

The 100 Pound DXpedition

B. Scott Andersen ~ NE1RD

The general idea

- * Travel to an interesting place — interesting doesn't necessarily mean exotic, expensive, or dangerous
- * Bring a manageable amount of equipment (100 pounds or so, not a hard limit)
- * Use simple, effective equipment, antennas, and techniques
- * Concentrate on doing things right, even if you aren't doing things big

Science and planning

- * The key thing for a successful 100 Pound DXpedition is **planning**
- * Collect a solid set of equipment long before a trip and learn it well
- * Set goals for your DXpedition and treat it as you would any important personal project
- * Learn enough about the science of the hobby to make good trade-off decisions

It has to fit into this

- * Transceiver, power supply, tuner, headset, foot peddle, paddles
- * Antennas, coax, connectors, masts, rope, coils, wire
- * Computer, clothes, toothbrush, etc.



2 S-units



PROJECT

KP2/NE1RD

CQ WW WPX SSB

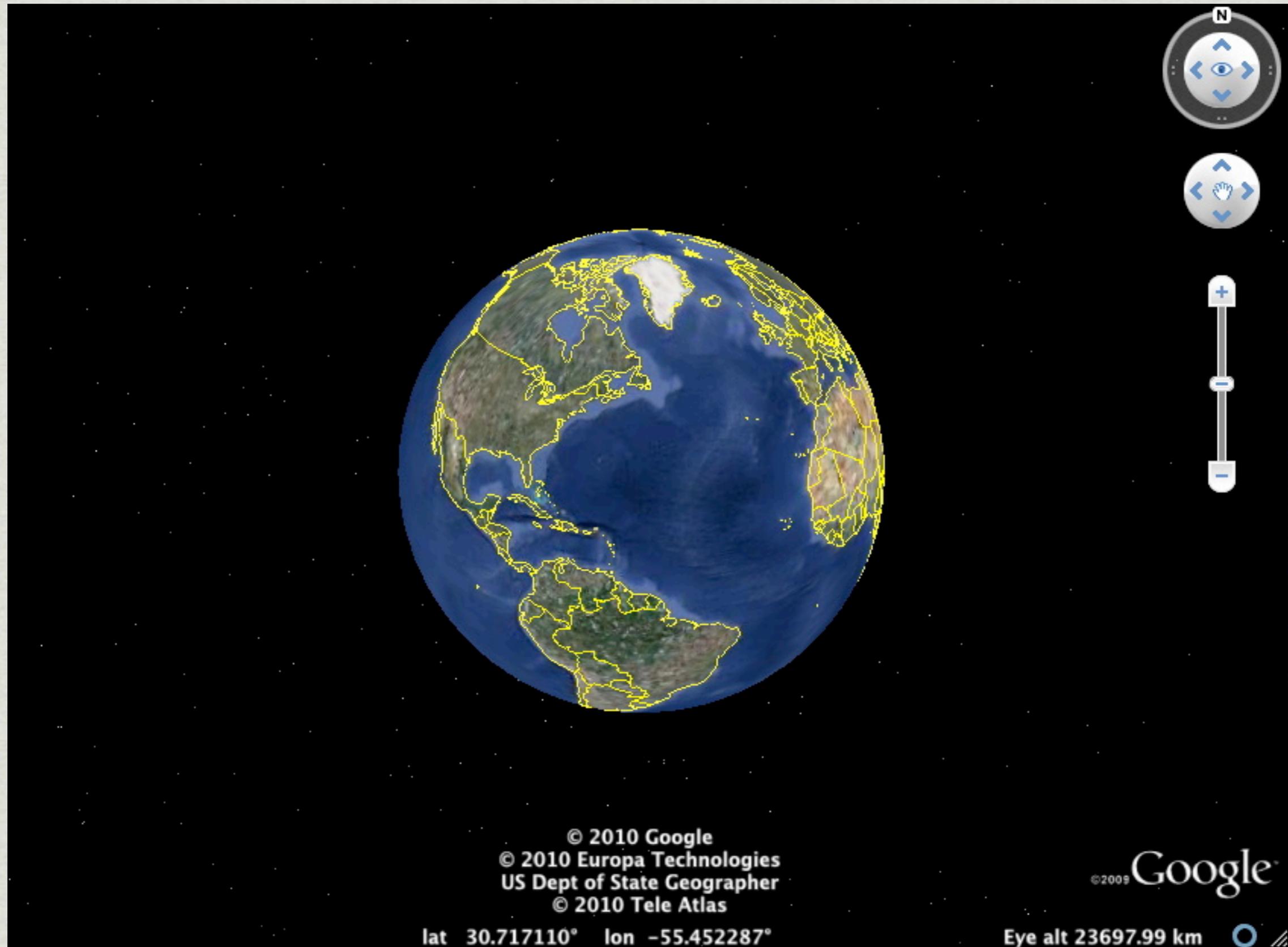
DATE

MARCH 2010

ST. THOMAS

Set goals

- * Have a great and relaxing vacation with Sandy
- * Go someplace easy, no licensing issue
- * Operate in a contest
- * Get materials for my FDIM talk
- * Talk to some friends back home while there
- * Try to set a record in the contest



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lat 30.717110° lon -55.452287°

Eye alt 23697.99 km 



Stargate Villa, USVI, St. Thomas
Seabright Villa
Seabright Villa
Seabright Villa

Neltjeberg

Barrett

Mandal



Saint Thomas

Tutu Park Mall
Four Winds Plaza Shopping Center

Adelphi

Charlotte Amalie

Donoe

Anna's Retreat

Charlotte Amalie East

Benner

Charlotte Amalie West

Cabritaberg

Bellevue

Bolongo

Fishing poles and BPs

- * Great property
 - * Roof mounted
 - * 33' mast 80m V
 - * 20' pole 40m V
 - * 15m whip
- 
- * Buddipole dipole on 16' mast (so about 35-40' high) for 20m
 - * Not enough coax, 15m antenna unnecessary



Stargate Villa, USVI, St. Thomas
Seabright Villa
Seabright Villa
Seabright Villa

Barrett

Neltjeberg

Mandal

Saint Thomas

Tutu Park Mall
Four Winds Plaza Shopping Center

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Bellevue

Bolongo

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Seabright Villa
Seabright Villa
Seabright Villa



Seabright Villa

Seabright Villa

Seabright Villa









**North
Japan**

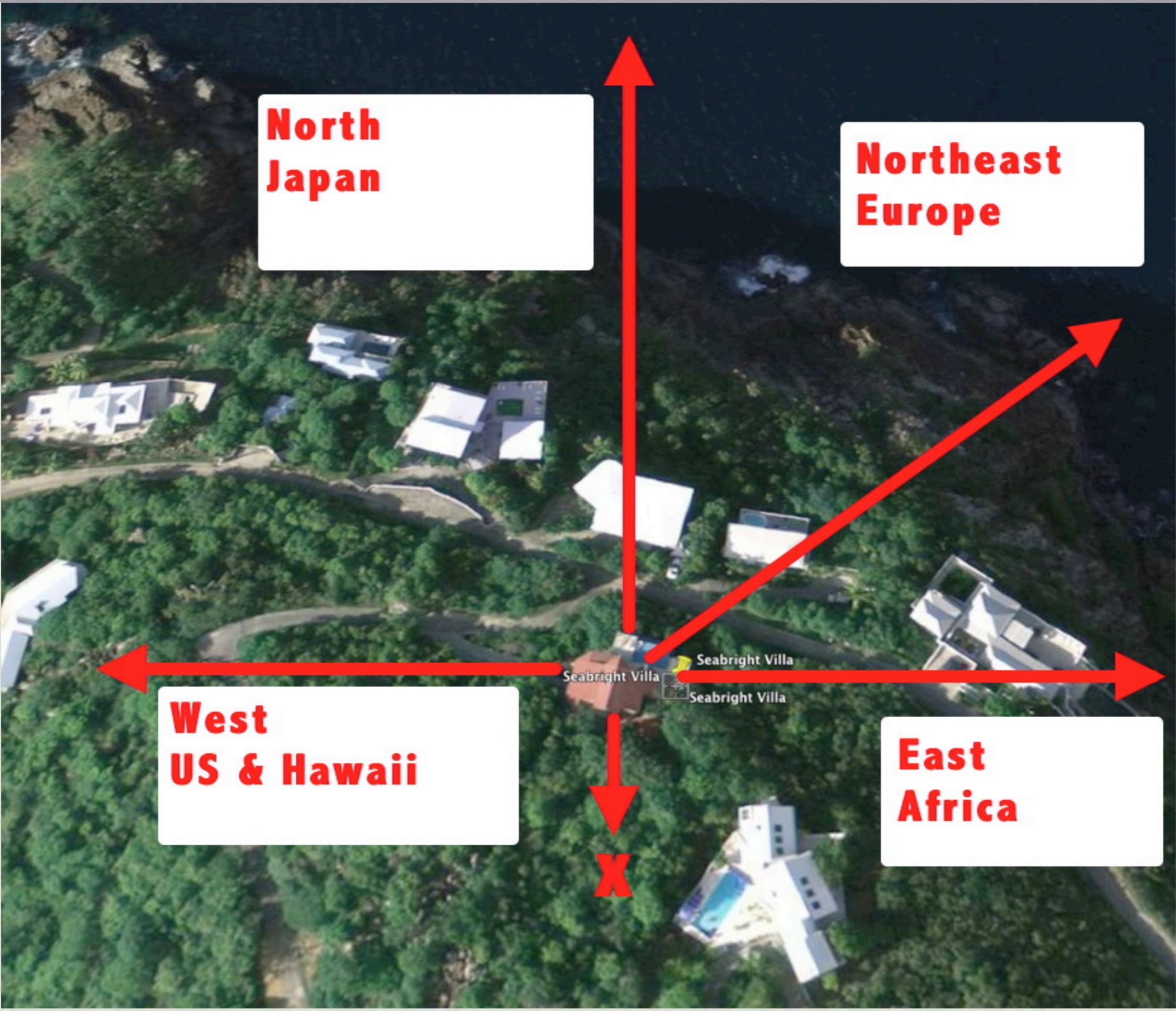
**Northeast
Europe**

**West
US & Hawaii**

Seabright Villa
Seabright Villa

**East
Africa**

X









Stargate Villa, USVI, St. Thomas
Seabright Villa
Seabright Villa
Seabright Villa

Neltjeberg
Barrett
Saint Thomas
Mandal
Tutu Park Mall
Four Winds Plaza Shopping Center
Charlotte Amalie
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Benner

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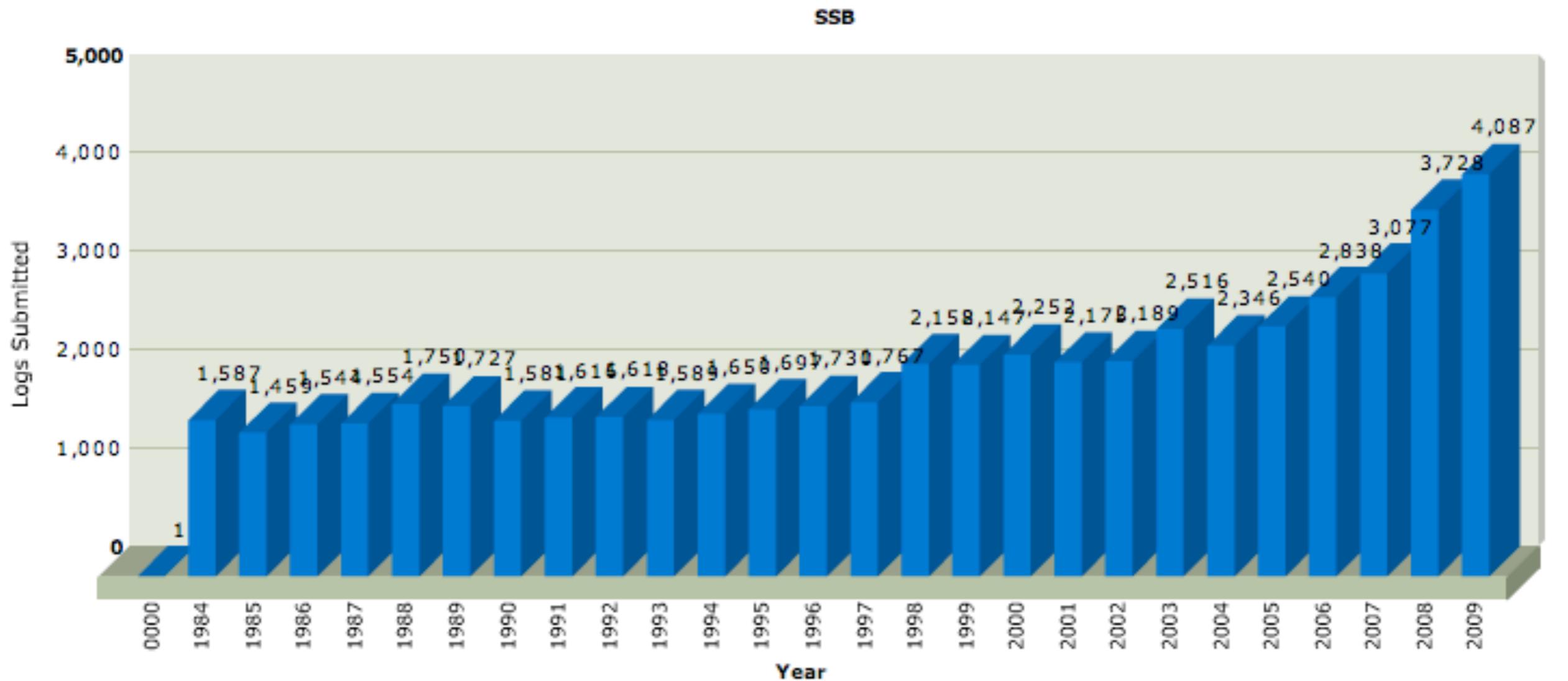
© 2009 Google

What is a WPX contest?

- * A 48 hour contest where everybody can work everybody
- * QSOs have points based on where the other station is (different continent, country, etc.)
- * Prefixes are multipliers (KP2 is a mult, W1 is a mult, KB7 is a mult, etc.)
- * Score is total points times total multipliers

CQ WPX activity

WPX Total Log Entries



Goal: Set a record

CQ WPX Contest Score Records for Virgin Islands

SSB (0000 - 2009)

Single Operator - QRP

<u>QRP ALL</u>	NP2Q	1999	425,047	287
QRP 10M	<i>no entry</i>			
QRP 15M	<i>no entry</i>			
QRP 20M	<i>no entry</i>			
QRP 40M	<i>no entry</i>			
QRP 80M	<i>no entry</i>			
QRP 160M	<i>no entry</i>			

Single band



Single band



Single band





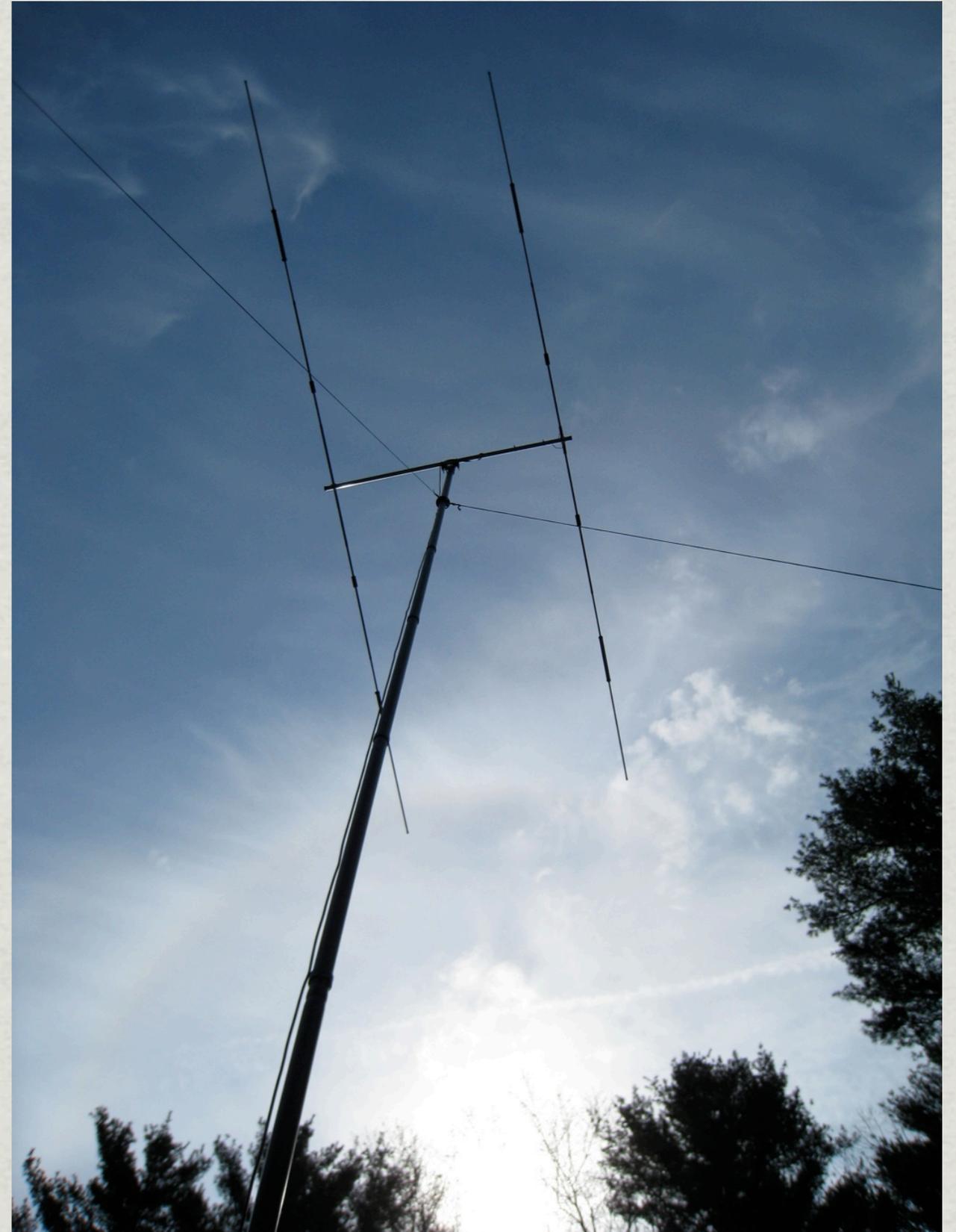
BUDDIPOLE COMPONENTS



MOSLEY 2 ELEMENT TRIBANDER



ON A PAINTER'S POLE ON V4



K1P SPECIAL EVENT STATION

MOSLEY MINI-32-A

Frequency => 28, 21, 14 MHz

Forward Gain

10 meters, 2 element => 5.1 dBd

15 meters, 2 element => 4.5 dBd

20 meters, 2 element => 3.3 dBd

Front-to Back Ratio

10 meters => 17 dB (avg.)

15 meters => 17 dB (avg.)

20 meters => 17 dB (avg.)

Boom Length => 6 feet

Maximum Element Length => 16.67 feet

Assembled weight => 8 pounds

**THIS IS A SPECIAL ORDER
ITEM ~ CUT SUCH THAT THE
MAXIMUM LENGTH FOR
EACH PIECE IS 4 FEET.**

**THIS FITS INTO A HARD-
SIDED GOLF BAG.**

Golf bag



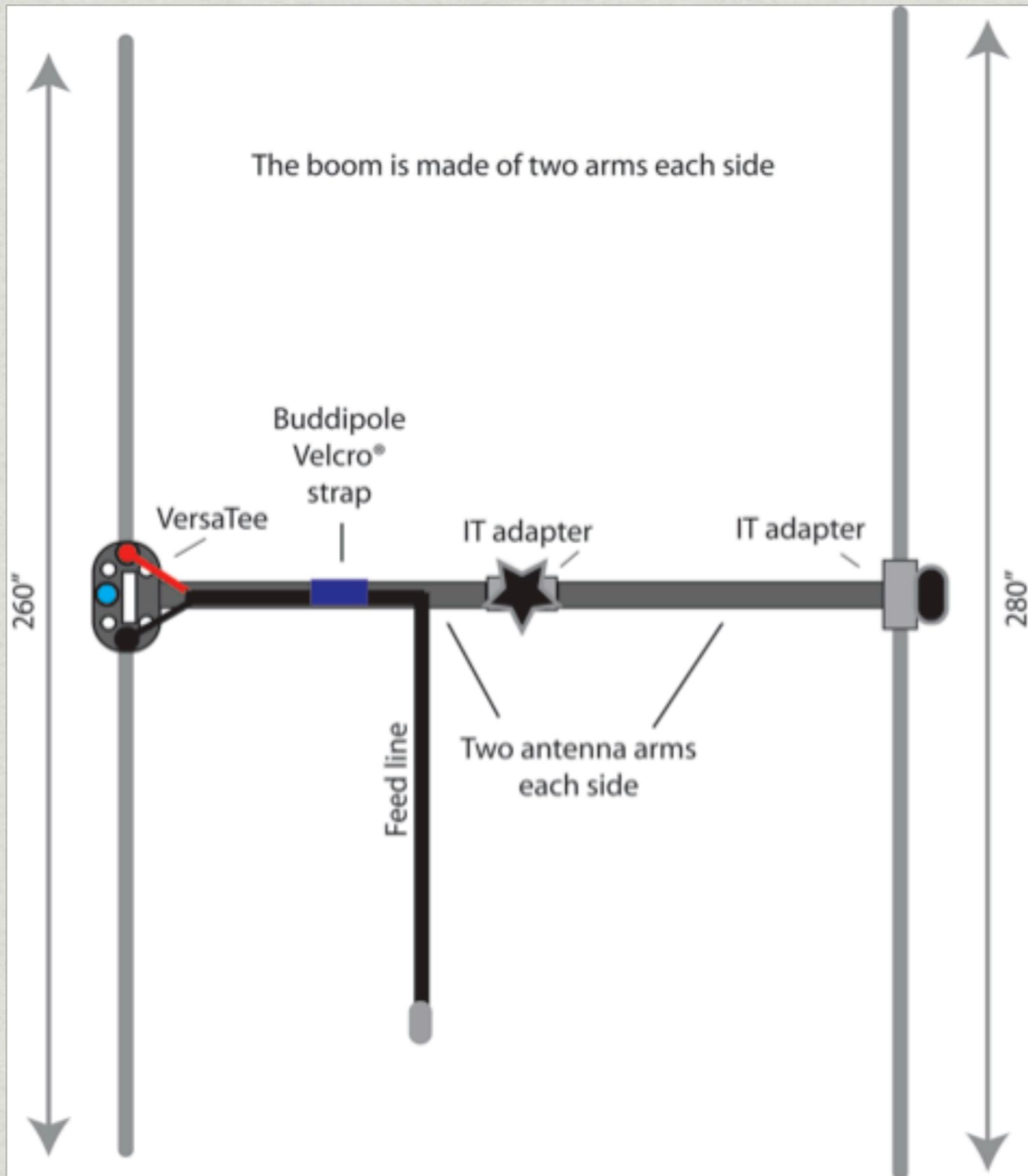
Willing to take more?

- * Typical baggage allowance = 2x50 lbs + carry on
- * Golf bag counts as a single bag but can be up to 70 lbs
- * XYL gives you extra allowance!



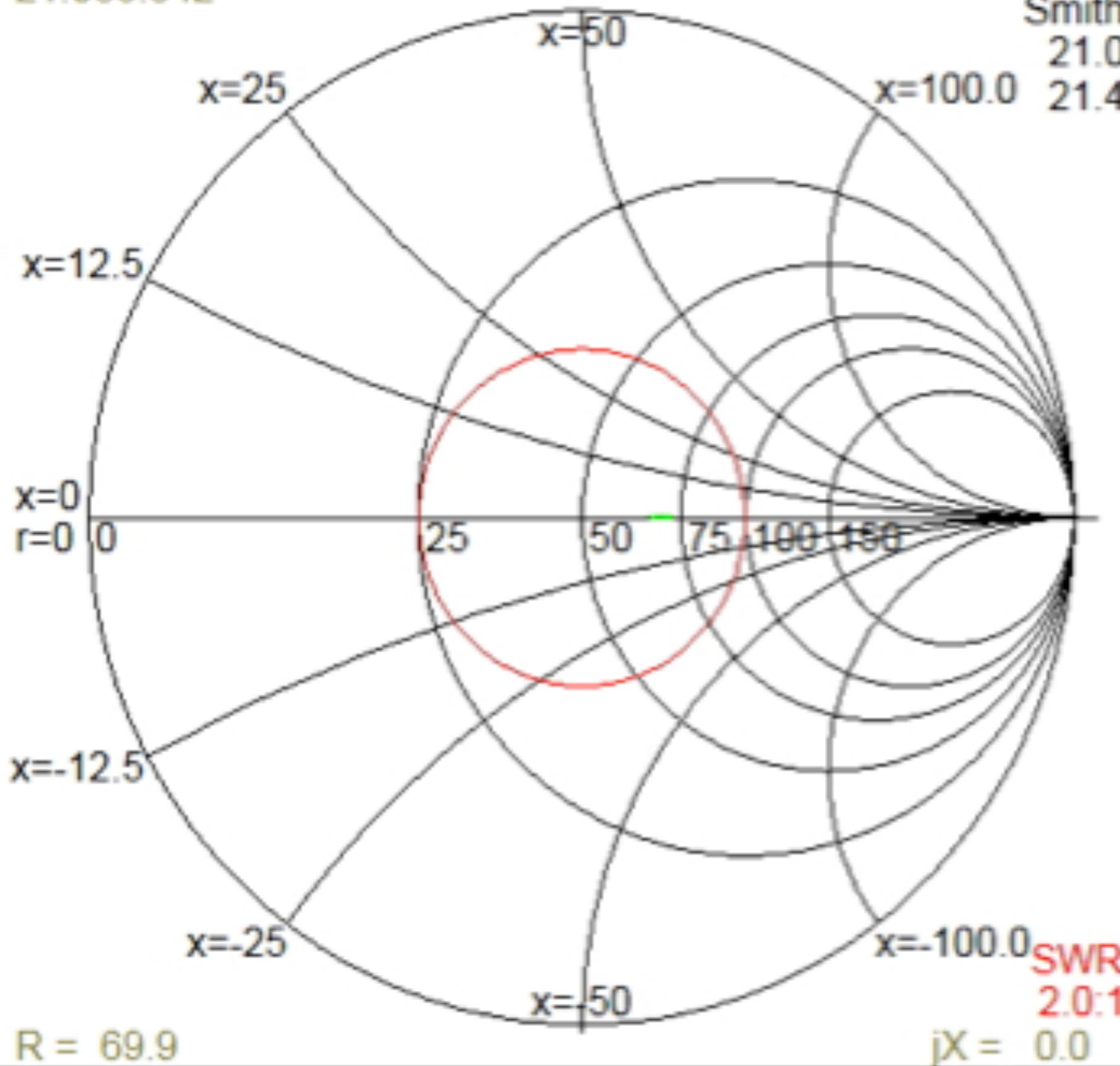
Tradeoff time

- * A triband antenna gives 3 bands for one run of coax. Saves 8 pounds (2 x 4 lbs for 100' RG-8X)
- * Four foot pieces requires hard-sided golf bag
- * Short boom provides only modest gain, but beats a dipole and can be rotated
- * Requires a mast system, possibly a painters pole or pipe
- * Does require time to setup and disassemble
- * Everything is a tradeoff!

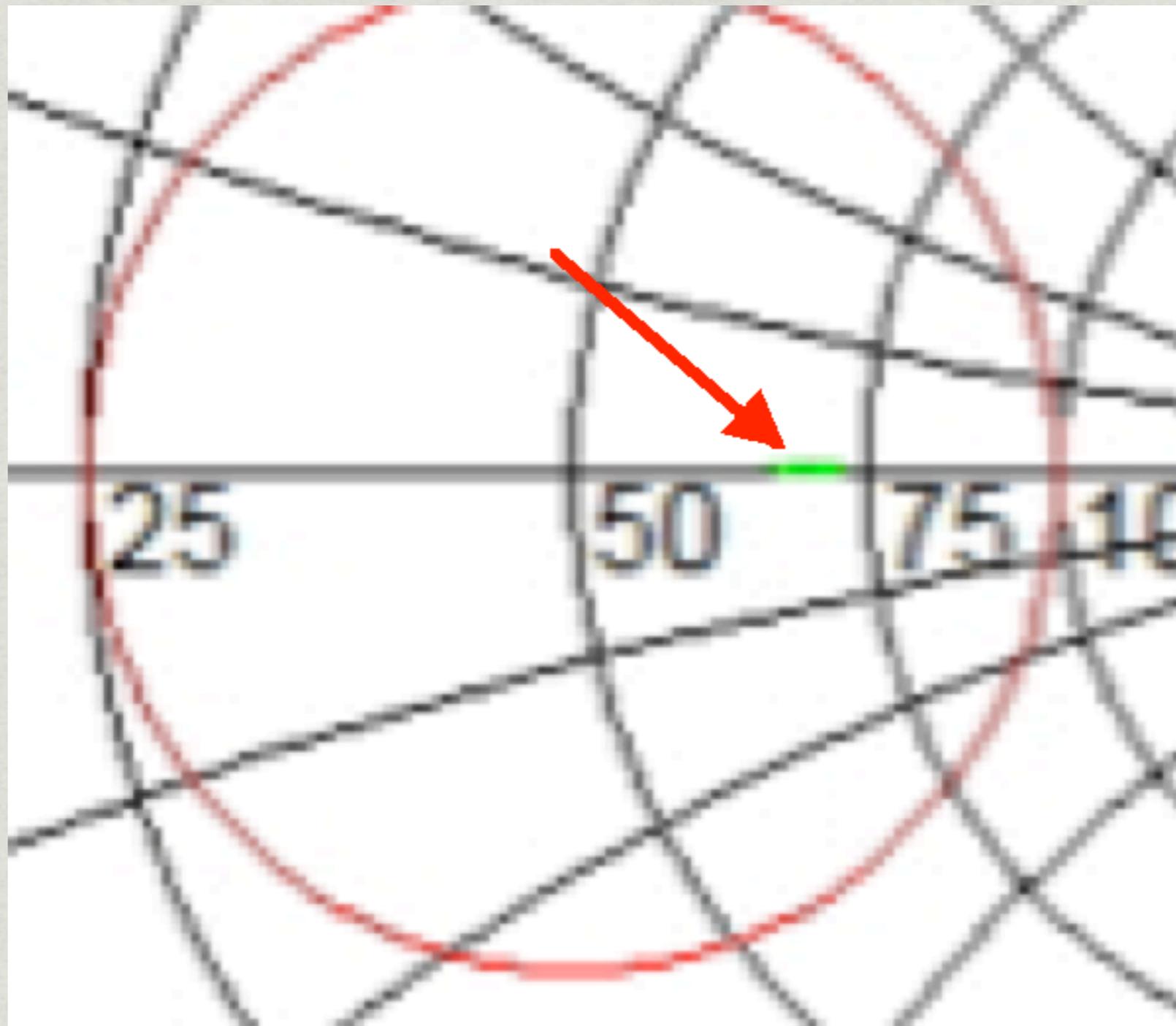


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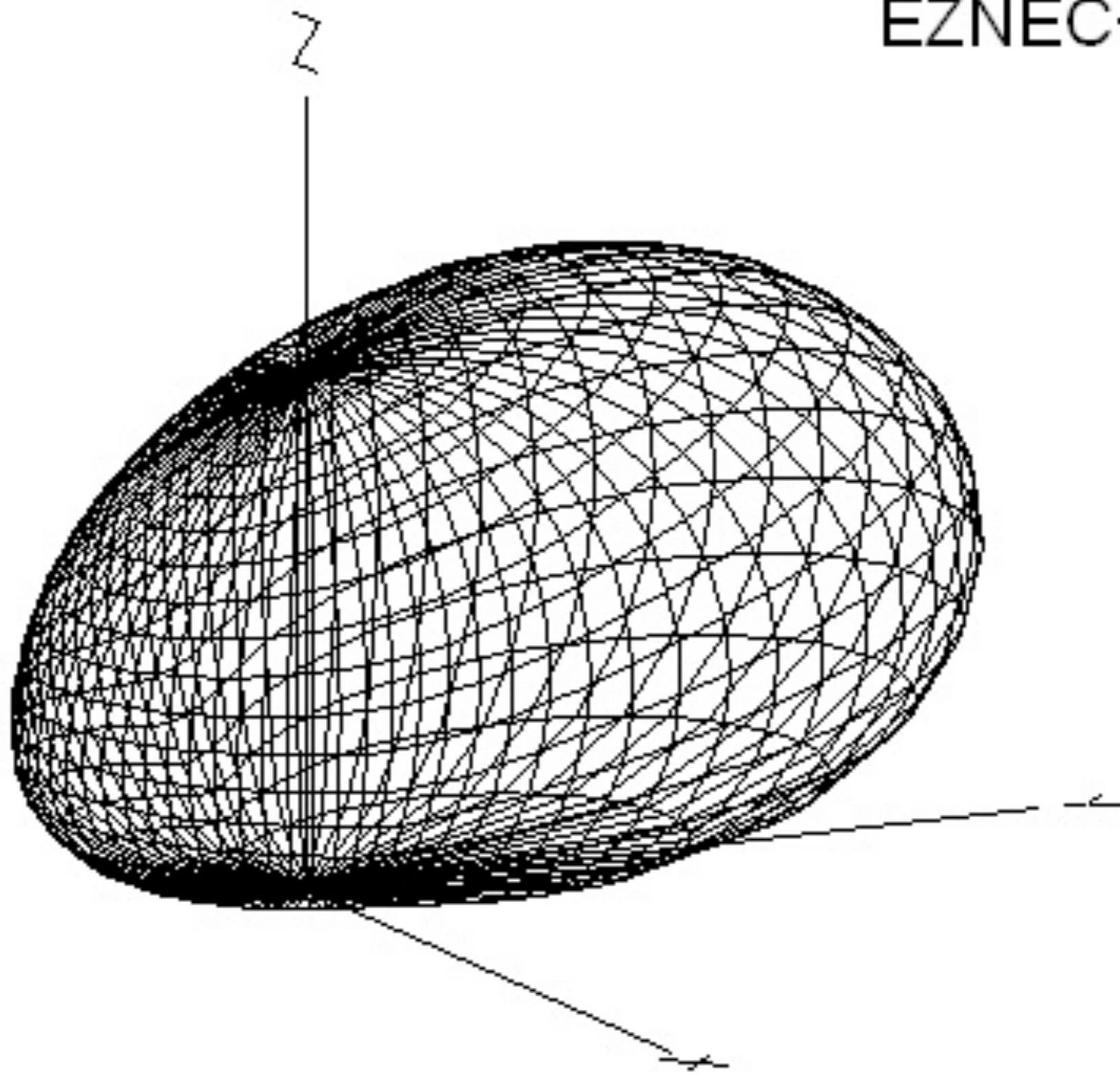
Smith
21.0
21.4



R = 69.9

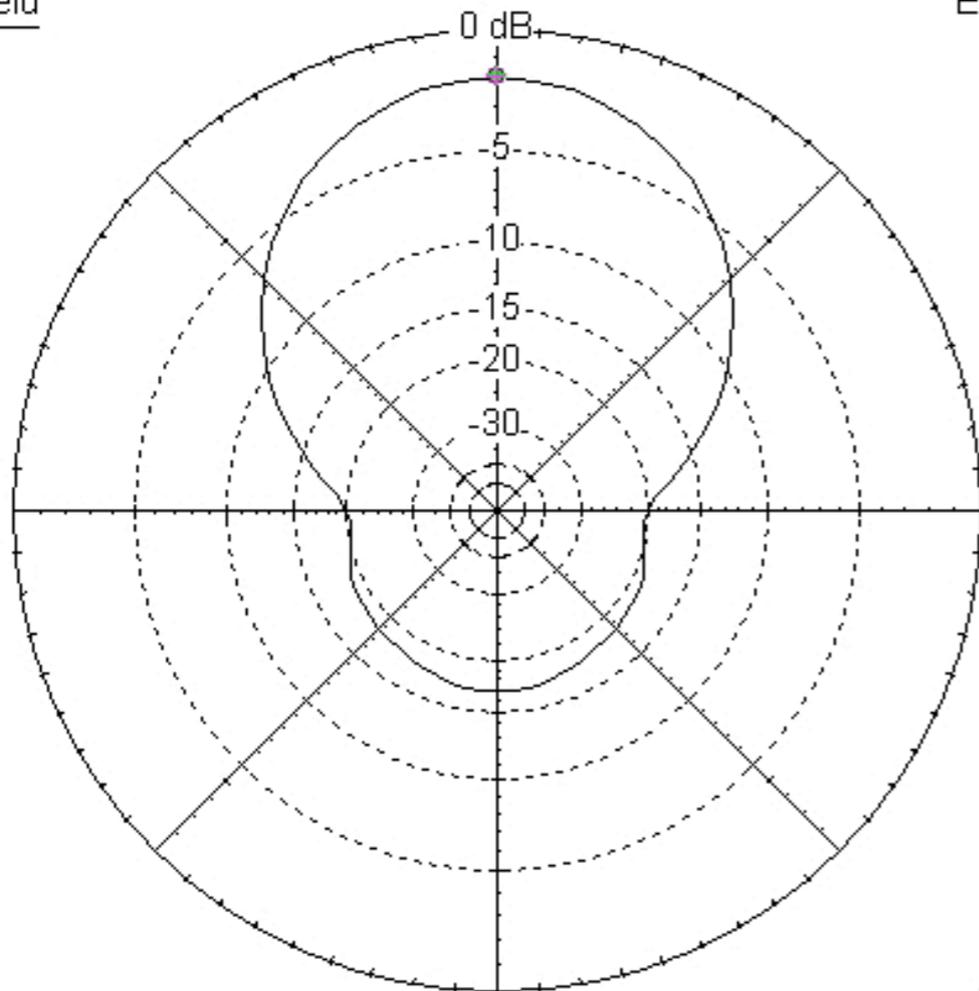


EZNEC+



Total Field

EZNEC+



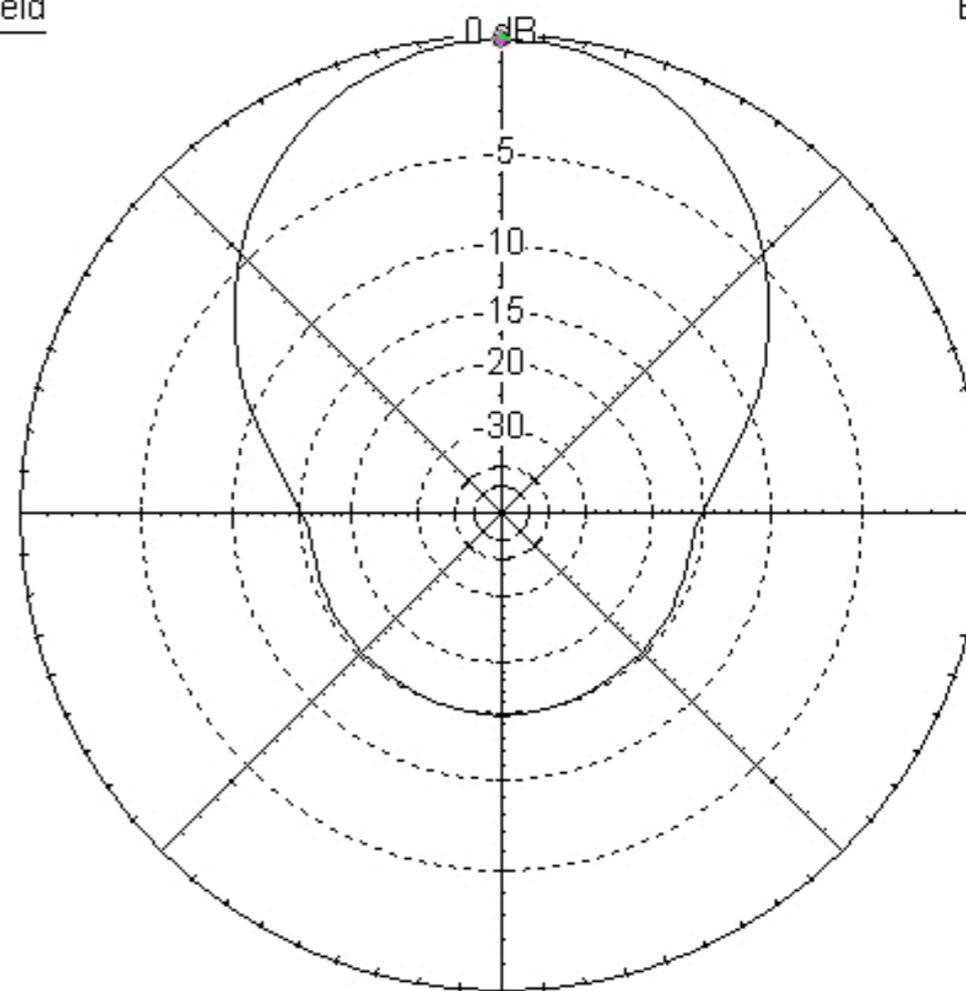
21 MHz

Azimuth Plot		Cursor Az	90.0 deg.
Elevation Angle	20.0 deg.	Gain	7.68 dBi
Outer Ring	9.52 dBi		0.0 dBmax
			-1.84 dBmax3D
3D Max Gain	9.52 dBi		
Slice Max Gain	7.68 dBi @ Az Angle = 90.0 deg.		
Front/Back	14.97 dB		
Beamwidth	71.4 deg.; -3dB @ 54.3, 125.7 deg.		
Sidelobe Gain	-7.29 dBi @ Az Angle = 270.0 deg.		
Front/Sidelobe	14.97 dB		

7.5+ DBI AT 20 DEGREES

Total Field

EZNEC+



21 MHz

Azimuth Plot		Cursor Az	90.0 deg.
Elevation Angle	30.0 deg.	Gain	9.31 dBi
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3D Max Gain	9.52 dBi		
Slice Max Gain	9.31 dBi @ Az Angle = 90.0 deg.		
Front/Back	14.52 dB		
Beamwidth	74.8 deg.; -3dB @ 52.6, 127.4 deg.		
Sidelobe Gain	-5.21 dBi @ Az Angle = 270.0 deg.		
Front/Sidelobe	14.52 dB		

9+ DBI AT 30 DEGREES

15M 2-ELEMENT YAGI WITH 8 FOOT BOOM
F/B RATIO 14+ DB

Single band



My world in the contest

The screenshot displays the NEIRDlogger application interface on a Mac OS X desktop. The main window, titled "NEIRDlogger.debug", shows the following information:

- Score Setup:**

Band	QSOs	Points	Mults
10M	0	0	0
15M	154	365	124
20M	0	0	0
40M	0	0	0
80M	0	0	0
160M	0	0	0
Totals	154	365	124

QSOs: 154 Score: 45260
- Radio data:**
 - Connect:
 - Freq / Mode: 15m SSB
 - Supercheck Partial:
- QRZ lookup:**

Call sign: **VX6AO**
 CALGARY AMATEUR RADIO ASSOCIATION SPECIAL PREFIX FOR WINTER OLYMPICS
 QSL MRG.VE6TN - 113
 MCKENZIE LAKE COVE SE

CQ zone: 5 ITU zone: 9 DXCC: 1
 Canada
- UTC:**

2010-03-27 Sat 1:42:16
 GM4@.CO.UK
- Previous QSOs:**

VX6AO Since: 2010-03-25

Date Time	Band	Mode
	160	80
	40	20
	15	10

MINUTES SINCE: 2
 Last QSO:
- Log Database:**

LOG::NEIRD:Users:andersen:Desktop:KP2-2010:log_database.rsd

Date Time	Call	Frequency	Mode
2010-03-27 17:40:03	KV7DX	21.00000	SSB
2010-03-27 17:38:58	WASZUP	21.00000	SSB
2010-03-27 17:38:07	KE1B	21.00000	SSB
2010-03-27 17:34:56	NX7TT	21.00000	SSB
2010-03-27 17:33:35	N6MI	21.00000	SSB
2010-03-27 17:32:11	WB9Z	21.00000	SSB
2010-03-27 17:31:06	ZY7C	21.00000	SSB
2010-03-27 17:26:37	K4ROZ	21.00000	SSB
2010-03-27 17:23:11	KC3R	21.00000	SSB
2010-03-27 17:20:47	KQ7W	21.00000	SSB
2010-03-27 17:18:07	K9BGL	21.00000	SSB
2010-03-27 17:16:42	EC2DX	21.00000	SSB
2010-03-27 17:13:06	W4KW	21.00000	SSB
2010-03-27 17:12:22	K9ZO	21.00000	SSB
2010-03-27 17:11:50	KK7OO	21.00000	SSB
2010-03-27 17:09:35	KZ7X	21.00000	SSB
2010-03-27 17:08:20	NK7U	21.00000	SSB
2010-03-27 16:46:46	W5KNE	21.00000	SSB
2010-03-27 16:46:07	K4ZLE	21.00000	SSB
2010-03-27 16:45:29	K2DBK	21.00000	SSB
2010-03-27 16:44:39	PI4TUE	21.00000	SSB
2010-03-27 16:44:16	W4CCS	21.00000	SSB
2010-03-27 16:44:05	NY3D	21.00000	SSB
2010-03-27 16:42:43	N4JG	21.00000	SSB
2010-03-27 16:42:18	A14RW	21.00000	SSB

QSOs in list: 344
- Contest Entry Form:**

Contest: QSO Sat/Prop QSL They Me

Age: Precedence:

Check: Rx Power:

Class: Their IOTA:

CQ zone: 05 Their Grid:

ITU zone: 08 ARRL Sec:

Contacted Op:

Name: J SCOTT BOVITZ

SRX: STX:

SRXn: 261 STXn: 151

Contest ID:
- User Profile Form:**

License Class: EXTRA Latitude: 18.37670 Longitude: 064.93149

Transceiver: Icom Power: 5

Antenna: Buddipole Antenna height: 10 ASL: 200

ARRL Section: Year first licensed (2 digits): 00 IOTA: NA-106

County: US Virgin Islands Island ID: St Thomas

email address: bsandersen@mac.com Club: Yankee Clipper Contest Club

Buttons: Quit program, Revert to database copy, Save changes, Start logging

The desktop background is blue and contains several folders: NEIRD, STUFF, and LaCie500. The dock on the right side shows various application icons.

My world in the contest

CQ WPX

21.00000 SSB

15M

Call RST Serial

VX6AO 59

SENT: 59 156

Log it 17:42:16 2010/03/27

Prefix: VX6

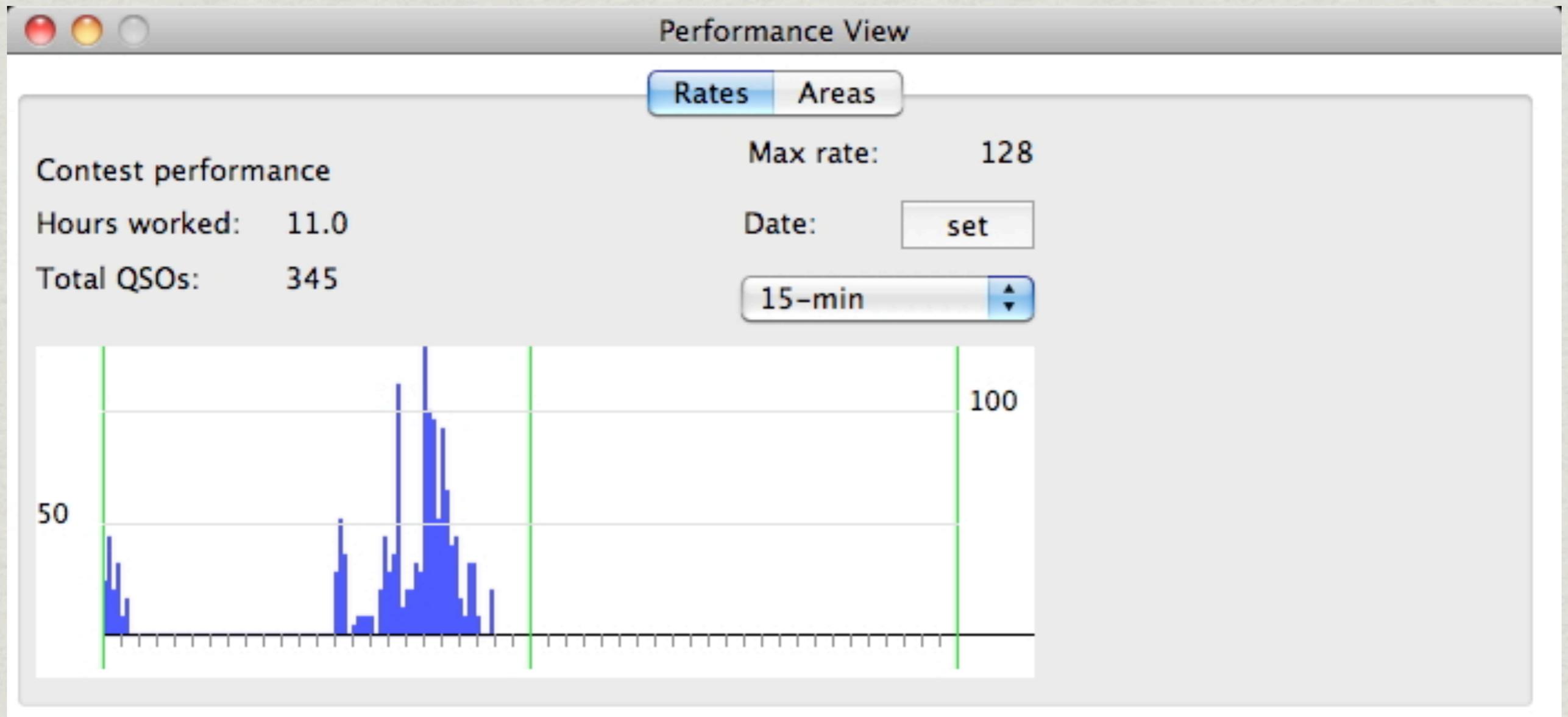
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160M	0	0	0
Totals	154	365	124

QSOs: 154 Score: 45260

Rescore

End of first day



I sat and called CQ

2 S-units

PURE EVIL

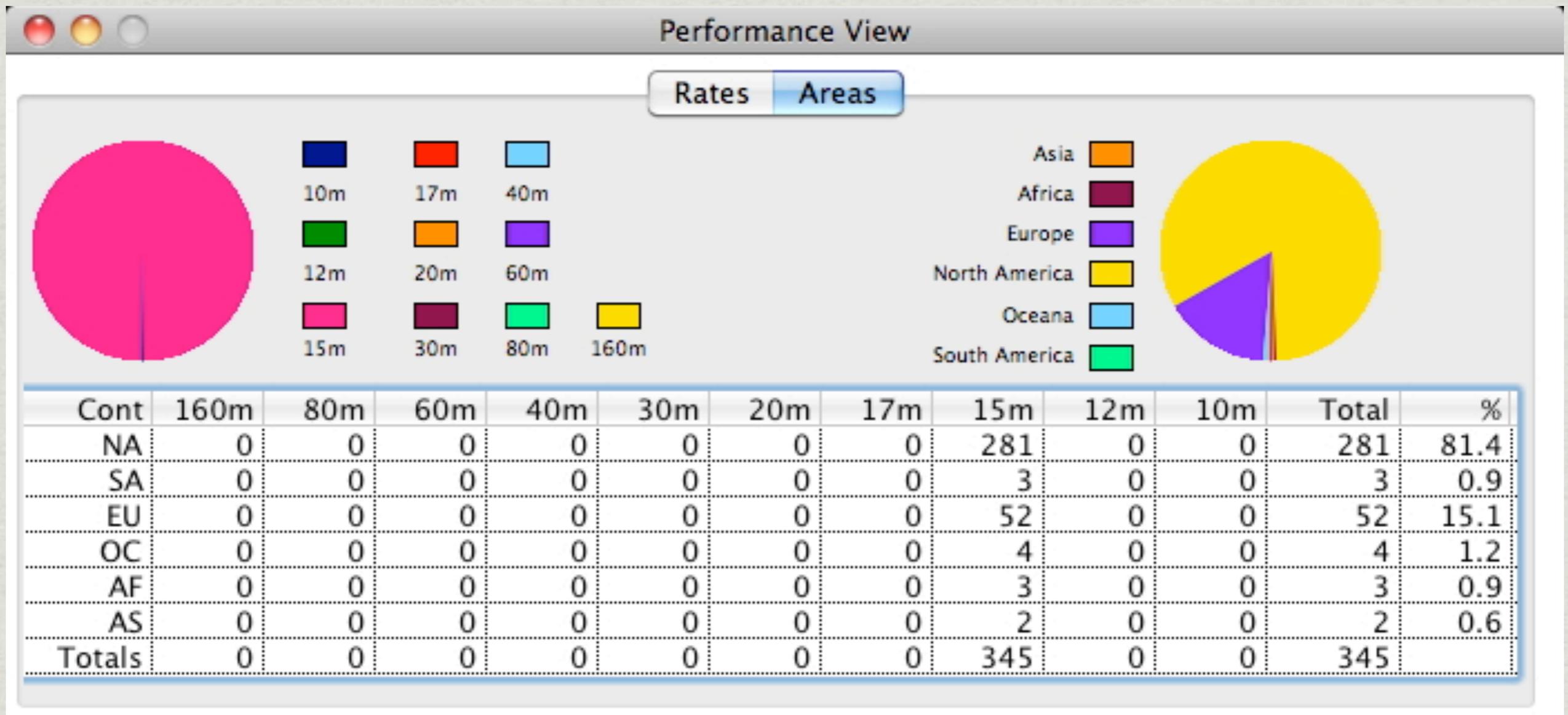




"On the Internet, nobody knows you're a dog."

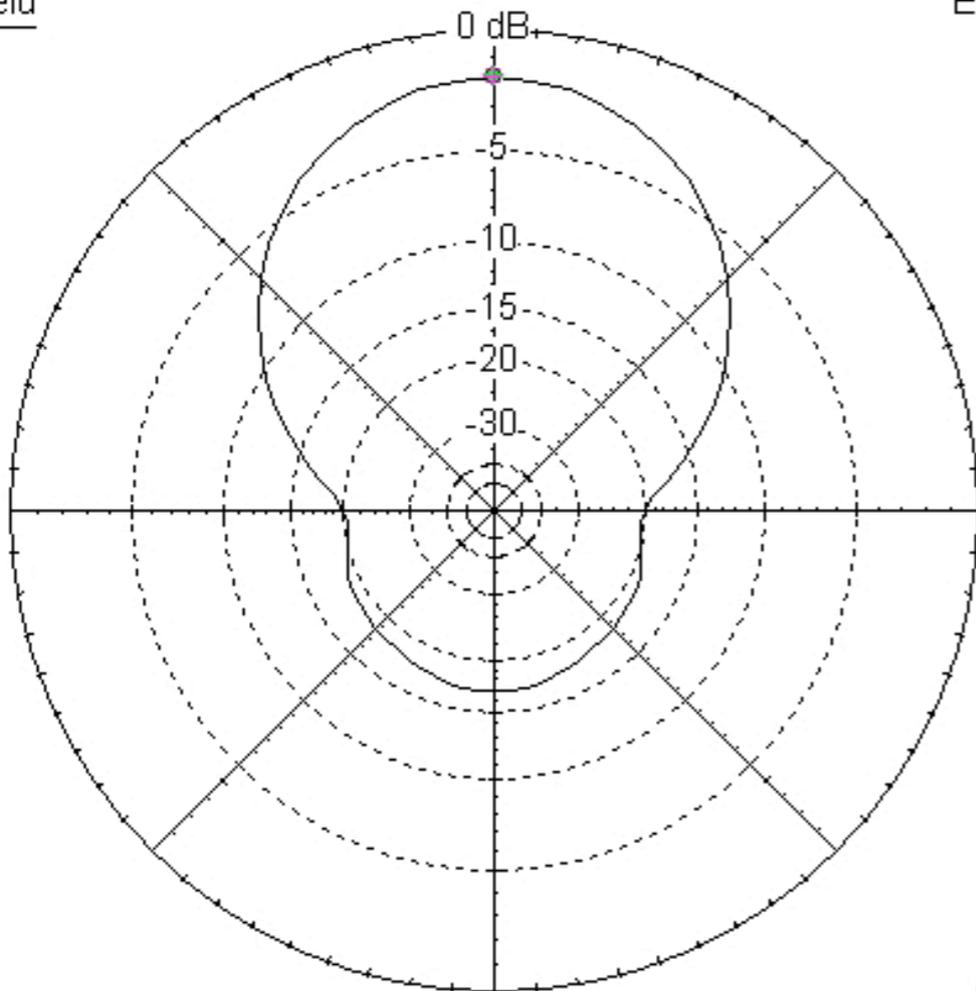
I sat and called CQ

End of first day



Total Field

EZNEC+



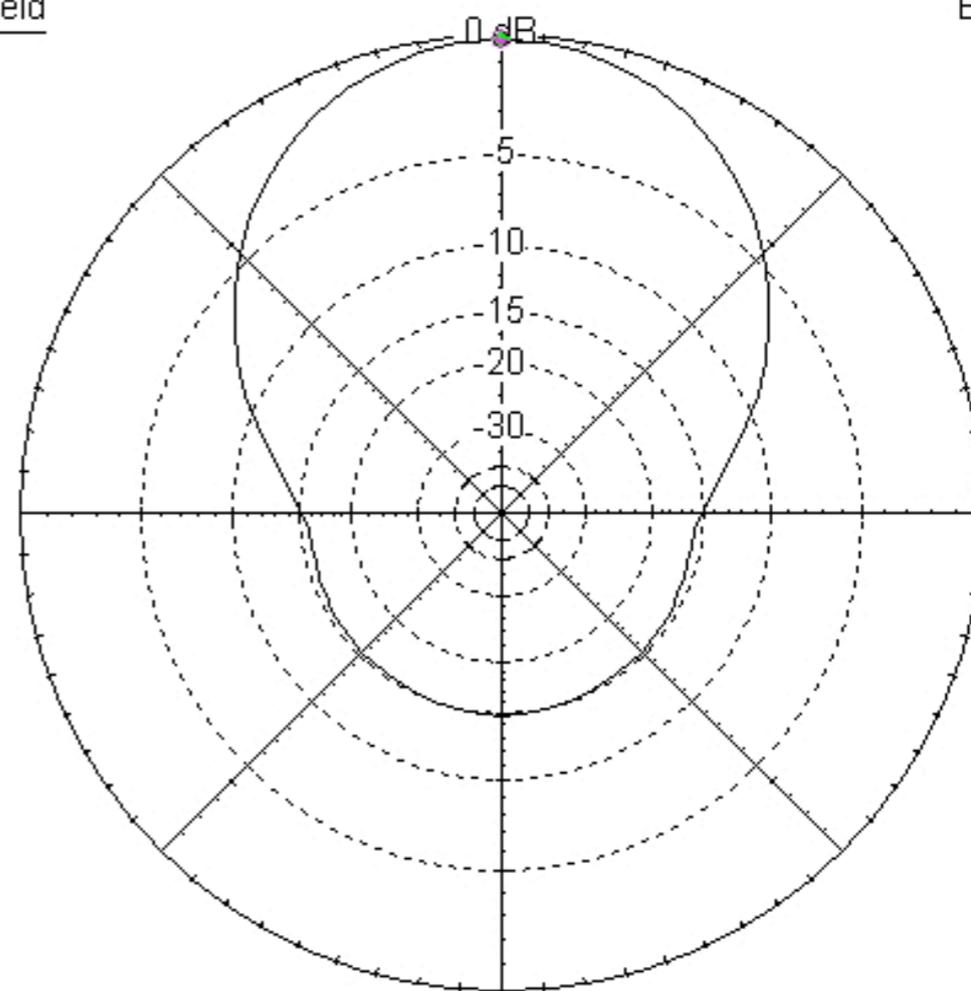
21 MHz

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Front/Back	14.97 dB		
Beamwidth	71.4 deg.; -3dB @ 54.3, 125.7 deg.		
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7.5+ DBI AT 20 DEGREES

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EZNEC+



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F/B RATIO 14+ DB

North America record

CQ WPX Contest Score Records for North America

SSB (0000 - 2009)

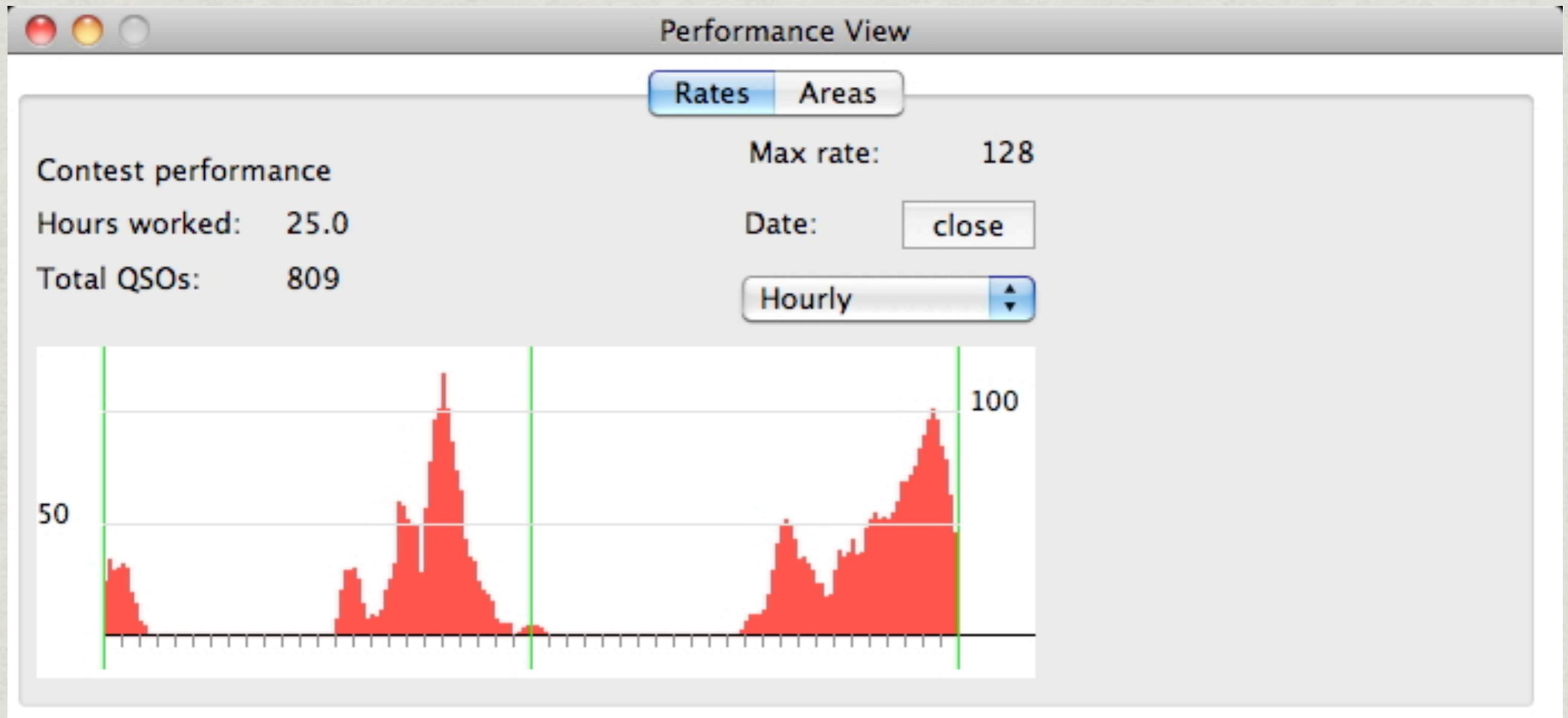
Category	Call (Op)	Year	Score	WPX
Single Operator - QRP				
QRP ALL	VP2EXX	1990	6,727,444	779
QRP 10M	NP4CC	1990	2,165,940	540
QRP 15M	NP4KA	1985	544,808	303
QRP 20M	6G0V (XE2Z)	2000	1,045,476	452
QRP 40M	N1TM	2009	67,482	138
QRP 80M	VE5RMO	1994	24,300	81
QRP 160M	VY2MGY/3	1998	14,400	45



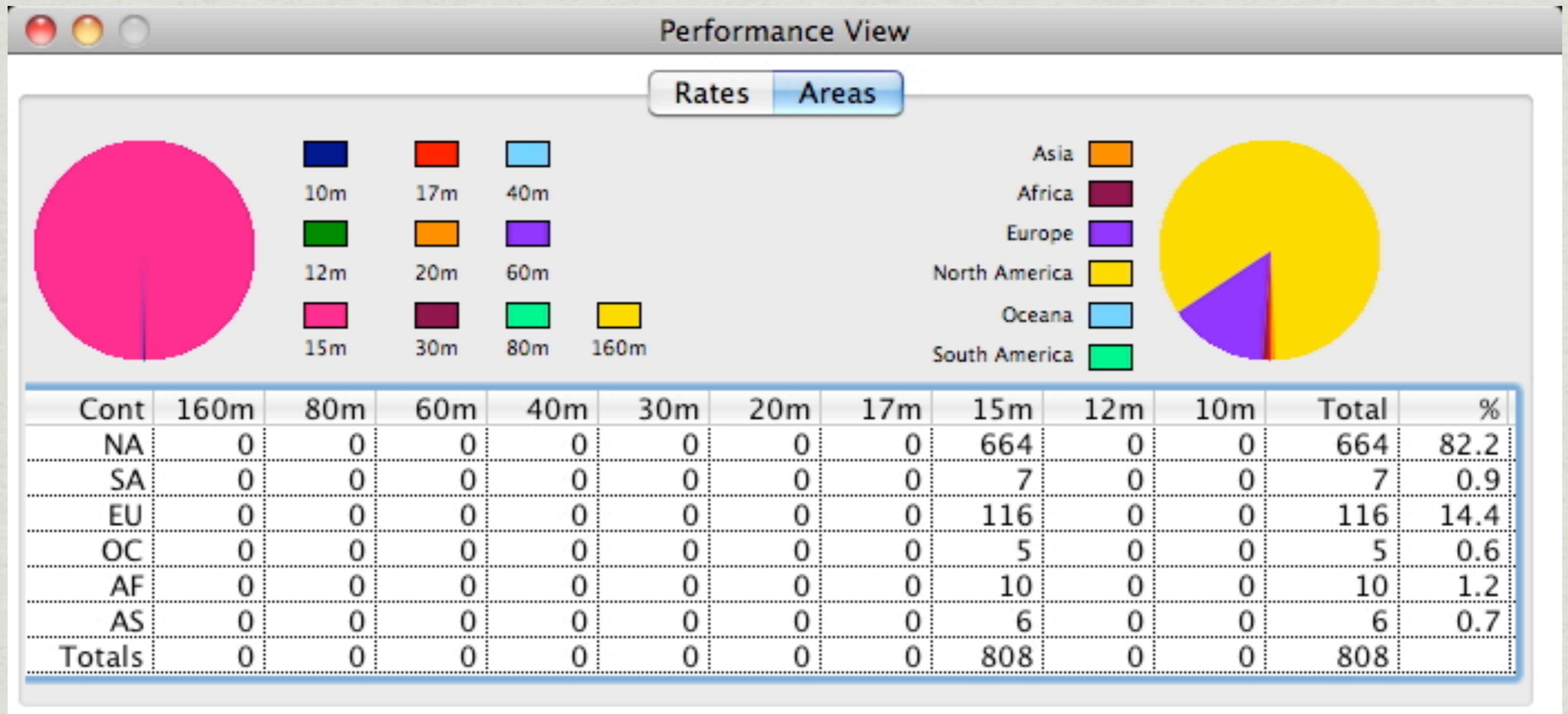
World record

Rank	Call	Year	Category	Score	QSOs	WPX	Hours
1	RU9BB	2003	SO QRP 15M	788,190	747	390	17.3
2	RA0JJ	2002	SO QRP 15M	751,744	926	448	27.8
3	RW9AB	1992	SO QRP 15M	638,392	598	398	-
4	RA9UAD	2002	SO QRP 15M	601,290	621	393	48.0
5	NP4KA	1985	SO QRP 15M	544,808	816	303	-

End of contest



End of contest



Final tally

794 QSOS

391 PREFIXES

TOTAL SCORE = 676,039

Casual works, too

- ✱ A family vacation can be a great backdrop for a DXpedition
- ✱ This is my first effort with a newly built K2
- ✱ Most everything fit in a single carryon Pelican case
- ✱ Signal report before QRP indication to avoid the "discount"



Hawaii 2005

Comfortable position

- ✱ If you plan on spending a lot of time in the seat, plan on having a comfortable work environment
- ✱ If you rent a villa, see if there is a desk or office area that can be used for your shack



St. John, USVI 2006

Drive there

- * K1P Special event
- * Deer Isle, ME
- * NA-055 (IOTA)







Boston Harbor NA-148





QSL card planning



Responsibilities

- * QSLing is a responsibility
- * Keep a good log. This means computer-based logging
- * Use Logbook of the World
- * Use eQsl
- * Have a BURO account
- * Have your QSL information clearly articulated on QRZ and other places
- * Turn around requests quickly
- * Plan on seeing some SWL cards



Log Search

This form allows you to check if you are "in the log". It only works for registered Club Log users and expeditions that have uploaded their logs. This service has been heavily optimised for large and/or popular logs.

Log to search:	KP2/NE1RD
1546 QSOs logged up to 28/Mar/2010 23:45Z	
Callsign to check:	<input type="text" value="W8BI"/>

Show contacts

Band	CW	SSB	Data
15		1	

1546 QSOs logged up to 28/Mar/2010 23:45Z

Online QSL Request to KP2/NE1RD

Your call sign:	<input type="text" value="W8BI"/> (required)			
Your email (optional):	<input type="text"/>			
Your comments (optional):	<div style="border: 1px solid #ccc; height: 80px;"></div>			
Please enter your QSO data here:				
	Date	Time (UTC)	Band	Mode
QSO #1	<input type="text" value="---"/> <input type="text" value="---"/> <input type="text" value="---"/>	<input type="text" value="---"/> <input type="text" value="---"/>	<input type="text" value="---"/>	<input type="text" value="---"/>
<input type="button" value="Clear Form"/>		<input type="button" value="Submit"/>		

[Club Log tools](#)[Upload Logs](#)[DX Cluster](#)[Log Search](#)[Call Tester](#)[Expedition Tools](#)[Most-Wanted](#)[DXCC Analysis](#)[Propagation](#)[Charts and Leagues](#)[DXCC Leagues](#)[Zone Leagues](#)[Club Leagues](#)[Your DXCC Charts](#)[Your Timelines](#)[Mode/QSL Charts](#)[Zone Charts](#)[Log Size League](#)[DX Challenges](#)[CDXC LF Challenge](#)[HF DX Challenge](#)

eQSL



InBox Selector - eQSL.cc

http://eqsl.cc/qlscard/InBoxSelector.cfm?Archive=0&Reject=0

Publishing EkaruMail DX Radio News Amazon Condo Other Bookmarks

eQSL.cc **KP2/NE1RD - USVI - InBox Selector** [CZ] [DE] [JP] [PL] [PO] [RU] [SP]

Electronic QSL Card Centre

Changes may take 2 minutes to show up here

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Chapter	Page	Entries		
		AG + Non-AG		
Bands	15M			2
Modes	SSB			2
Dates	2010 March			2
Countries	ITALY		1	All
	USA	1		All
Entire InBox				2

QUERY TOOL

Select how you want to limit your search

Callsign:

Band:

Mode:

Dates: from: (MM/DD/YYYY) to (MM/DD/YYYY)

Country:

AG Status: All AG Non-AG

Note: You can only access eQSLs that fall inside your QTH Start/End Period of 13-Sep-2002 00:00 - 13-Sep-2012 00:00
Go to [My Profile](#) if you need to make corrections

[Download](#) entire InBox in ADIF format (for importing into some loggers)

Callsign:

[FAQ](#)
[Contact Us](#)

USB Spectrum Analyzer
1Hz to 4.4GHz, -140 to +15dBm, \$795
Includes meas rcvr, AM/FM demod
www.signalhound.com

[Ads by Google](#)

Welcome New User
EA7DH
pepe pepe from SPAIN

Last Heard
40M: K9LZJ, N2ESE, [more...](#)

eAwards
Latest [eGrid Satellite](#) winner: K8ZZU
Latest [ePFX300](#) winner: E78DX
Latest [eDX100](#) winner: VE3WQ
Latest [eDX](#) winner: W4GOV
Latest [eWAS](#) winner: RZ0AF
Latest [eZ40](#) winner: RA0ALM
Power Users: [ZC4LI,AE5PW,HB9DHG...](#)
Latest [Authenticity Guaranteed](#)

LoTW

Your Logbook QSOs

https://p1k.arrl.org/lotwuser/qsos?qso_query=1&awg_id=&ac_acct=&qso_callsign=&qso_owncall=&

Publishing EkaruMail DX Radio News Amazon Condo Yahoo! mac.com Other Bookmarks

THE ARRL
LOGBOOK
 OF THE WORLD™

YAESU
 PRINCIPAL SPONSOR
 of the LoTW Website

Today is Thu, 6 May 2010 UTC
 You are NE1RD
[Log Off](#)
 You have 8,956 QSO records
 You have 2,955 QSL records

DX ENGINEERING

Home **Your QSOs** Awards Find Call Upload File Your Account

QSOs Menu
[Query](#)
[Download Report](#)
[Statistics](#)

Your QSOs

QSO Query

[New Query](#)

25 Records Shown (1-25)
 Sorted by QSL Date (0.802116 seconds elapsed)

	Call sign	Worked	Date/Time	Band	Mode	Freq	QSL
Details	KP2/NE1RD	EA1EYG	2010-03-24 18:05:30	15M	SSB	21.000000	SPAIN
Details	KP2/NE1RD	K4RES	2010-03-28 21:55:13	15M	SSB	21.000000	UNITED STATES OF AMERICA
Details	KP2/NE1RD	LP2F	2010-03-28 23:42:41	15M	SSB	21.000000	ARGENTINA
Details	NE1RD	W6XU	2005-11-20 08:38:14	40M	SSB	7.250010	UNITED STATES OF AMERICA
Details	KP2/NE1RD	KA2CYN	2010-03-27 16:40:16	15M	SSB	21.000000	UNITED STATES OF AMERICA
Details	NE1RD	N0KK	2005-11-20 21:24:02	20M	SSB	14.157950	UNITED STATES OF AMERICA
Details	NE1RD	N0KK	2002-11-17 00:29:26	20M	SSB	14.26330	UNITED STATES OF AMERICA
Details	KP2/NE1RD	K9QDA	2010-03-25 19:27:58	15M	SSB	21.000000	UNITED STATES OF AMERICA
Details	KP2/NE1RD	5D5A	2010-03-28 12:12:05	15M	SSB	21.000000	MOROCCO
Details	VP2MRD	HB9CVE	2007-02-02 15:43:27	17M	SSB	18.141000	SWITZERLAND
Details	KP2/NE1RD	KZ9O	2010-03-27 00:41:03	15M	SSB	21.000000	UNITED STATES OF AMERICA
Details	V4/NE1RD	EA4CQT	2007-10-25 19:25:58	17M	SSB	18.163000	SPAIN
Details	VP2MRD	K9IA	2007-02-01 22:09:00	17M	SSB	18.152250	UNITED STATES OF AMERICA
Details	V4/NE1RD	W3MRL	2007-10-25 19:35:26	17M	SSB	18.163000	UNITED STATES OF AMERICA
Details	VP2MRD	W3MRL	2007-02-01 20:04:25	17M	SSB	18.152260	UNITED STATES OF AMERICA
Details	KP2/NE1RD	SN3R	2010-03-28 13:12:13	15M	SSB	21.000000	POLAND
Details	NE1RD	WB5ASP	2007-08-18 17:09:52	20M	SSB	14.155000	UNITED STATES OF AMERICA
Details	KP2/NE1RD	KG2V	2010-03-28 18:03:31	15M	SSB	21.000000	UNITED STATES OF AMERICA
Details	KP2/NE1RD	KA1HDG	2010-03-26 21:06:54	15M	SSB	21.000000	UNITED STATES OF AMERICA
Details	KP2/NE1RD	N3RD	2010-03-28 20:04:10	15M	SSB	21.000000	UNITED STATES OF AMERICA

Award	Selected	Applied	Awarded	Total
Basic	47	0	0	47
80M	1	0	0	1
40M	1	0	0	1
20M	12	0	0	12
17M	2	0	0	2
15M	47	0	0	47
Phone	47	0	0	47
80M Phone	1	0	0	1
40M Phone	1	0	0	1
20M Phone	12	0	0	12
17M Phone	2	0	0	2
15M Phone	47	0	0	47
Triple Play	47	0	0	47

Not rare, but well done

- * Have goals that make sense and work to them
- * Make a plan to fulfill these goals
- * Test everything as a system before you leave
- * Follow through after your return with QSLing, score submission, log posting, etc.
- * Have fun. That's the point!

KP2/NE1RD
St. Thomas, USVI

CQ WPX SSB Contest

