



Tuning box + 32 radials

2008 – 2009 1st Contests HF EI/ON4EI

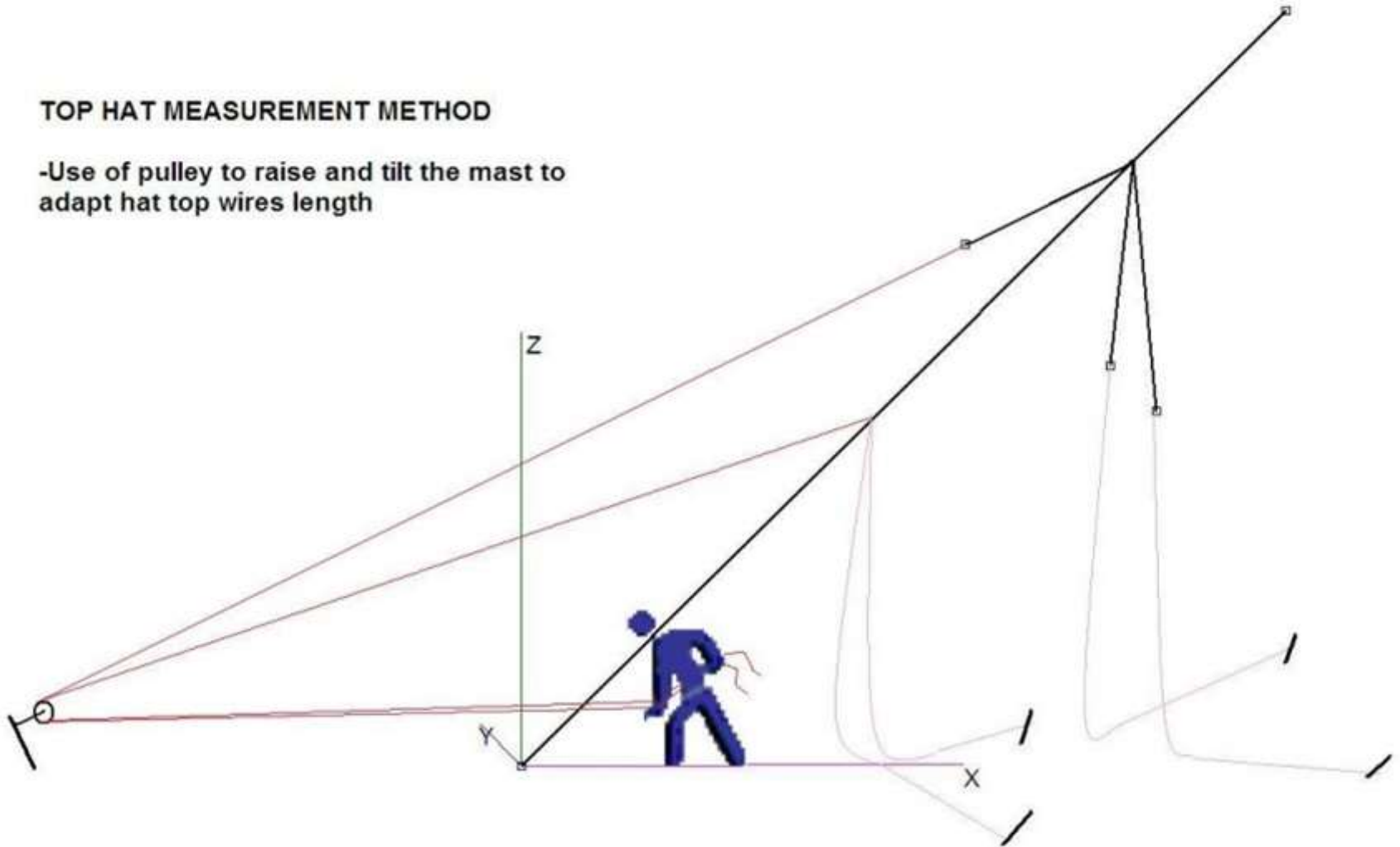


Measurements MiniVNA (Bandwidth SWR2/1)

2008 – 2009 1st Contests HF EI/ON4EI

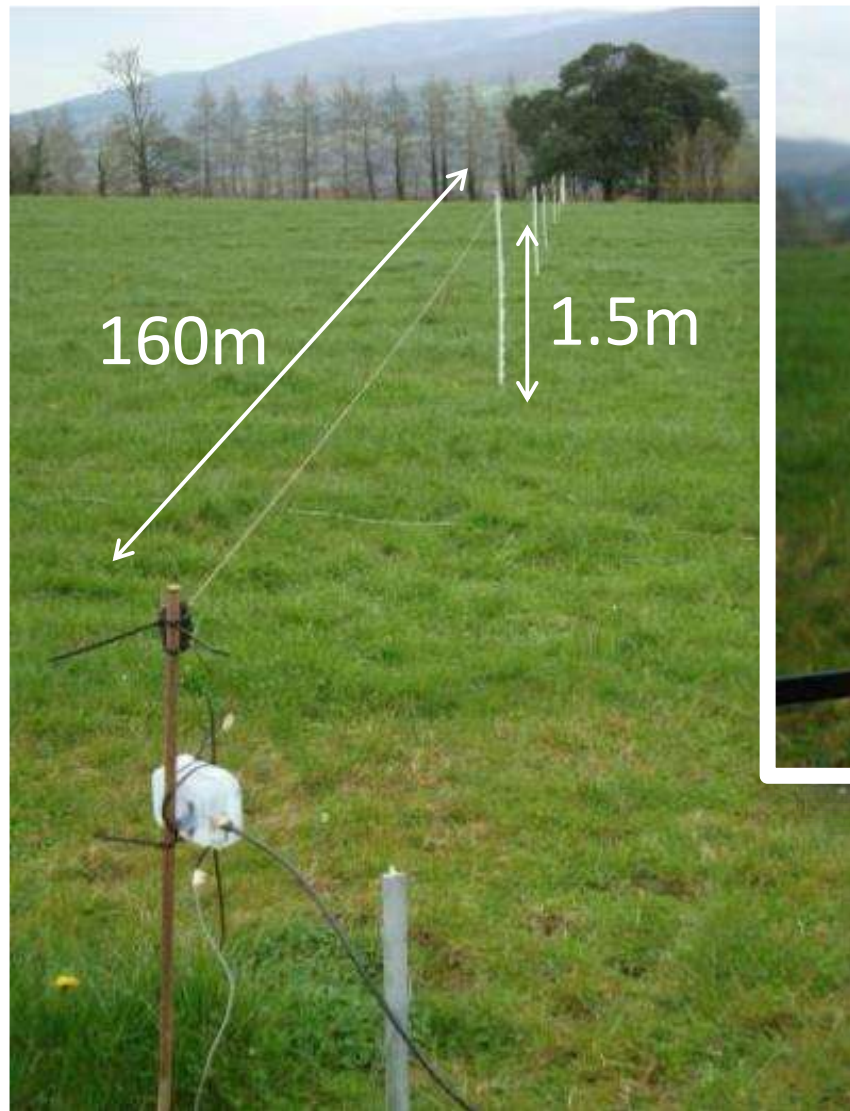
TOP HAT MEASUREMENT METHOD

-Use of pulley to raise and tilt the mast to adapt hat top wires length



More info see : <http://www.qrz.com/db/EI8GQB>

2008 – 2009 1st Contests HF EI/ON4EI



Balun 9:1

Length : 160m

Height : 1.5m

Balun 9:1

Beverage antenna for reception 👍

2008 – 2009 1st Contests HF EI/ON4EI



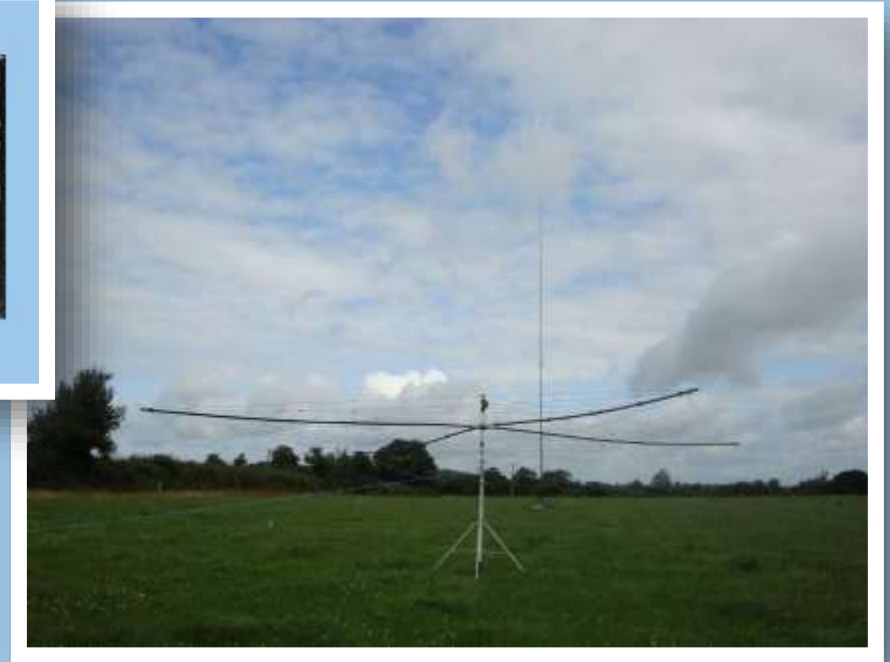
K3 Elecraft

(Improve RX % TS2000)



~~EI/ON4EI~~ → EI8GQB

(Use an Irish callsign)



Beam Spiderbeam

(Future solution for high band as sun activity increases)

3 Improvements

2008 – 2009 1st Contests HF EI/ON4EI



Contest prehistory !



EJ8GQB Islands expeditions 2010

Bere Island
EU121 (Solo)
March 2010



Saltees Islands
EU103 (+ EI4II)
July 2010



EJ8GQB Islands expeditions 2010



Bere island CQWW DX SSB March 2010

EJ8GQB Islands expeditions 2010



EJ8GQB Islands expeditions 2010



EJ8GQB Islands expeditions 2010



EJ8GQB Islands expeditions 2010

[Watch It on YOUTUBE ON4EI's Channel](#)



Bere Island

EJ8GQB Islands expeditions 2010

EJ8GQB

**Bere Island
Ireland
EU 121
LH 2983**

**CQ zone 14
ITU zone 27**

www.bunkcamp.eu.com

IOTA

More info see : <http://www.qrz.com/db/EJ8GQB>

EJ8GQB Islands expeditions 2010



EJ4II-EJ8GQB Saltee islands IOTA July 2010

EJ8GQB Islands expeditions 2010



IARU HF contest July 2010 at EI4II QTH

EJ8GQB Islands expeditions 2010



Private island – Nature reserve
Limited and difficult access

EJ8GQB Islands expeditions 2010



EJ8GQB Islands expeditions 2010

[Watch It on YOUTUBE ON4EI's Channel](#)



Saltee Islands

EJ8GQB Islands expeditions 2010

**Saltees Island
Ireland**

**EJ4II
EJ8GQB**

**ISLAND CHASER
JOTA
EU-103**

**CQ Zone 14
ITU Zone 27
WW Loc. 1062QC**

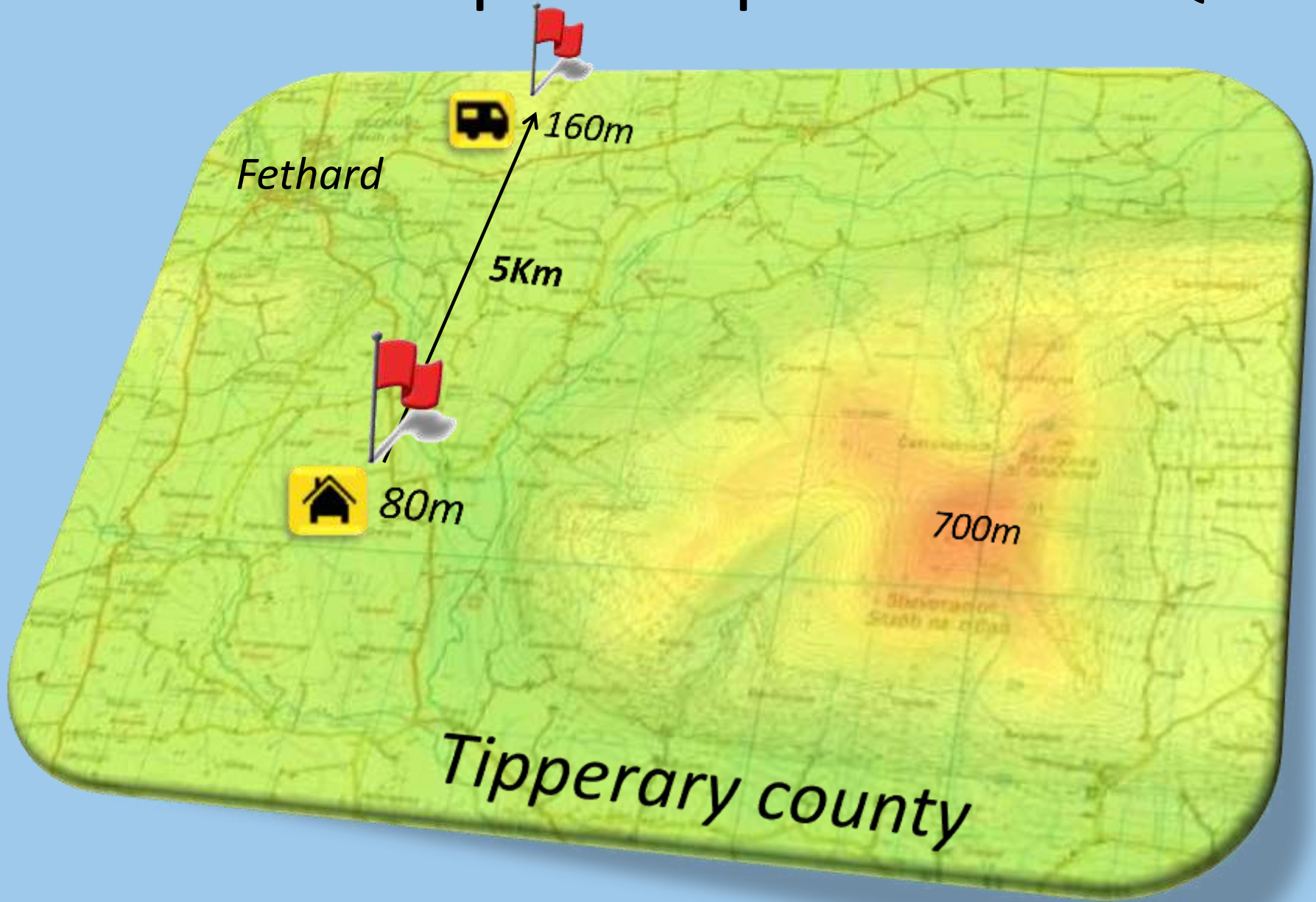
More info see : <http://www.qrz.com/db/EJ4II>

EI8GQB Campervan period

2011



2011 Campervan period EI8GQB



2011 Campervan period EI8GQB



2011 Campervan period EI8GQB



2011 Campervan period EI8GQB



2011 Campervan period EI8GQB



CQ WW DX SSB (October 2010)

2011 Campervan period EI8GQB



New QTH on the hill

2011 Campervan period EI8GQB



New QTH on the hill

Easy access – Low noise site – 500m far from first houses
No trees – Water available – View at almost 360°

2011 Campervan period EI8GQB



S01R

2011 Campervan period EI8GQB

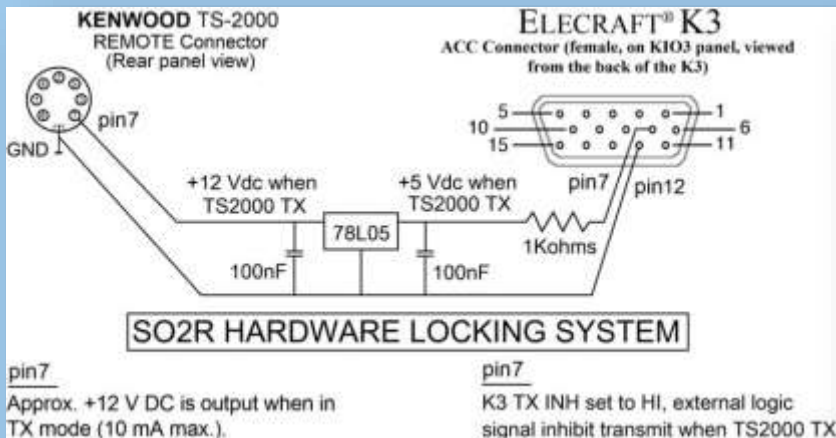


2011 Campervan period EI8GQB

Beginning SO2R (Single Operator 2 radios) 👍

RUN & SEARCH

- > When : Low activity period (night).
Find QSO multipliers or points.
Check band opening.
- > Constrains : Several antennas.
TX Locking system (no 2 TX at the same time).



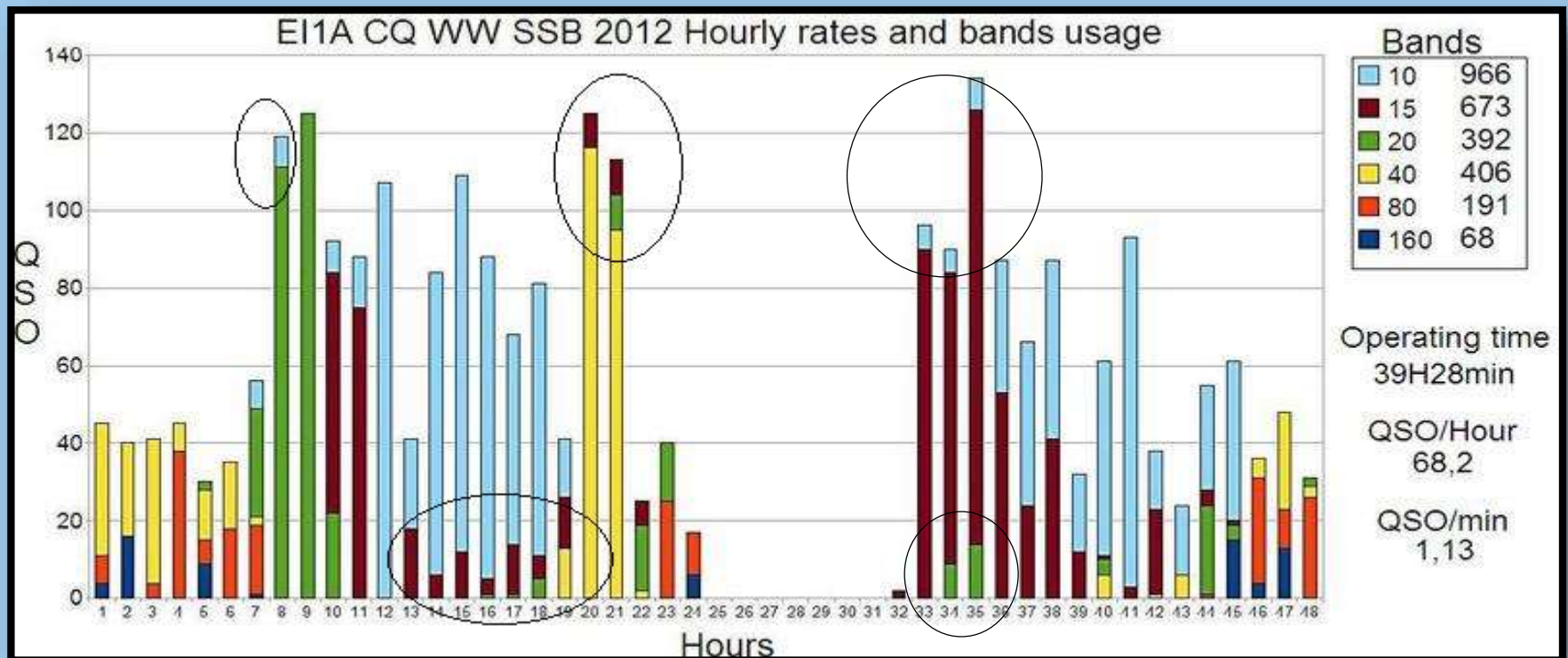
2011 Campervan period EI8GQB

Beginning SO2R(Single Operator 2 radios)

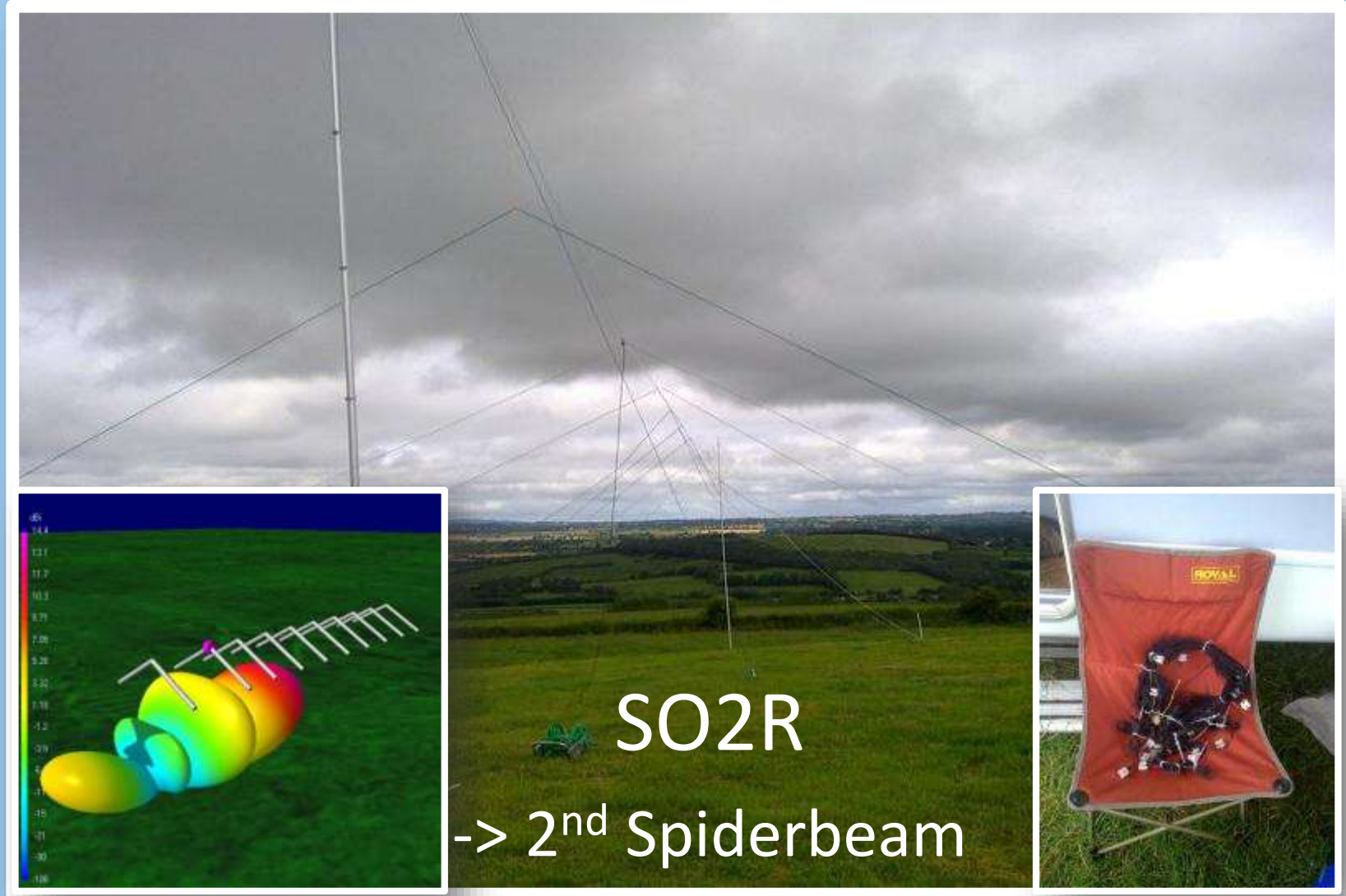


RUN & SEARCH

-> Increase by 10% QSO number,



2011 Campervan period EI8GQB



Experimentation : 10 elements 20m antenna 

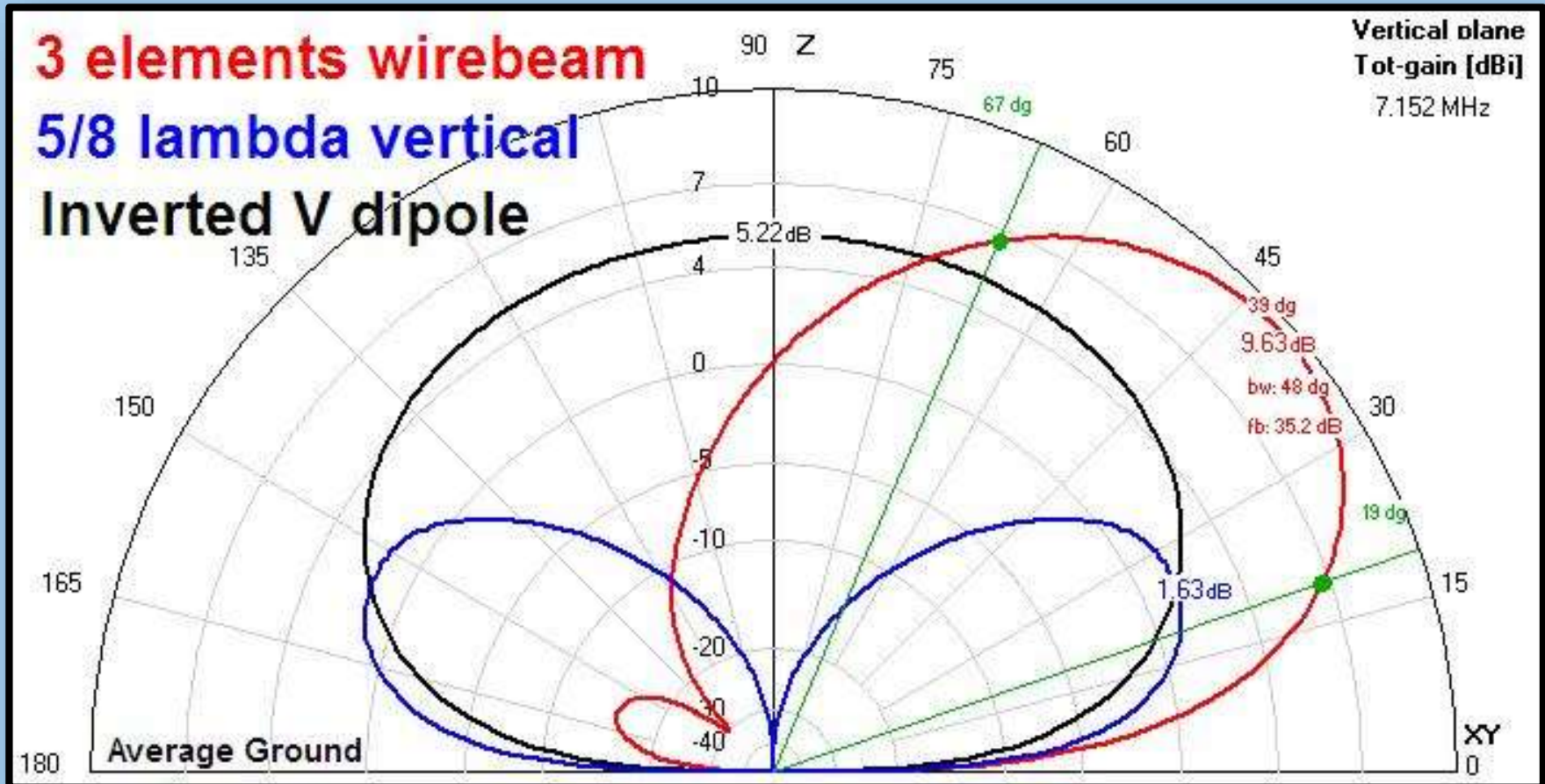
2011 Campervan period EI8GQB



Experimentation : 3 elements 40m vertical



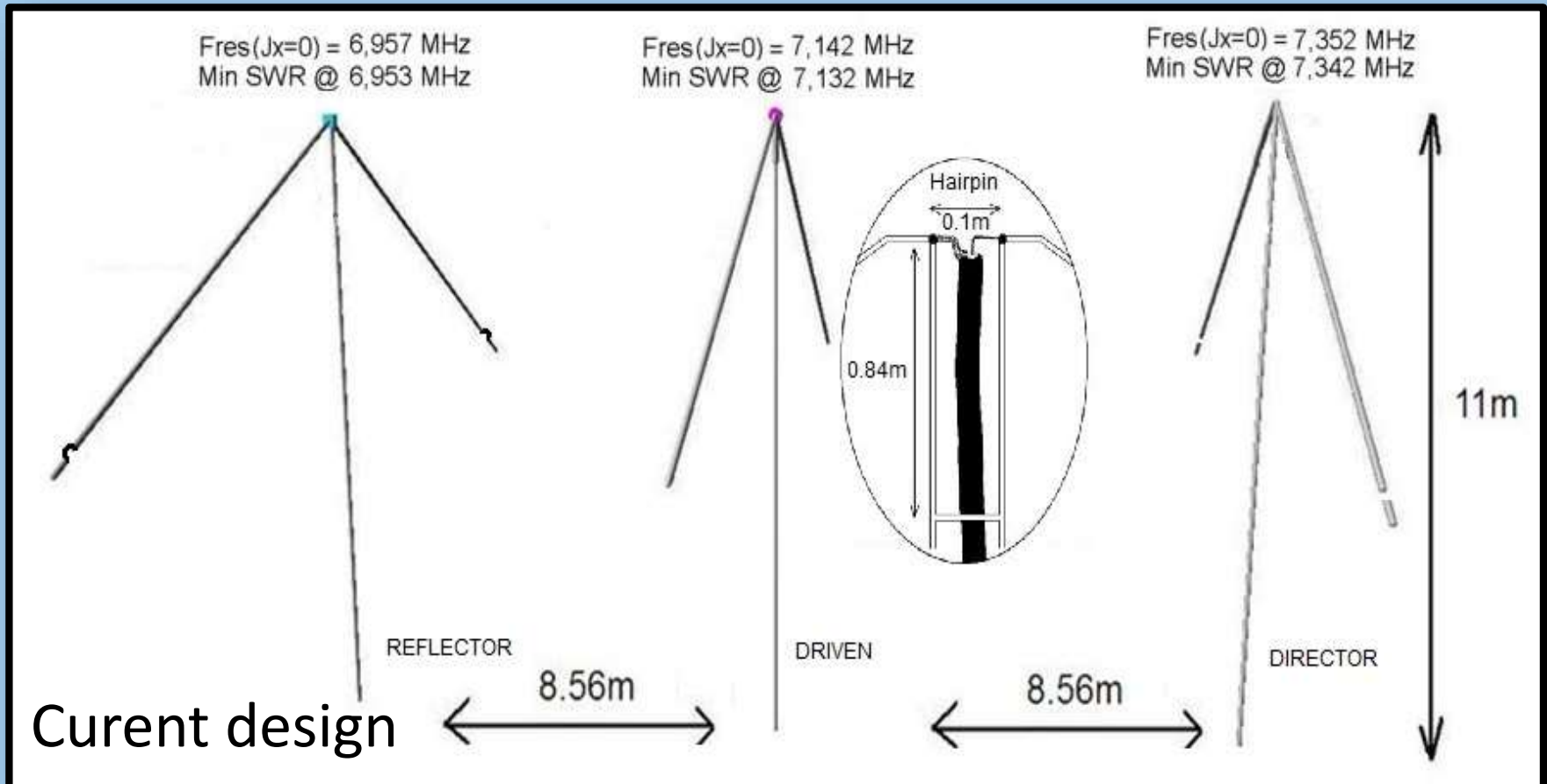
2011 Campervan period EI8GQB



Vertical OK for DX but not good for Europe (IOTA contest)

Experimentation : 3 elements 40m wirebeam 

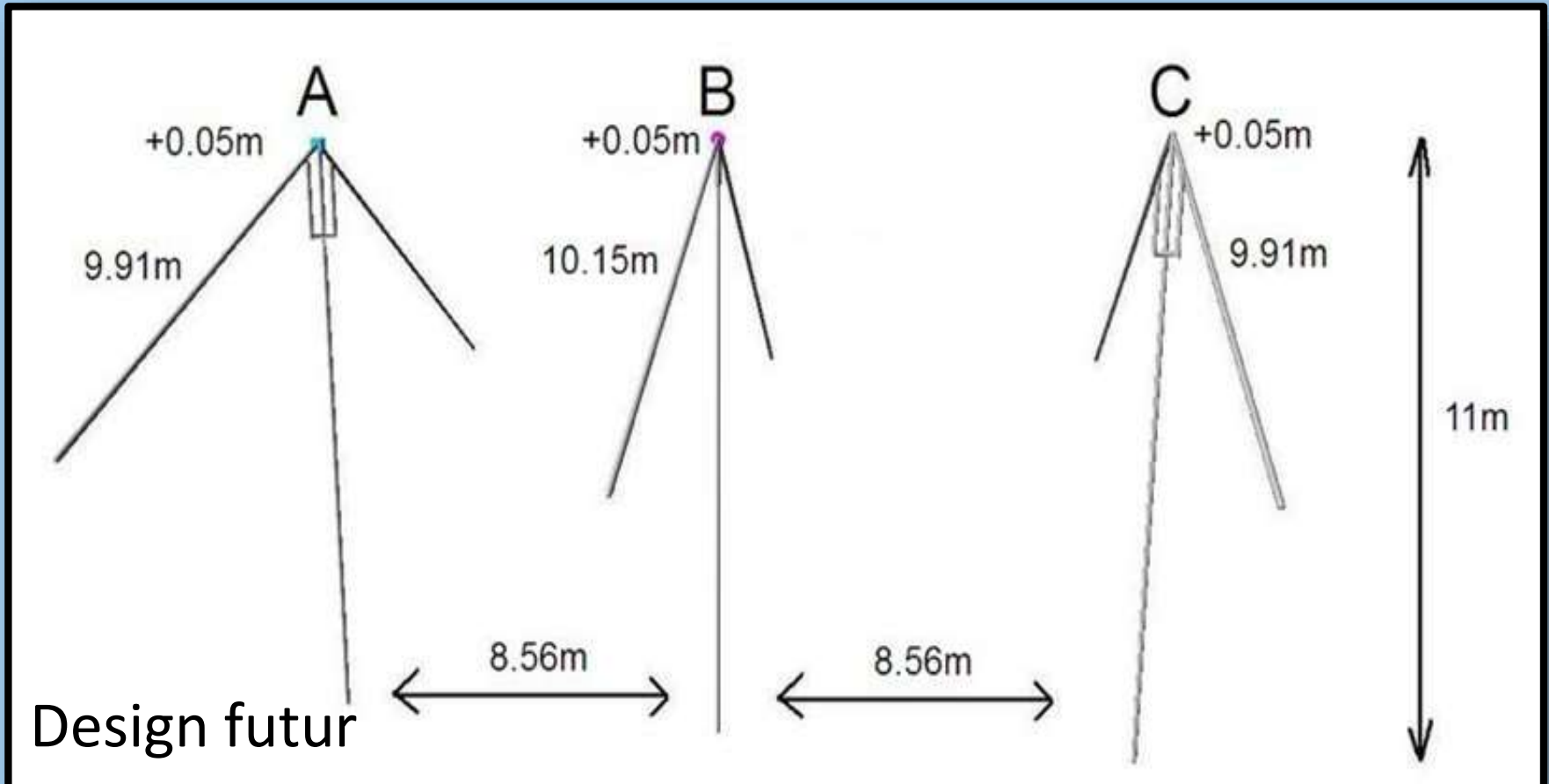
2011 Campervan period EI8GQB



Equal distance between elements allows bidirectionality
11m AGL allows access at the end of elements

Experimentation : 3 elements 40m wirebeam 

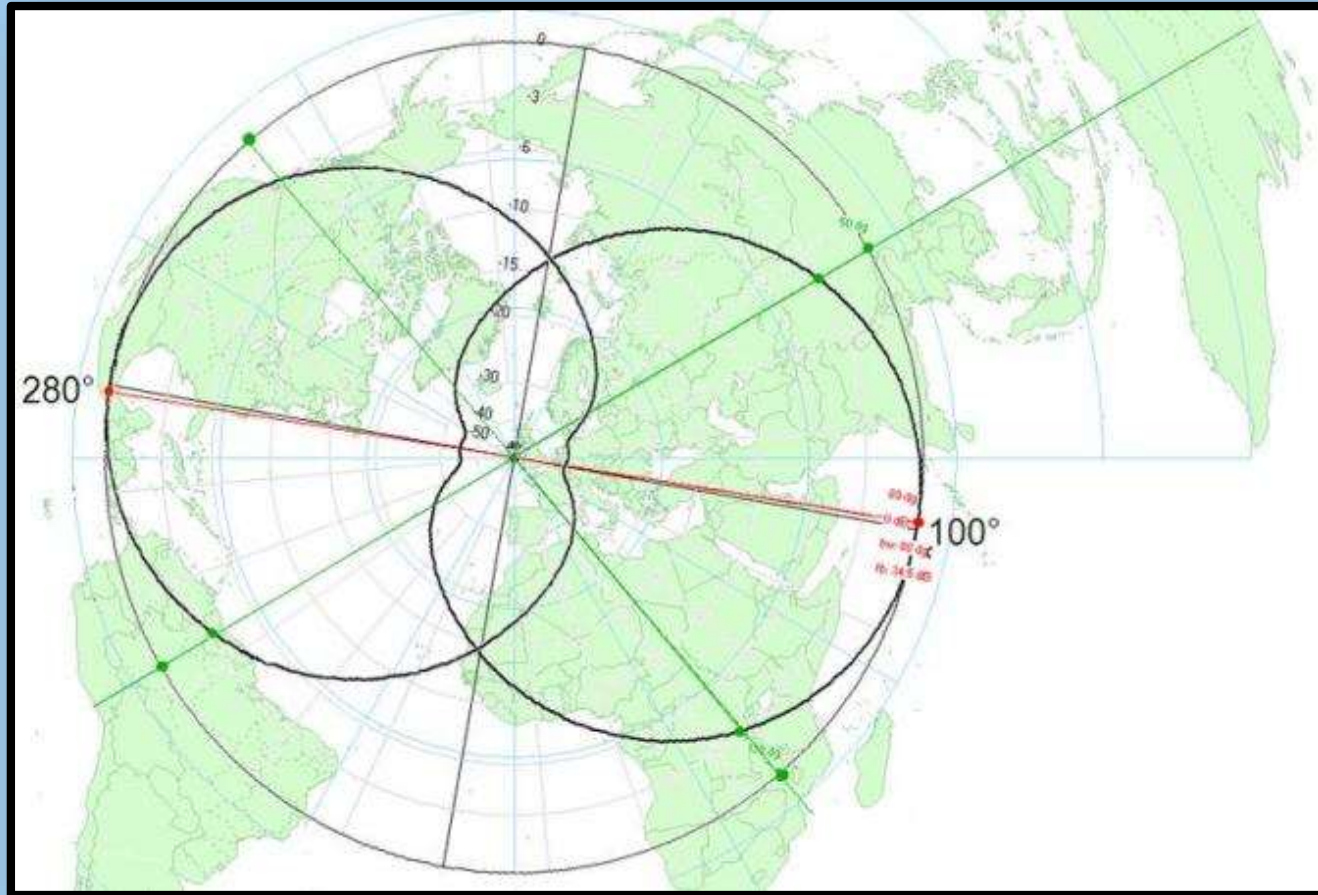
2011 Campervan period EI8GQB



Equal distance between elements allows bidirectionality
11m AGL allows access at the end of elements

Experimentation : 3 elements 40m wirebeam 

2011 Campervan period EI8GQB



Direction East –West (100°)

3db Beam width : 90°

Experimentation : 3 elements 40m wirebeam 

2011 Campervan period EI8GQB



CQ WW DX SSB (October 2011)

EI1A Caravan & Green Energy 2012



2012 Caravan & Green Energy EI1A



Second-hand caravan + SUN & WIND hybrid system

2012 Caravan & Green Energy EI1A



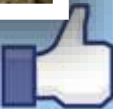
SPRECO/SILENTWIND solution 420W 12V ($\phi = 1.15\text{m}$)



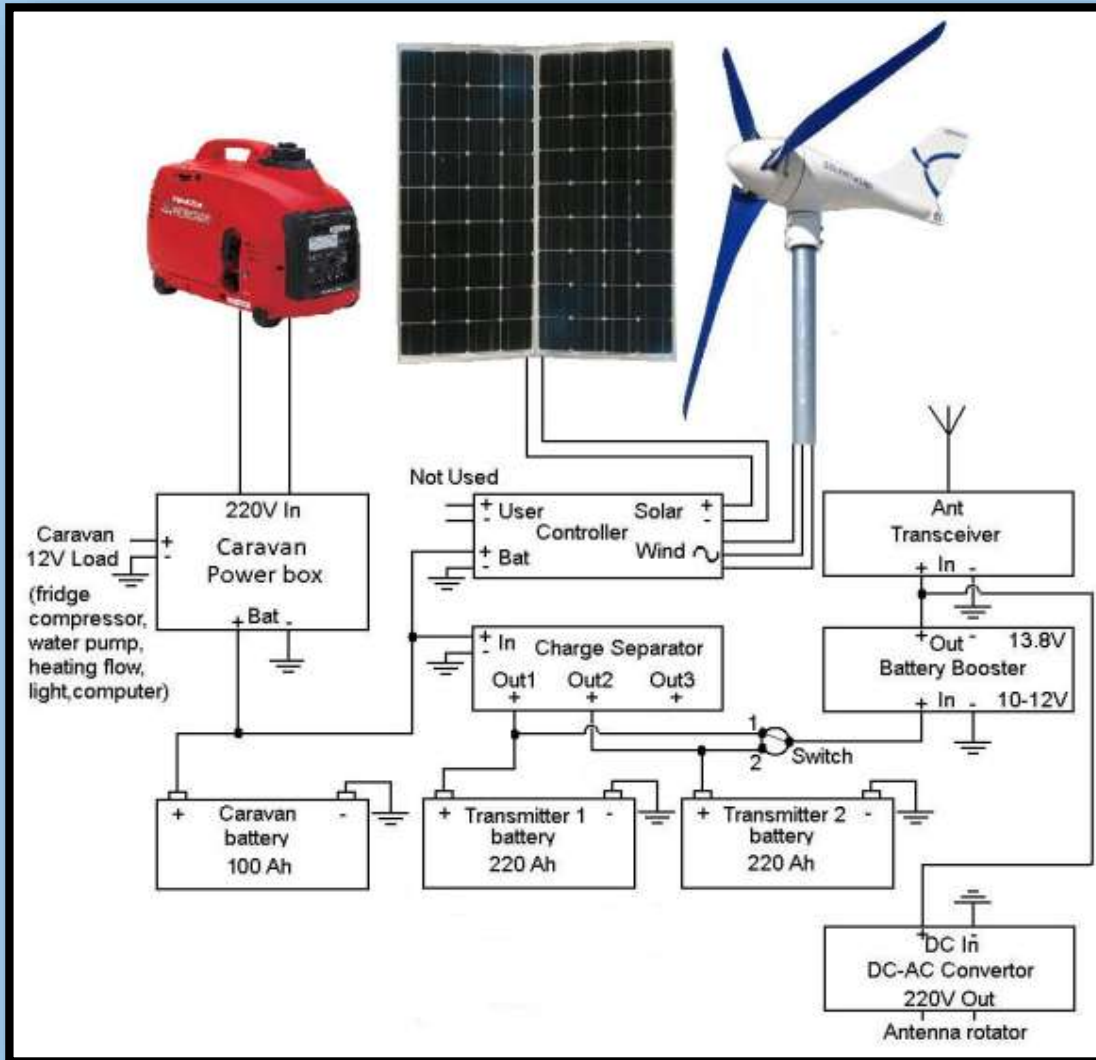
2012 Caravan & Green Energy E11A



2 solar panels 2*90W -> 10Ah (Dimensions :1.2m*0.54m)



2012 Caravan & Green Energy EI1A



-Modification of the caravan electrical system.

-Lamps replacement with 12V LEDs.

-PC with log supplied with 12V.

-Only Rotators use 220V.

2012 Caravan & Green Energy EI1A

Hybrid controller

PWRcheck measure

Battery booster

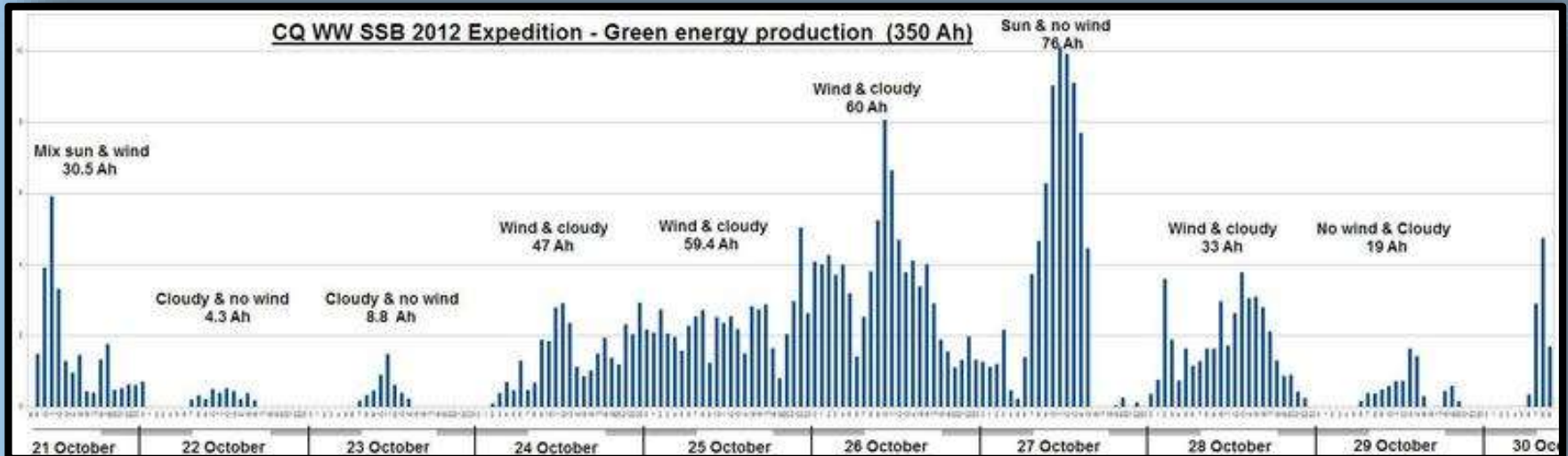
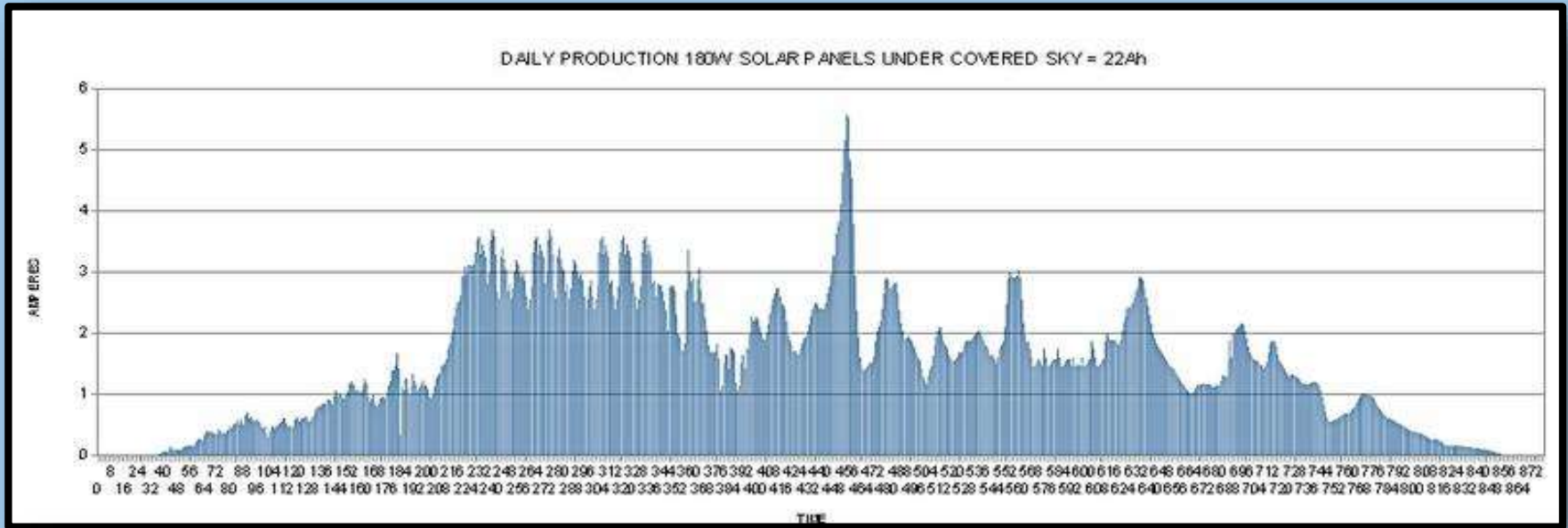
12V-220V converter

Charge separator



2*220 Ah batteries

2012 Caravan & Green Energy EI1A



Measurement of the produced energy (min or hourly)

2012 Caravan & Green Energy EI1A

[Watch It on YOUTUBE ON 4EI's Channel](#)



Green Energy

2012 Caravan & Green Energy EI1A



16m Antenna trailer

2013 EI1A Top Europe station

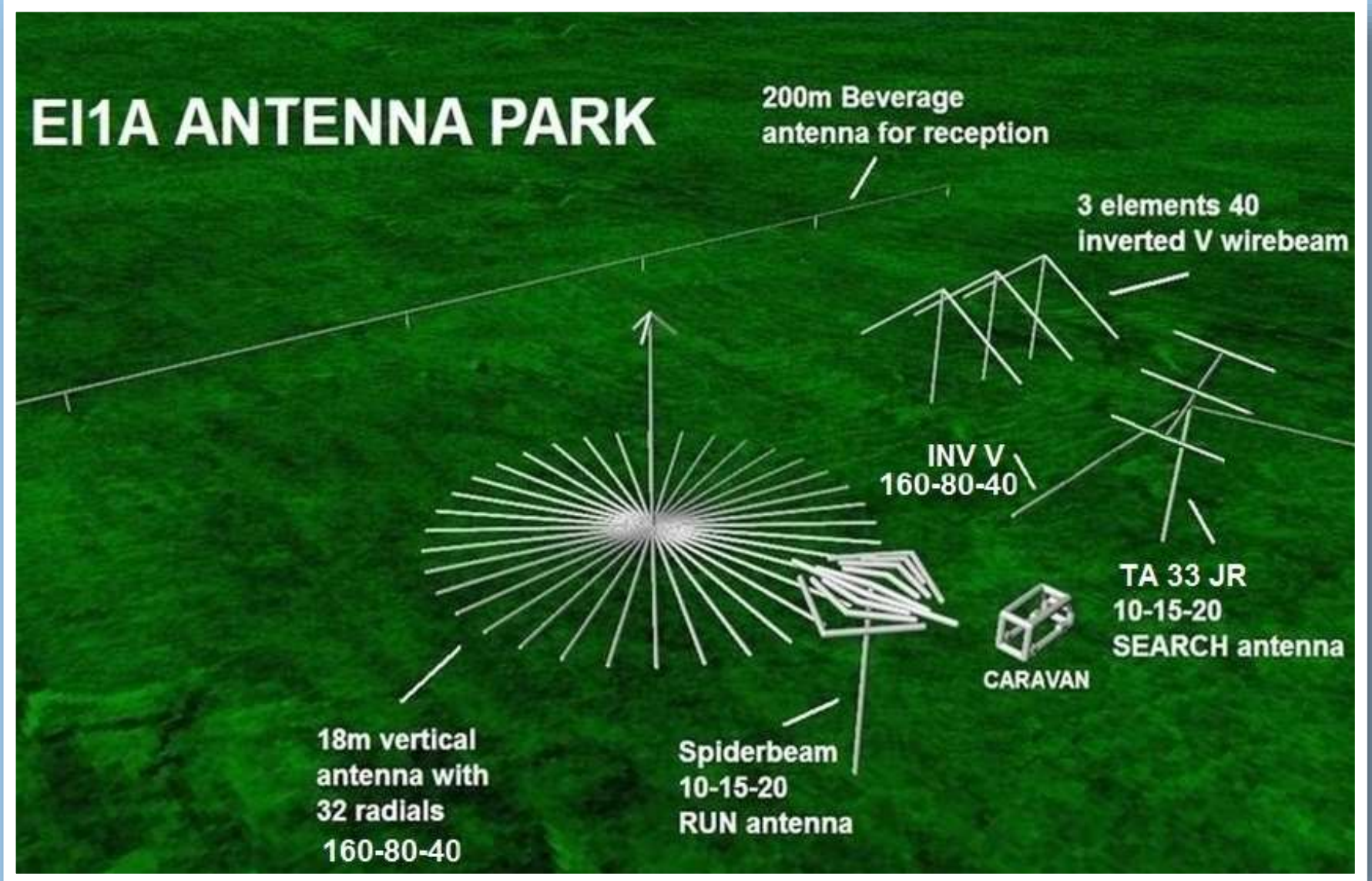


More info see : <http://www.qrz.com/db/EI8GQB>

EI1A Top Europe station 2013 →



2013 → EI1A Top Europe station



2013 → EI1A Top Europe station

- 220m Coax cable / radials 600m
- 3 HF Yagi antennas (Spiderbeam +2*TA33 Mosley)
- 2 Antenna rotators
- 3 Fiberglass poles (2*12m et 1*18m)
- 3 Aluminium masts (2*12m et 1*15m)
- 1 Trailer mast (16m)
- 1 Power generator (2.5kW)
- 1 Wind generator (420W - $\phi = 1.15\text{m}$)
- 2 Solar panels (2*90W - 1.2m*0.54m)
- 3 Batteries (2*220 Ah et 1* 100Ah)
- 2 K3 Elecraft 100W+ P3

2013 → EI1A Top Europe station

SO2Rantennas

	160 m	80 m	40 m	20 m	15 m	10 m
Spiderbeam 1						
Dipole A						
Spiderbeam 2						
Verticale 18m						
3 éléments A						
Beverage RX						

Remote control in the shack



2013 → EI1A Top Europe station



SO2R contest shack

2013 → EI1A Top Europe station



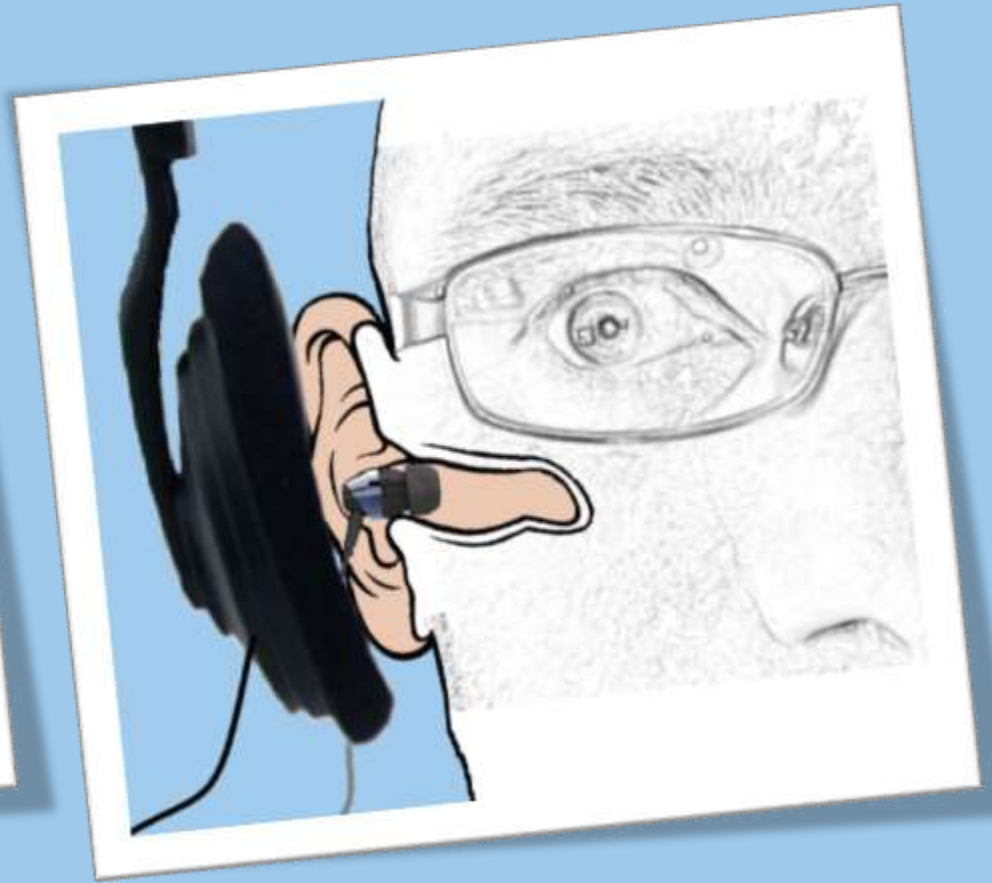
Bandpass
filters

SO2R contest shack

2013 → EI1A Top Europe station



2 Heil traveler headsets



1 headphone & 1 earplug

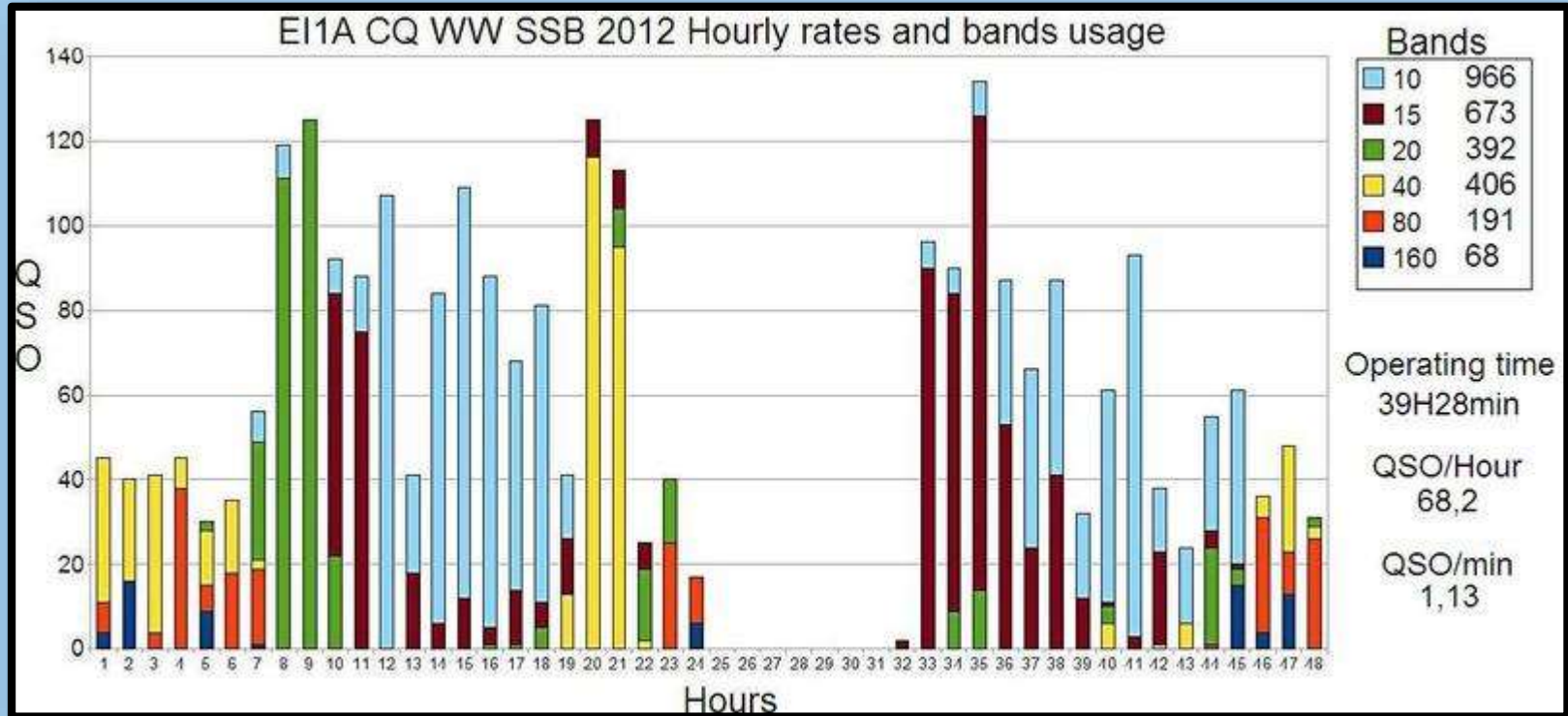
SO2R setup

2013 → EI1A Top Europe station



SO2R test futur

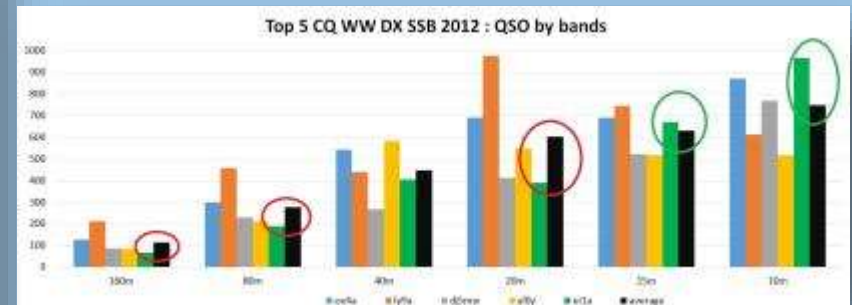
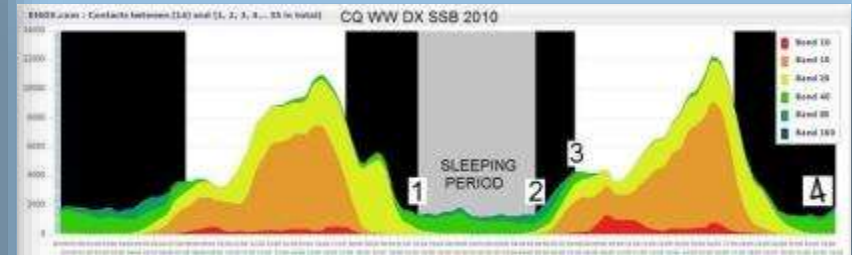
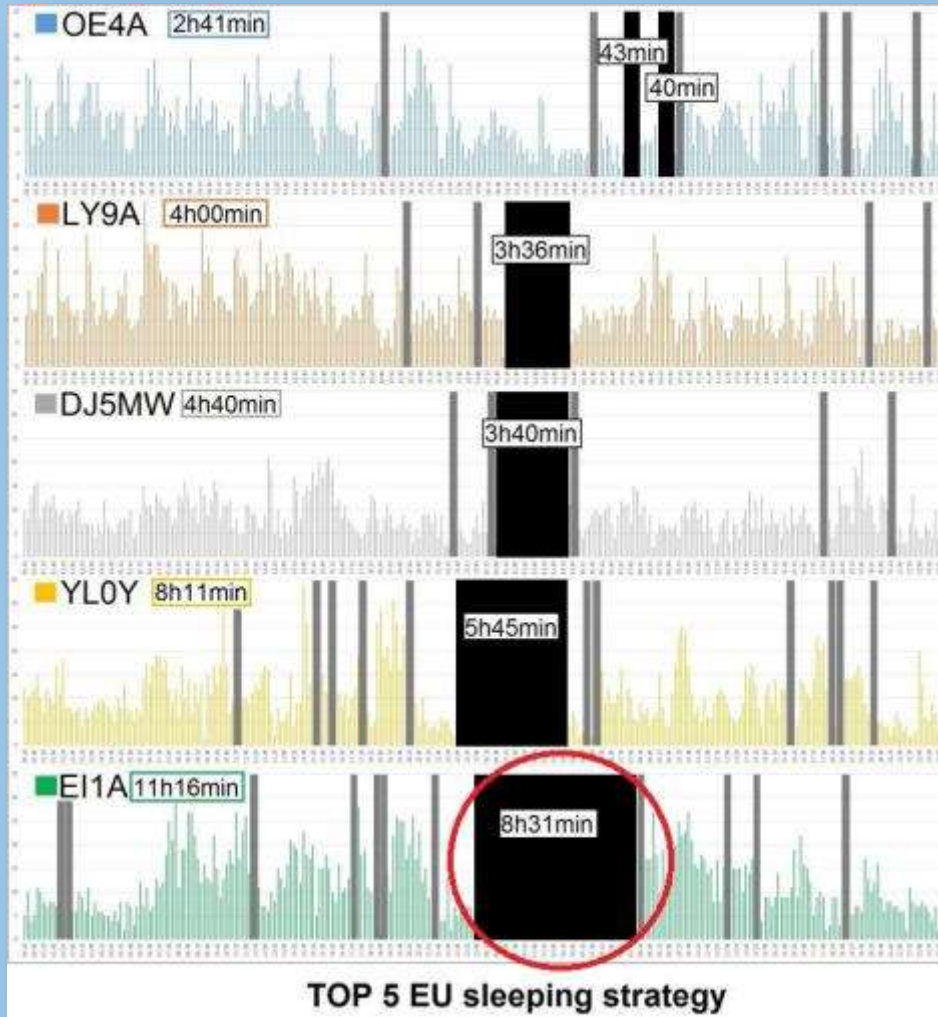
2013 → EI1A Top Europe station



Past results analysis

Continuous improvement approach

2013 → EI1A Top Europe station



Other competitors performance analysis









2013 → EI1A Top Europe station

More results: IOTA FIXED Single-Op Unassisted SSB 24H Low Power Filter

IOTA Contest 2013

[Toggle Map ON/OFF](#)

Map Help: Place the mouse over the red dots on the left to see information about the station, click dot or icon below to zoom in on the right!

Place	Callsign	IOTA Ref	Island	Photo	Video	Map	Soapbox	Category	QSOs	Mults	Final Score
1	EI1A	EU115	Main Island of Ireland					IOTA FIX SOU SSB 24H LP	1302	198	2079000
2	EA8MT	AF004	Gran Canaria					IOTA FIX SOU SSB 24H LP	1079	15	1264025
3	SP1QXK	EU132	Wolin					IOTA FIX SOU SSB 24H LP	492	12	528000
4	M0MCV	EU005	Great Britain					IOTA FIX SOU SSB 24H LP	430	119	448630
5	CS8ABA	EU175	Faial					IOTA FIX SOU SSB 24H LP	354	96	299520

1st world position since 2009

Best performance since 2012

IOTA 2013 contest results

2013 → EI1A Top Europe station

Filter Results

Continent: Country:

Category: Overlay Category:

CQ WPX Contest 2013

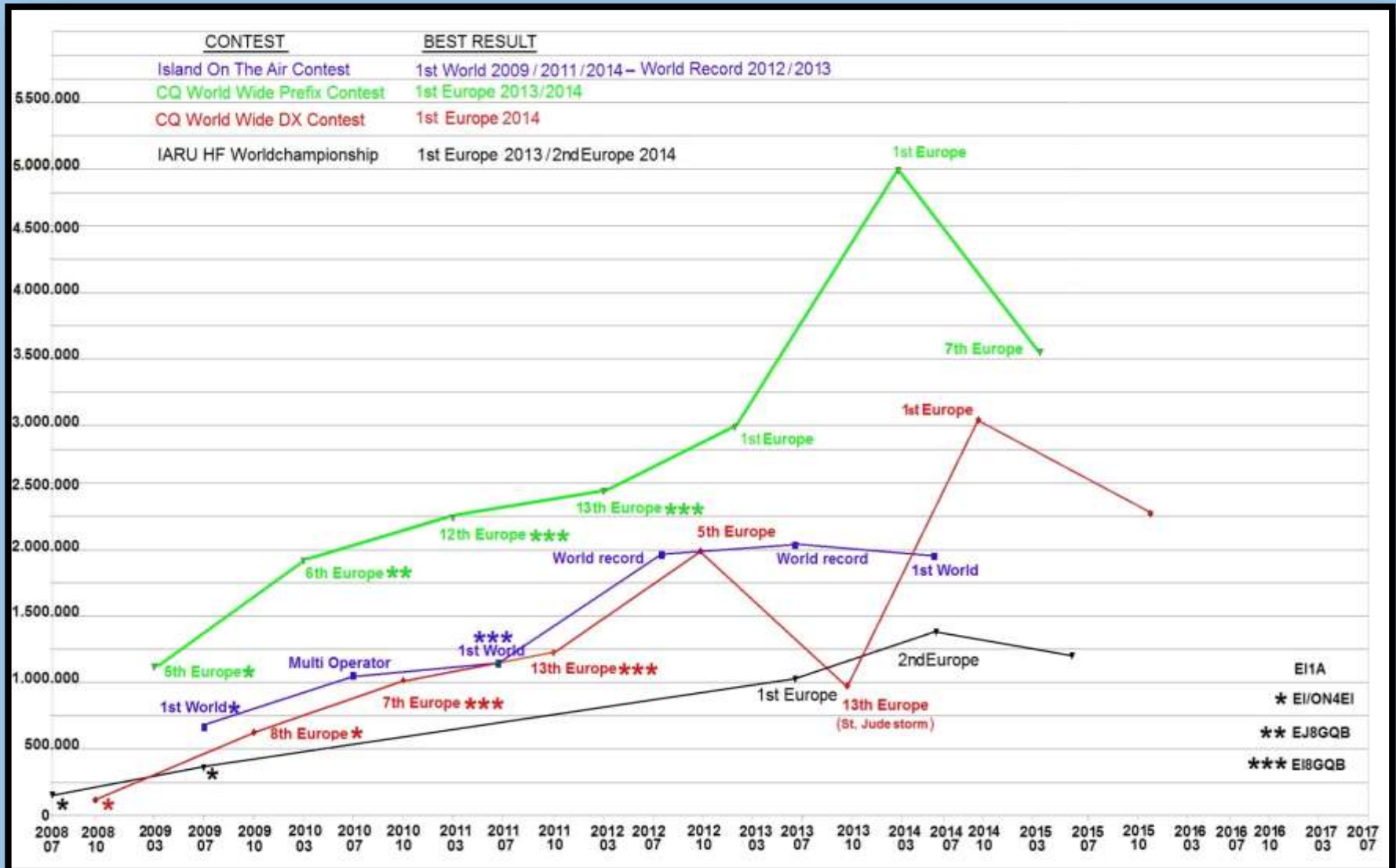
Page 1 of 8 [\[Next\]](#) [\[Last Page\]](#)

Rank	Call	Category	Score	QSOs	WPX	Hours	Operator(s)	Cert
1	EI1A	SO LP ALL	2,984,805	1,943	855	35.3	ON4EI	[Cert]
2	ED7R	SO LP ALL (T)	1,678,320	1,551	720	33.6	EA7IZJ	[Cert]
3	RA7T	SO LP ALL	1,490,055	1,157	617	28.1		[Cert]
4	UR4U	SO LP ALL (T)	1,489,530	1,139	615	34.2	UR4UDI	[Cert]
5	EA2LMI	SO LP ALL	1,458,108	1,212	621	36.0		[Cert]

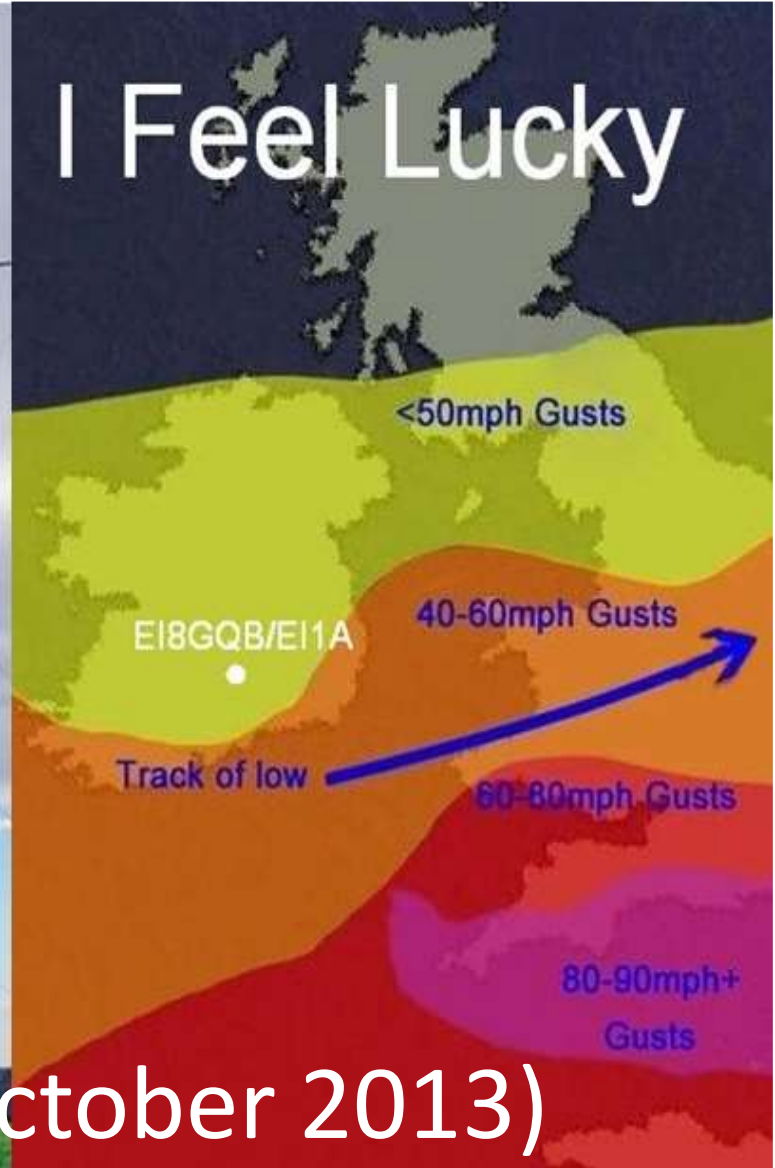
6th World result
1st Europe result
WPX SSB 2013

7th World result
1st Europe result
WPX SSB 2014

2013 → EI1A Top Europe station



2013 → EI1A Top Europe station



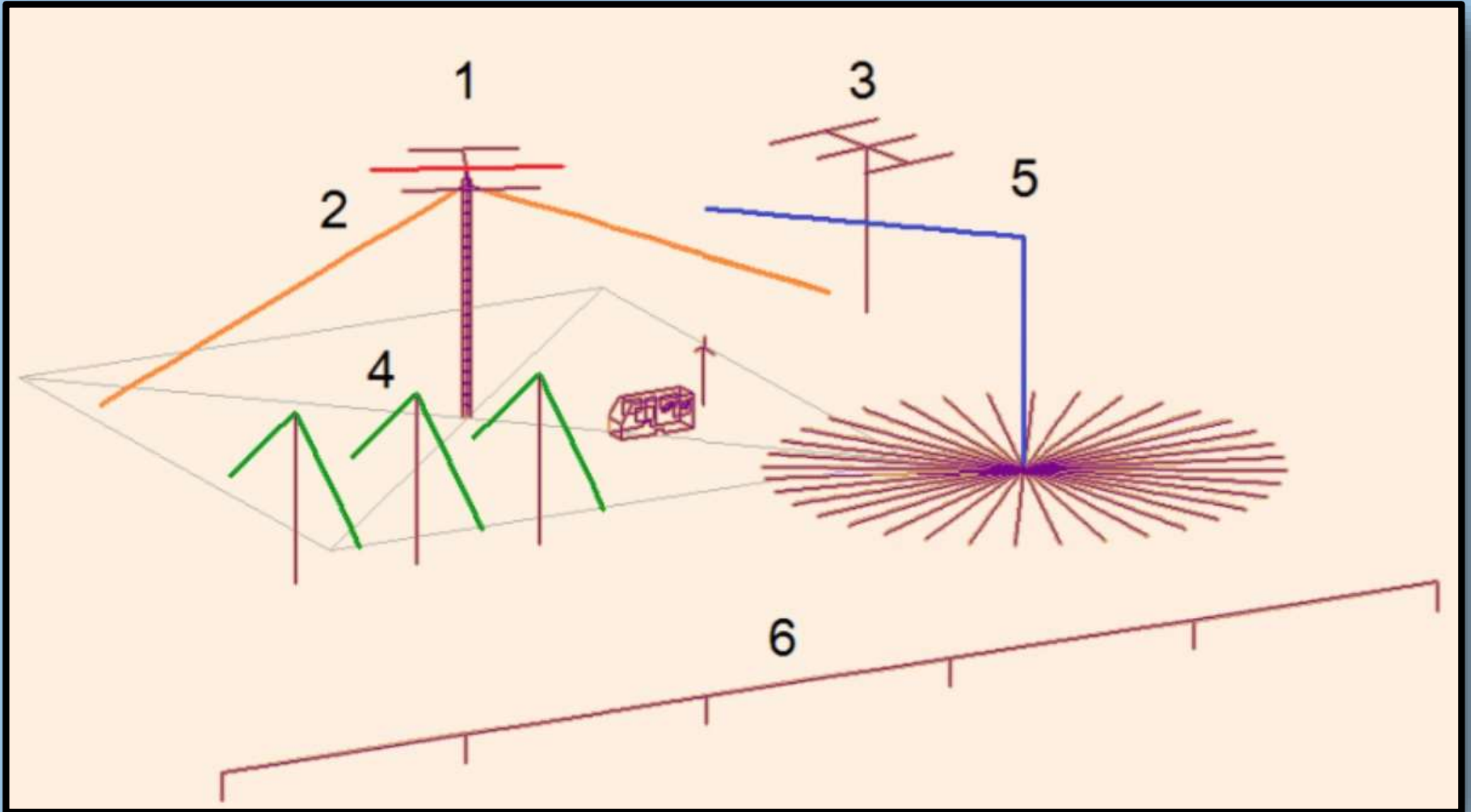
CQ WW DX SSB (October 2013)

2013 → EI1A Top Europe station



EI1A

2013 → EI1A Top Europe station




Antenna park continuous improvement

2013 → EI1A Top Europe station



2013 → EI1A Top Europe station



1933 20years 2013


Database News Forums Swapmeet Resources Contact Subscribe Edit ON4EI

by Callsign

13:44:24 UTC 5 Dec 2013

EI8GQB

Olivier Vandenbalok
Fethard
Co Tipperary
Ireland
[-] Mailing label



Lookups: 3970
QSL: QSL MANAGER PA3249 BURU OM BURU

Biography Detail Logbook 349 Log a NEW contact with EI8GQB...

Time left to next Expedition: 106:10:14:46
Day Hr Min Sec

Live earth geomagnetic activity: QUIET

Live solar activity: ACTIVE

Information banner update - October 30 - 18:55 UTC

Off Air until March 2014 > Thank you for following EI8GQB/EI1A > Conference at ON5UB Brussels radio club, 5th december 2013.

Hello and welcome to my blog.

I operated EI8GQB between 20th to 30th October 2013 from a caravan using green energy.

I am now operating Single Operator 2 Radios (SO2R) with 5 different antennas in portable conditions like disaster/emergency situation. It represents 40 hours of work in order to be fully operational on 5 bands.

With my contest callsign EI1A, I made part to the CQ World Wide DX SSB contest during October 26-27th 2013 weekend and broken antennas during the storm.


My objective was to run this 48 hours competition using green energy only.

Also check my new experience with live video streaming from the caravan on <http://www.ustream.tv/channel/ei8gqb>

Stay tuned and see below my stories.

73 from Olivier [EI8GQB/EI1A/ON4EI](#)

QSL MANAGER : PA3249 via BURU or via DIRECT to Harry de Jong, Broekdijk 59, 7695 TC Bruchterveld, The Netherlands.



EI1A - EI8GQB
Single Operator All Band Low Power Unassisted category
CONTEST RESULTS

2013 → EI1A Top Europe station



Become a member of ON4EI YOUTUBE channel !!!

20 Videos
58 members
17505 views

8500 QSO/year

QSL Manager
PA3249



<u>EI8GQB</u>	78.941 views
<u>EI1A</u>	20.438 views
<u>EJ8GQB</u>	18.512 views
<u>EJ4II</u>	13.922 views
<u>ON4EI</u>	8.866 views
<hr/>	
Total	140.679 views

2013 EI1A Top Europe station



More info see : <http://www.qrz.com/db/EI8GQB>

E11A