

# VP8ORK

(THE 160 EXPERIENCE)

John Sluymer, VE3EJ

# VP8ORK - Geography

- South Orkney Island Group.
- 9 Main Islands - (Largest Island is Coronation Is)
- Laurie Island has LU Base.
- Signy Island (VP8ORK) British Antarctic Survey Base.

60° 42.006' South

45° 36.237' West

- 5 days by boat from Ushuaia, Argentina.











# VP8ORK

## A LONG WAY FROM EVERYWHERE

### Distances in Miles:

W1 – 7,540

W6 – 8,600

Central EU – 8,600

Northern EU – 9,700

UA0/UA9 – 12,000

JA – 11,000

VK – 6,200

ZS – 4,400

PY – 3,900

LU – 1,800











































# Battle Creek Special (BCS antenna)

- The Battle Creek Special Antenna
- The "Battle Creek Special" is a 3-Band-vertical Marconi-antenna for the bands 40 m/80 m/160 m with a ground net of wires as radials. The antenna has two traps, for 40 m and 80 m.
- The Battle Creek Special was developed by K8GG, W0CD and W8UVZ in Battle Creek, Michigan.
- Many DX-peditions used this genius antenna with good results for the low-bands.
- On 40 m it is a stretched lambda/4-vertical. On 80 m and 160 m it is working as an inverted-L with a vertical part, built with aluminum tubes and two inverted-L-parts with wires.
- The traps can be constructed with RG-213 coax-cable.
- As radials you should use as many as possible, lengths  $\geq 18$  m.
- The dimensions in the table below are only for experimenting, the antenna must be tuned for CW or SSB operation. l 1 must be lengthened for best SWR on 40 m, l 3 for 80 m and l 4 for 160 m. On all bands an SWR  $< 1,8$  must be available for operating with the built in pi-filter of a tube-amplifier.







































SPEED

ON CW PTT CAT FSK

IN1

IN2

OUT

MENU

DISP

CONFIG

METER

XMIT

ATU  
TUNE

TUNE

ATU

RX  
ANT

ANT

AF — SUB

RF / SQL — SUB



ELECRAFT K3 TRANSCEIVER

S1 3 5 7 9 20 40 60



SWR

2

3

RF

50

100

VOX  
AGC- F

ANT1

XFIL

FL2

1828.50

[A]

CW  
REV

[SPLT]

[TX]

[B]

1826.47

SHIFT

LO

CUT

HI

WIDTH



NORM



I/II



DELAY



MON

[A]

FREQ  
ENT

SCAN

FINE

COARSE

RATE

LOCK

SUB

A/B  
1

B SET

PRE  
4

ATT

NB  
7

LEVEL

SPOT

PITCH

[B]













# VP8ORK

On air 12 days – 10 nights on 160

- First QSO – 27 January 2011 – 17:28 Z
  - Last QSO – 8 February 2011 – 08:00 Z
  - First 160 QSO – **CW5W** – 29 January, 2011 – 00:15 Z
  - First NA 160 QSO – **W2GD**\* – 29 January, 2011 – 04:23
  - Last 160 QSO – **N7DC** – 8 February, 2011 – 07:12 Z
- \* **W2GD** was also QSO # 2 on 160! It took 4 hours to make 2 QSO's in the CQWW 160 contest!

## VP8ORK – CQWW 160 contest

- 65 QSO's made both nights combined!
- Too far from population centers.
- Too much QRM in NA & EU to hear us.
- Directional RX antennas not pointing South.
- Our antenna was not optimized.



# Antenna Optimization

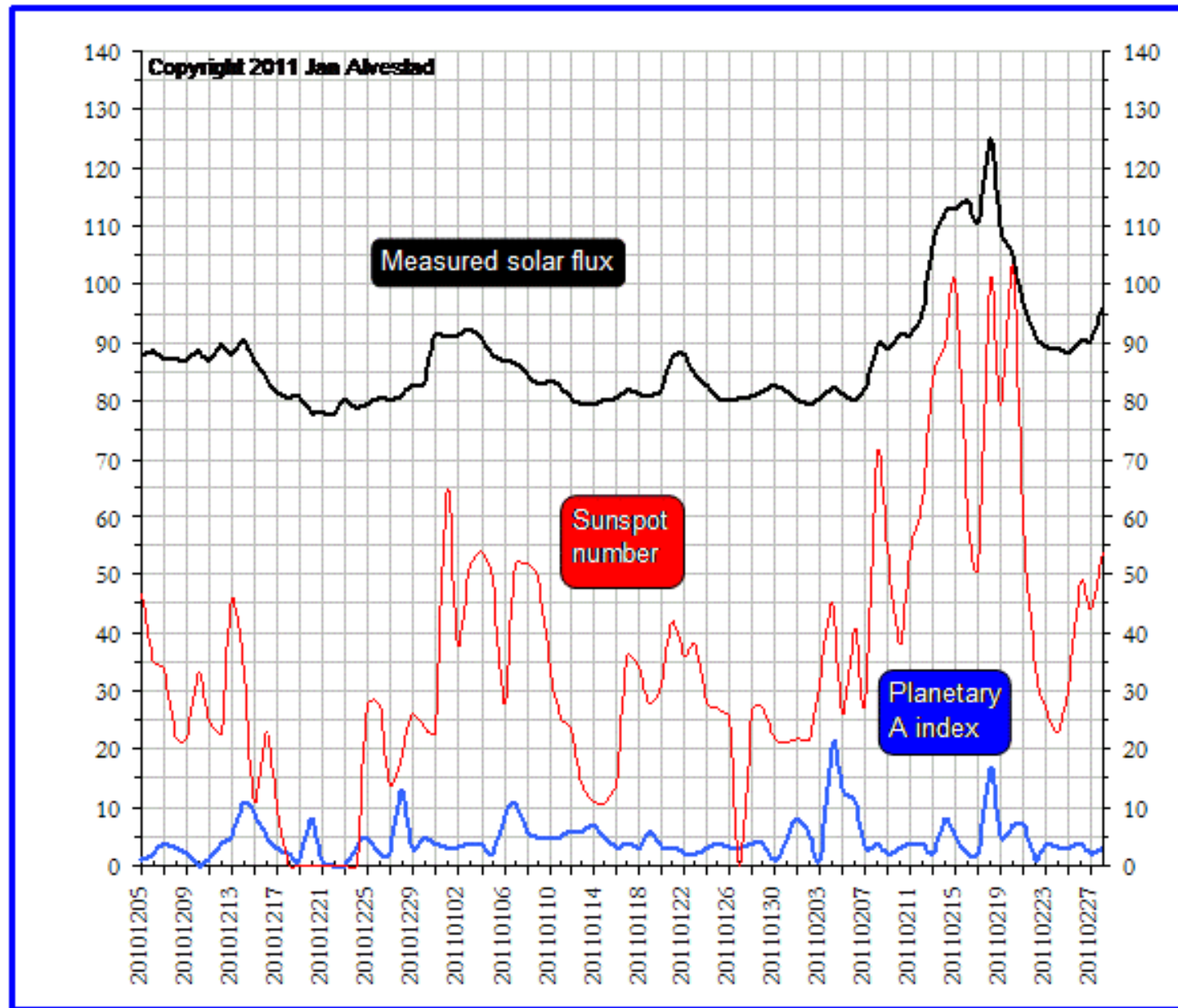
- “Battle Creek Special” is an inverted “L” on 160 meters.
- Initial horizontal wire appeared to be about 8 or 10 feet too long.
- Antenna located high and away from Salt water.
- Minimal overburden over rock ground.
- Antenna comes with (32)  $1/8\lambda$  radials.

# Antenna Optimization

- Benefits from coastal salt water QTH were minimal at VP8ORK. This required us to work on ground system improvements.
- Antenna re-location was considered but seal migration and distance from camp made this option prohibitive.
- Added another (20)  $1/4\lambda$  to  $1/2\lambda$  radials.
- Horizontal wire now required lengthening to original specified length.
- VSWR slightly higher.



# Solar Terrestrial Activity



# VP8ORK – Sun Rise/Set

## **Sun Rise**

27 January: 06:39 Z

8 February: 07:14 Z

## **Sun Set**

27 January: 23:49 Z

8 February: 23:18 Z

6 hr 50 min dark 27 January.

7 hr 56 min dark at end of expedition.









# VP8ORK – 160 Meter QSO Distribution

**Total QSO's – 1906**  
**(Sub-Antarctic DX Pedition record)**

NA – 992 = 52%

EU – 823 = 43%

SA - 56 = 2.9%

AS - 20 = 1%

AF - 12 = 0.6%

OC - 3 = 0.1%

# VP8ORK – Odds and Ends

- No auroral zone to cross going to major population areas.
- VP8ORK is a long distance away from 95% of ham population.
- We were not loud but we could hear very well.
- Many stations at the other end do not hear well.
- Many repeats and a lot of “QSO by timing” attempts.











VIBORIK  
655 304

3XØX  
1348 5550 S

Feb 2006

Return to the lake  
Bottom up the lake  
for the same time

24 6118

160-640's

1XØIP

160-640's

160-640's

160-640's

160-640's

160-640's

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160-640's

160-640's



# VP8ORK Team:

**VE3EJ, ND2T, 9V1YC, N6MZ, WB9Z, K0IR, K6AW, N1DG, N4GRN,  
W7EW, K9ZO, W3WL, EY8MM**





# Braveheart Crew

Carlos, Gerard, Broughton, Mat, Daniel, Nigel, Ash



# Sponsors

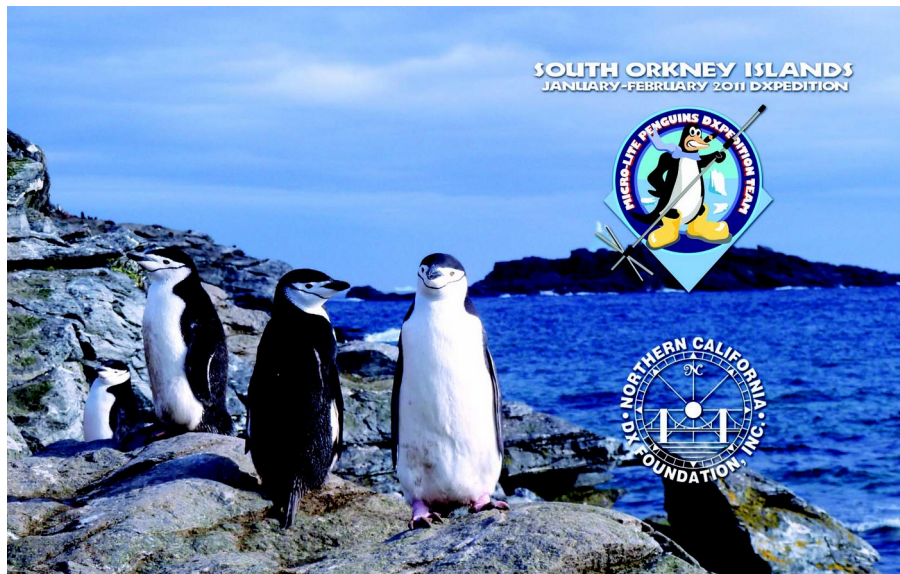
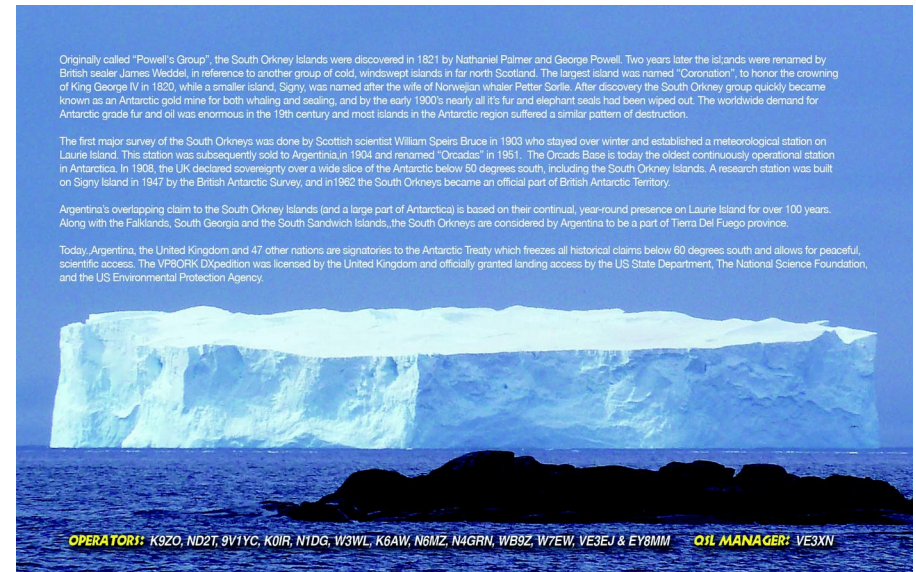
- Thanks to the hundreds and hundreds of Individual, club and foundation sponsors.
- Operations like VP8ORK are not possible without your support.
- We are indebted to you all.
- See: <http://www.vp8o.com/>



# Our Generous Corporate Sponsors

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# QSL Card



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**Individual Donors**

\$1000 and up: W5BXX  
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 \$100 and up: VE1DX, N7TR, K7HC, W3SE/ZL3TE, KA6G, K3SX, W8UV, N8BI, K7MTR, K7CMR, J2HCJ, NC7M, OH2BU, KH6P, DJ0QN, W2RL, RJ3AA, K9APW, AD6ZI, G0TSM, K6NR, JH2BNL/NH0AA, W0ZT, K2MUB, HB9RG, K2HK, N0RB, NR7E, N6PSE, NF4A, W0GJ, LA6VM, OK1MP, JA5EXW, IK4AU, KOAN, OH6VM, UA0BA, HB9DKZ, W3ACO, N7MQ, W6AQ, DJ4MM, IDL2OE, Anonymous, PY5EG, VA6JV, K9CT, NOJK, HB9ASZ, JH1ROJ, DJ9RR, KM3T, W0ZT, WA7NB, VE3CFK, WA9XB8, NR7E, JRTVHZ, N6TV, WA1S, W0ELT, OH1TV, VE3OI, SP5DRH, VU2PAI, K3UL, W4BQF, LZ1QN, OH6NL, W7DO, A46PK, K3PP, OH2XX, EA8ZS, V590FS, JA5XWB, E16IZ, JA8GQZ, K6NR, KBME, W3ODJ, KBFF, XE1V, OM3AG, RC9F, VE3AD, VA7DX, K9ZM, W4PK, N0TT, G3LZQ, WB4JTT, WS9V, SMSAQD, VE2AWW

**Special Thanks**

VP8NO, ZL2DX, WA6HHQ, K4SSU, K4DLI, N4FN, KJ4HCE, WA4ZKV, W4KLY, N4HH, WB7WO, KJ4UKU, XYL W3WL, K4UEE, K6XW, N6BV, W4GKF  
 Randy Beams, Glenn Gilbert, Paul Ward, Belinda Sawyer, Aaron Tait, Matt Jobson, Mike Dinn, Aimee Hesser, Nadene Kennedy, Harold Foster, David Rootes, Annie Hill





Thank you for listening ..... CU on 160

73,

John, VE3EJ