

The Olympics of Radiosport Return to the USA

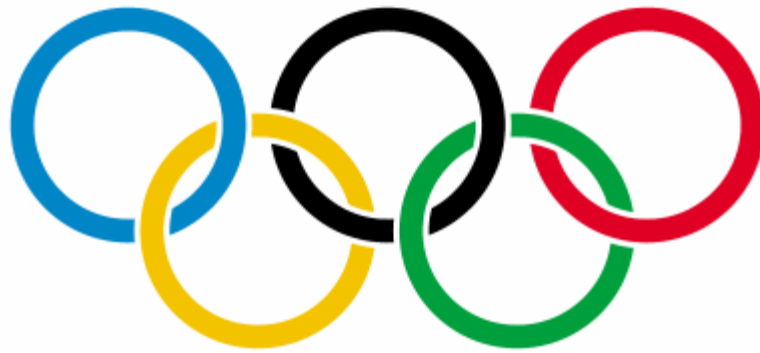
**Ham-Com 2013
Plano, TX
Doug Grant, K1DG**

World Radiosport Team Championship Basics



- A Contest Held every 4 years within the IARU HF Championship
 - “As equal-as-possible” locations, antennas
 - With all else equal, who are the best operators?
- Two-operator teams
 - Team Leaders selected on the basis of performance in contests in “Qualifying Period”
 - Team Leader selects Team Member

The "other" Every-4-Year Championships

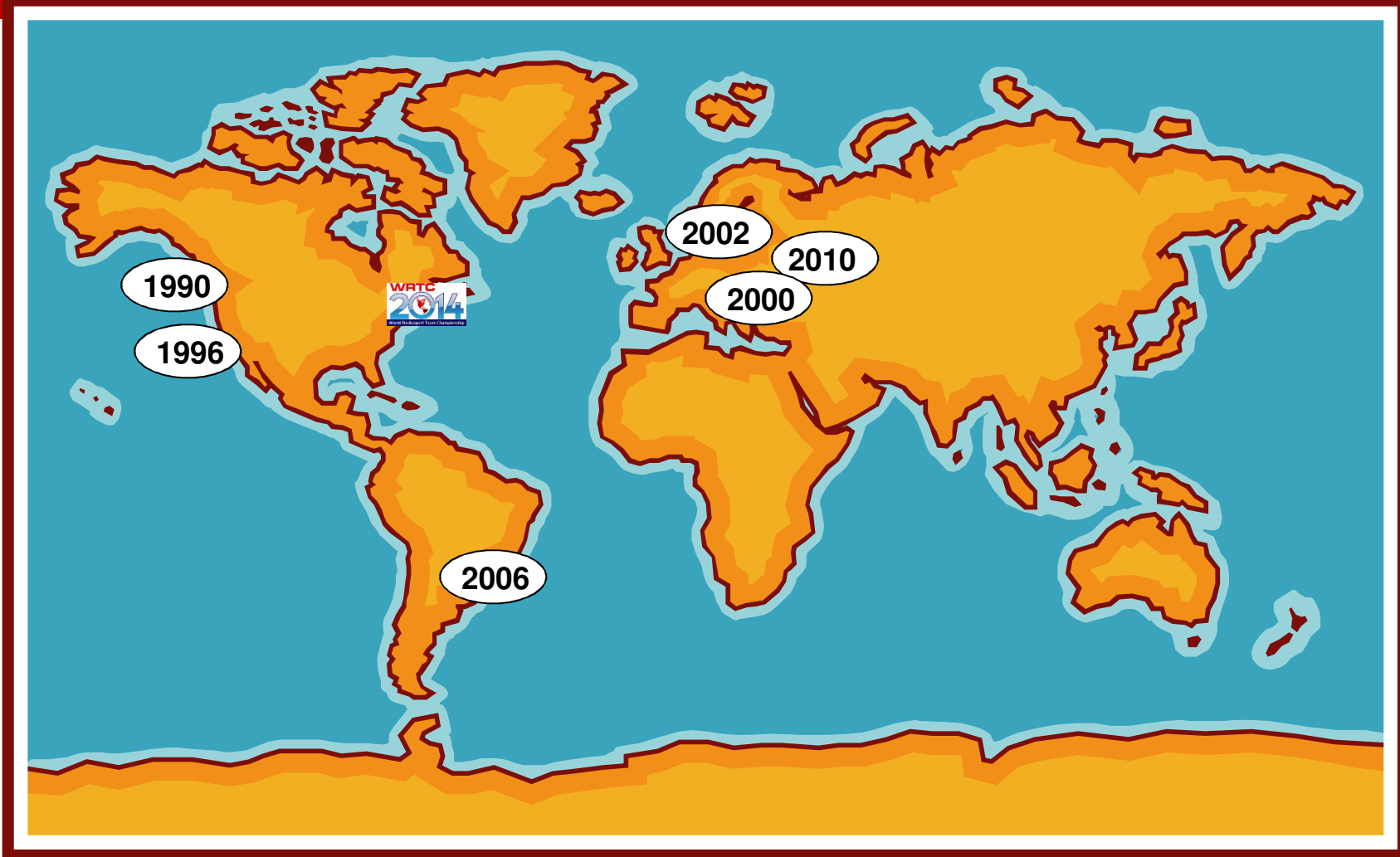


FIFA WORLD CUP
Brasil

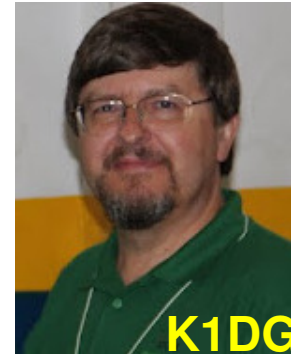


WRTCs
for
non-Hams

WRTC Locations



WRTC2014 Organizers



ADVISORY COUNCIL
W1UF, K3LR, NR5M, K9CT

We have three goals for 2014



- Hold a fair competition
- Ensure that all participants have an excellent experience
- Promote ham radio to the public in the region and beyond

Team Selection: 59 Teams



- 51 Team Leaders will be selected on scores
 - All continents, (all USA call areas; 2 for W4, W6)
 - May select Team Member from anywhere
 - Added NAQP, some regional contests to qualifiers
- 8 Special Teams
 - WRTC2010 Champions (RW1AC, RA1AIP)
 - 1 Youth Team (under age 25)
 - 4 Sponsored Teams (one already claimed)
 - 2 Wild-card teams (WRTC2014 Committee selection)

The Qualifying Period is OVER



- 55 Qualifying Events since CQWW 2010
- Selection is based on published scores
- Last scores will be ARRL DX SSB 2013

Unofficial Current Team Leaders (www.wrtc-rank.com, SQ2GX0)



- NA#1 K1LZ
 - NA#2 W2RE
 - NA#3 LZ4AX
 - NA#4E N4AF
 - NA#4W ~~K1TQ~~ (AD4Z)
 - **NA#5 N5DX**
 - NA#6 N6MJ, K6AM
 - NA#7 K7RL
 - NA#8 K8GL
 - NA#9 W9RE
 - NA#10 KU1CW

 - NA#11 VY2ZM
 - NA#12 VE7CC
 - NA#13 NP4Z
- EU#1 CT1ILT, F8DBF, M0CFW, EA5GTQ, M0DXR
 - EU#2 LX2A, IK2NCJ, DJ5MW, IK1HJS, DL1QQ
 - EU#3 ES5TV, OH2UA, ES2RR, LY9A
 - EU#4 OE3DIA, OM2VL, OM3BH, OE2VEL, S50A
 - EU#5 E77DX, 4O3A, UU4JMG, YT6W, 9A6XX
 - EU#6 RL3FT, RG3K, RX3APM
- AS#1 R9DX
 - AS#2 RC9O
 - AS#3 5B4WN
 - AS#4 BA4ALC
 - AS#5 JH4UYB
- SA#1 PY2NDX
 - SA#2 CX6VM

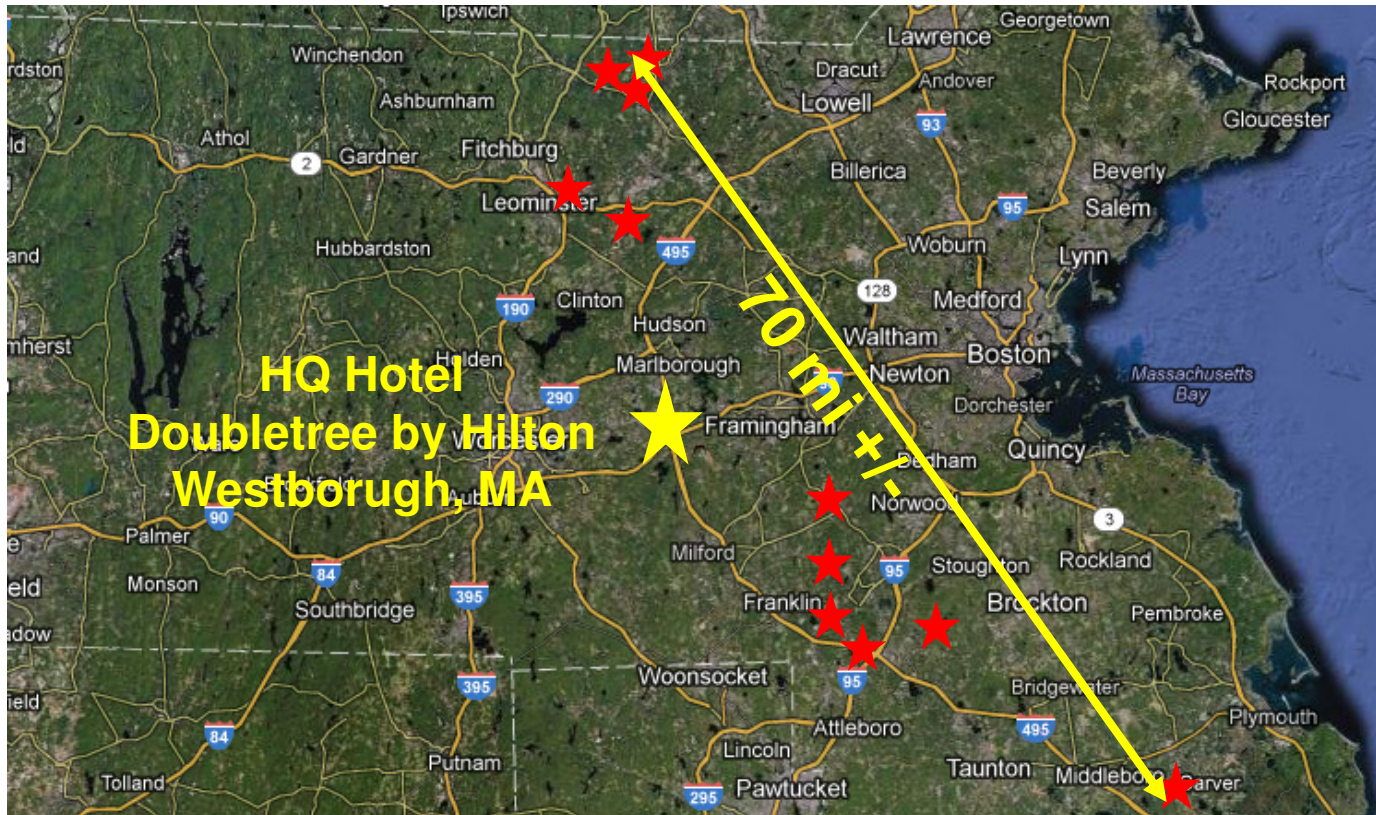
 - AF KF5EYY
 - OC KH6ND

Unofficial W5 Area Leaders



1	[TL]	N5DX	11550.00	12
2		N2IC	11350.10	12
3		N5AW	10350.00	12
4		NR5M	9810.05	12
5		K5GN	9716.41	12
6		K5TR	9514.45	12
7		K5WA	9505.69	12
8		K5PI	9479.66	12
9		N5DO	9148.19	12
10		KU5B	8893.75	12

Current WRTC2014 Sites



All sites are in Massachusetts – are they equal?

July 2012 Site Testing

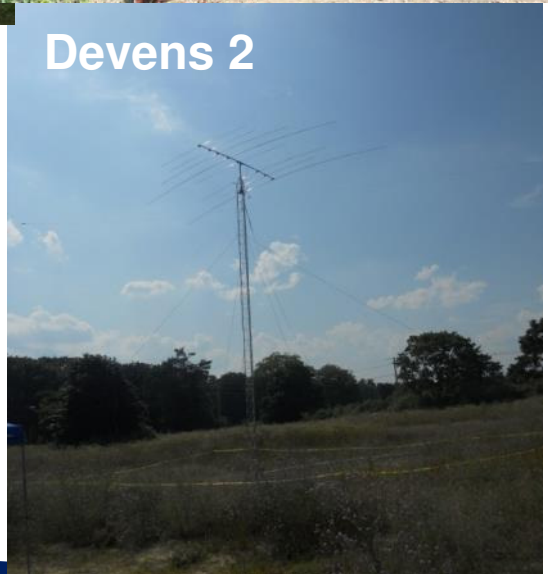
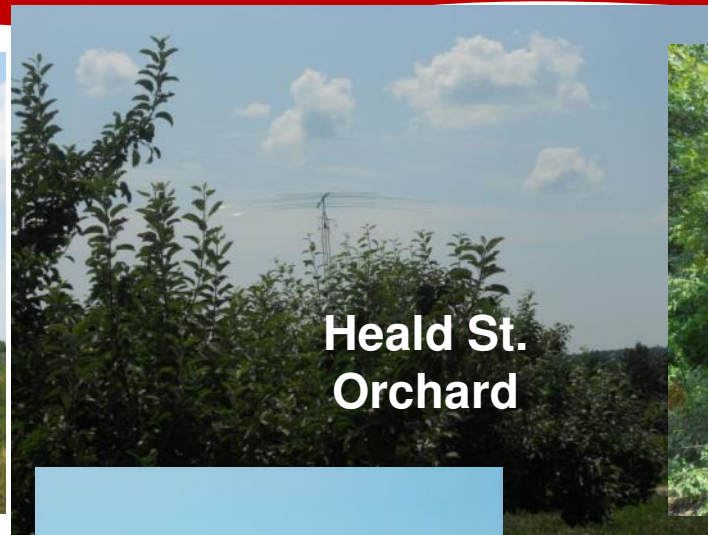
- Evaluate sites for:
 - Equal RF Performance
 - Accessibility
 - Line Noise
- Train Volunteers
 - Tower-raising system
 - Logistics
- Let site owners see us in action



13 Identical Stations installed in one day



Two sites had multiple stations



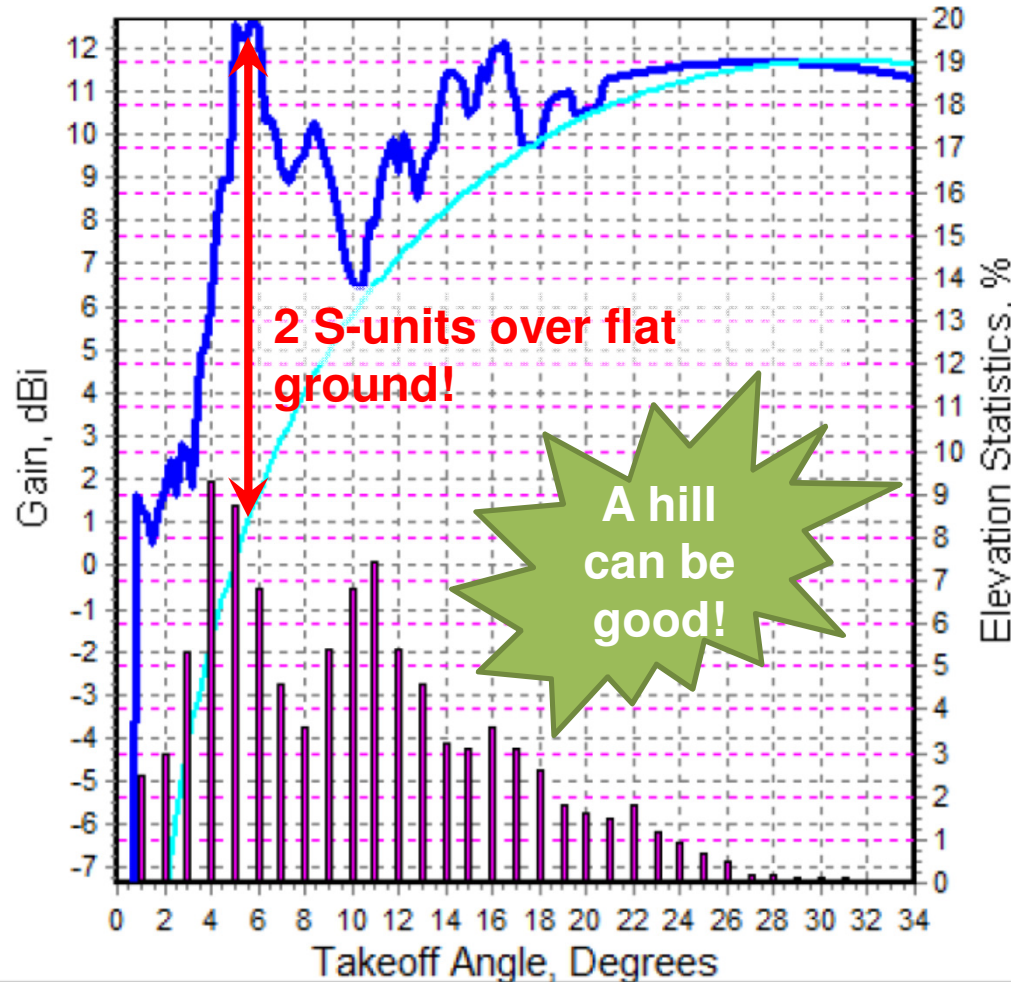
Tools of the Trade



Morse Apple Orchard – 20m to Europe



HFTA, Copyright ARRL 2003-2004, by N6BV, Ver. 1.03



Freq. = 14.1 MHz

Max. Gain: 12.7 dBi

MORSE B - 45.00.PRI

9.1 m

3-Ele.

Fig. of Merit: 9.7

+3.3 dB weighted gain over flat ground

FLAT.PRO

9.1 m

3-Ele.

Fig. of Merit: 6.4

Elev. Statistic

W1-MA-EU.PRN

Print

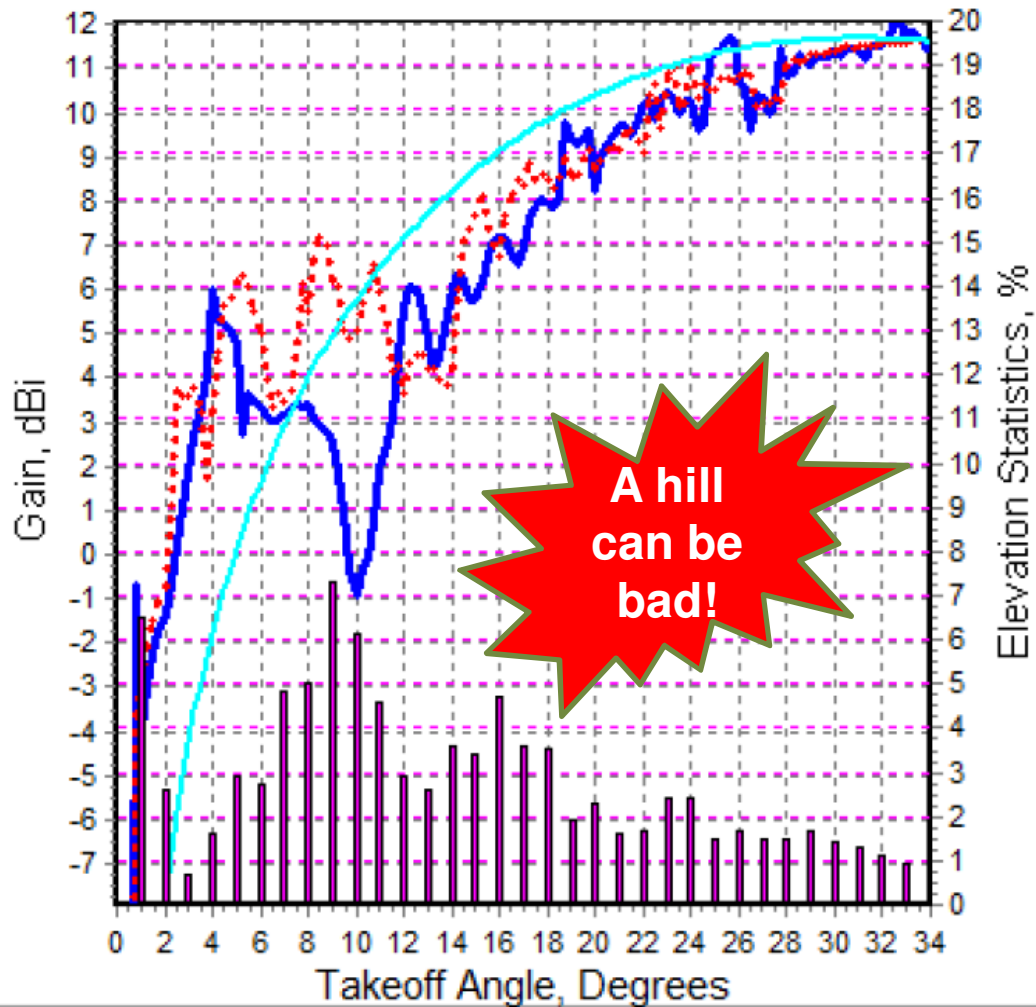
Out File

Close

Morse Apple Orchard – 20m to the US



HFTA, Copyright ARRL 2003-2004, by N6BV, Ver. 1.03



Freq. = 14.1 MHz
Max. Gain: 12.1 dBi

MORSE B - 270.00.P
9.1 m
3-Ele.
Fig. of Merit: 6.9

MORSE B - 210.00.P
9.1 m dots
3-Ele.
Fig. of Merit: 7.4

-1.1 dB weighted gain over flat ground

FLAT.PRN
9.1 m
3-Ele.
Fig. of Merit: 8

Elev. Statistic
W1-MA-US.PRN

Print Out File

Close

How well does HFTA match reality?



- How do we get real-world data on signal strength in target regions?
- Obvious (but wrong) answer: RBN
- Why is it wrong?
 - QSB mostly
 - 10-minute sampling period too coarse

Signal Reports from SDRs



- **Skimmer Server** Software by VE3NEA
 - Standard version: spots once every 10 min. (max) for stationary CQer
 - Not good enough for WRTC station comparison
 - Custom (private) “WRTC” version spots *every time heard*, CQing or not
- Six volunteers recruited by N6TV to run custom WRTC Skimmer software:
 - DL2CC, EA4TX, KM3T, N4ZR, N6WIN, W3OA

Tons of spots collected



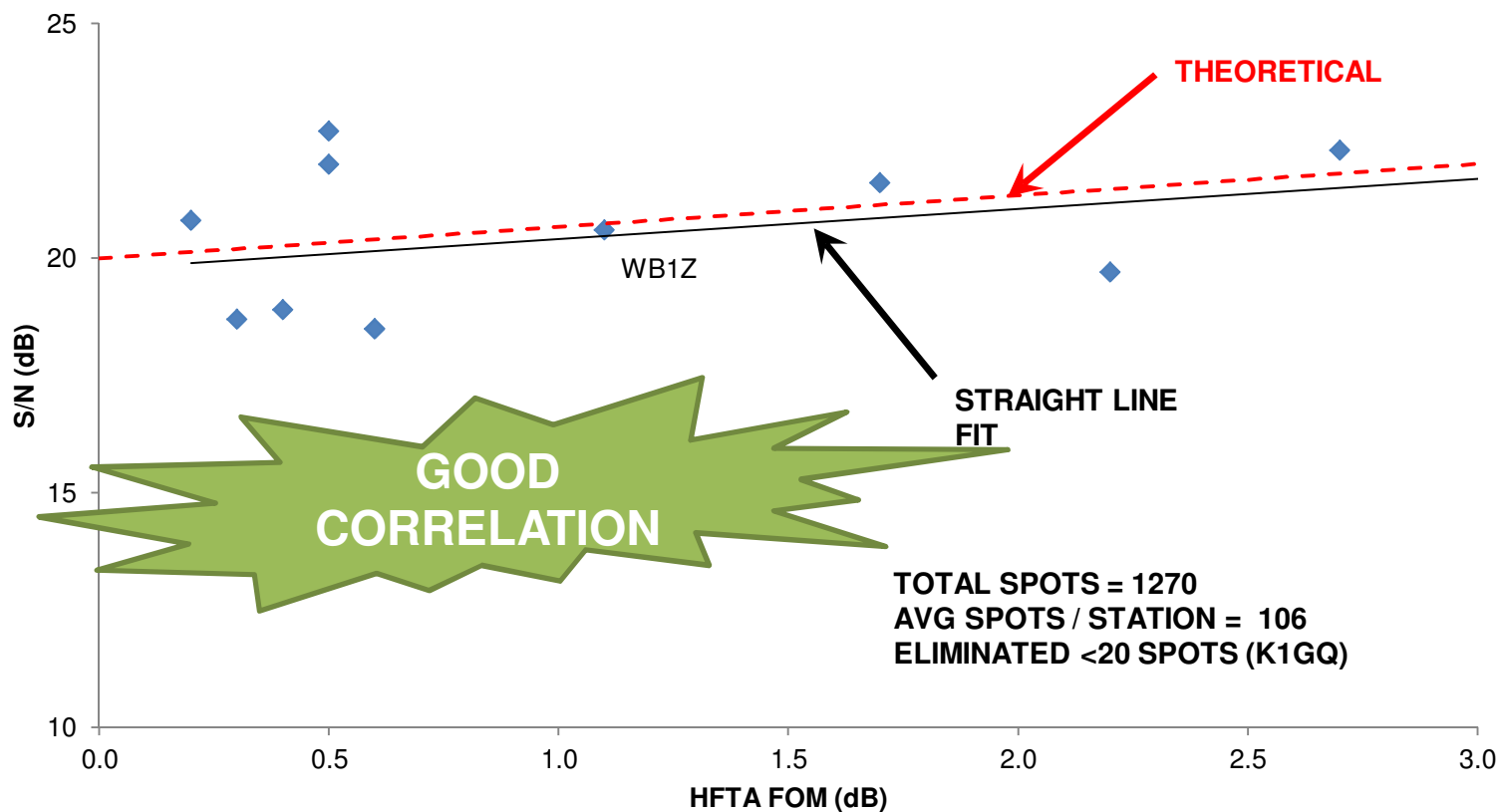
- The six private skimmers spotted the WRTC test stations 156,905 times during IARU contest
 - 6,538 spots/hr 109 spots/min
- They logged 21,690 spots during the twelve special 10 minute periods
 - 10,845 spots/hr 180 spots/min
- Each spot includes a S/N ratio, in dB

So how well did the data agree with the HFTA models?

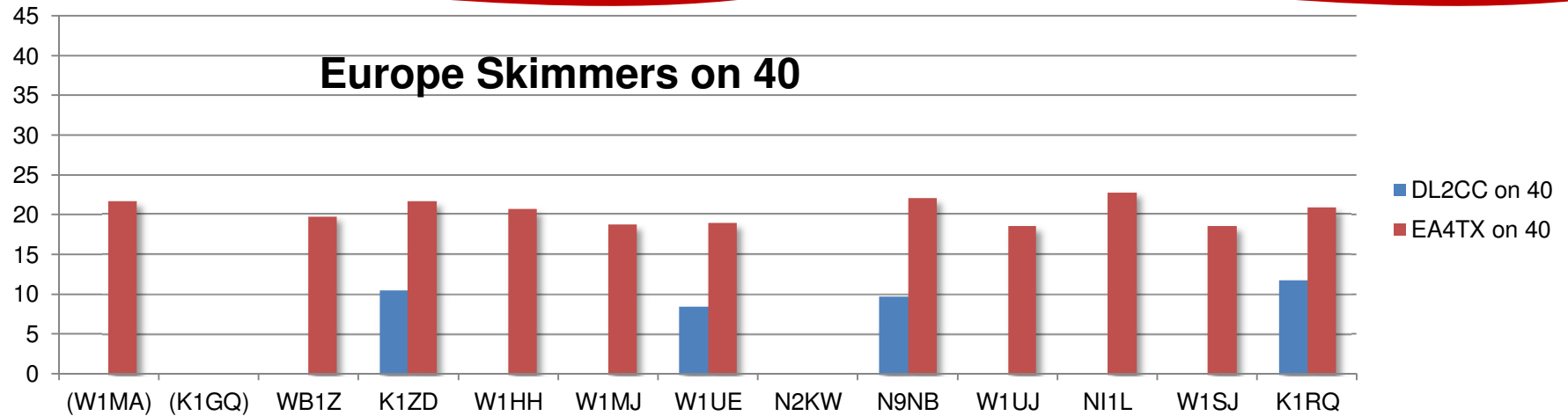
EA4TX 40M Skimmer data



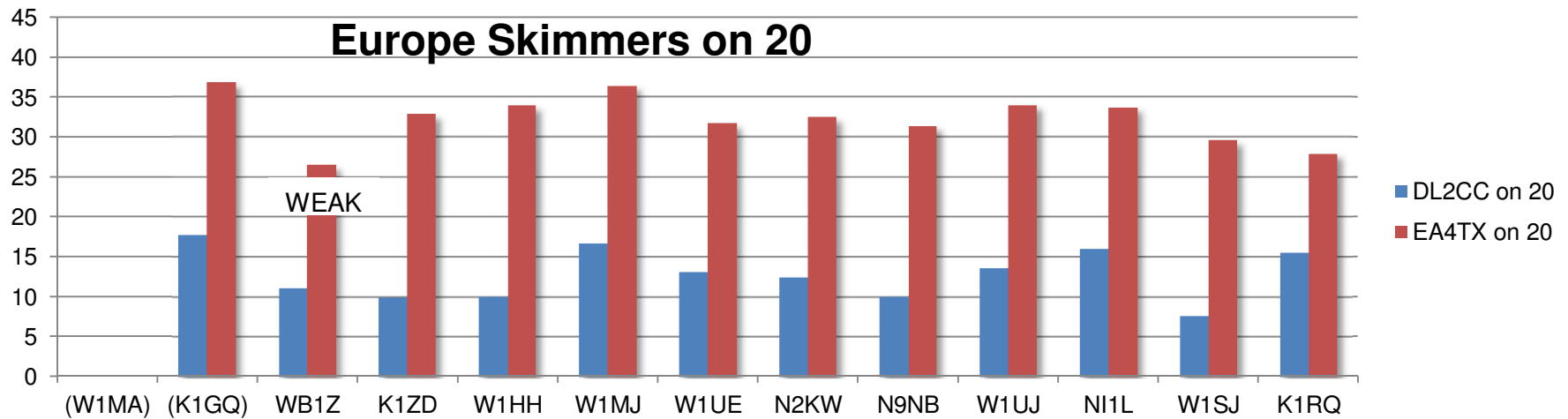
40m at EA4TX



Europe 40/20M Skimmer data



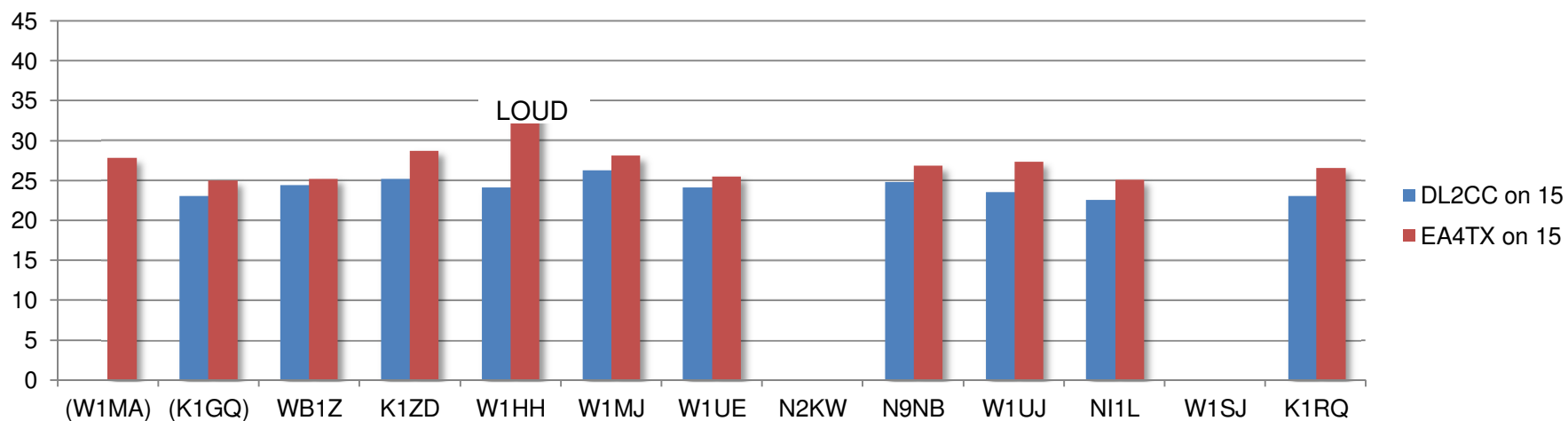
() indicates locations rejected by HFTA



Europe 15M Skimmer data



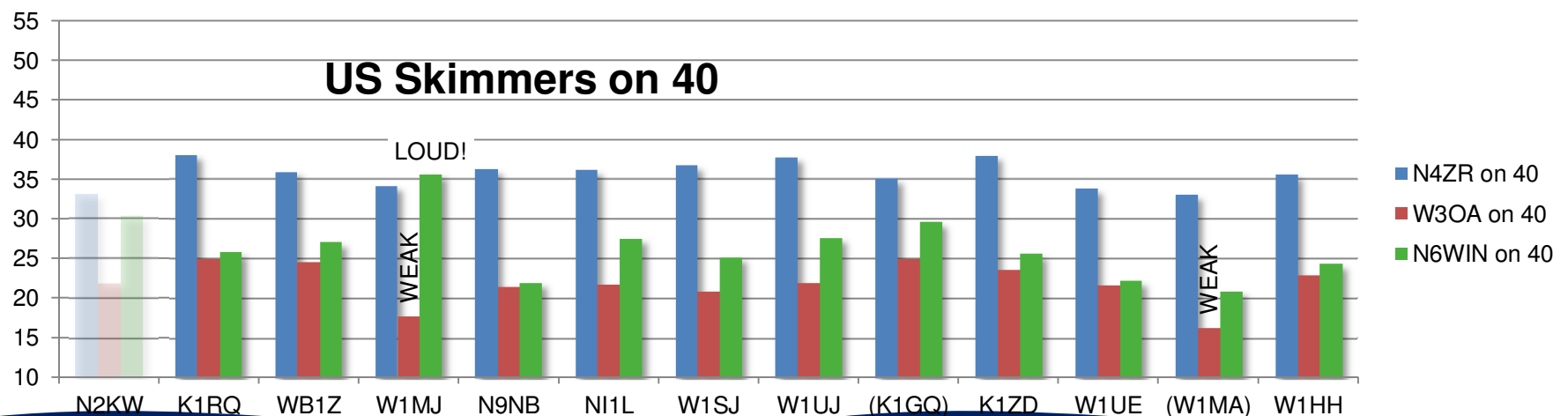
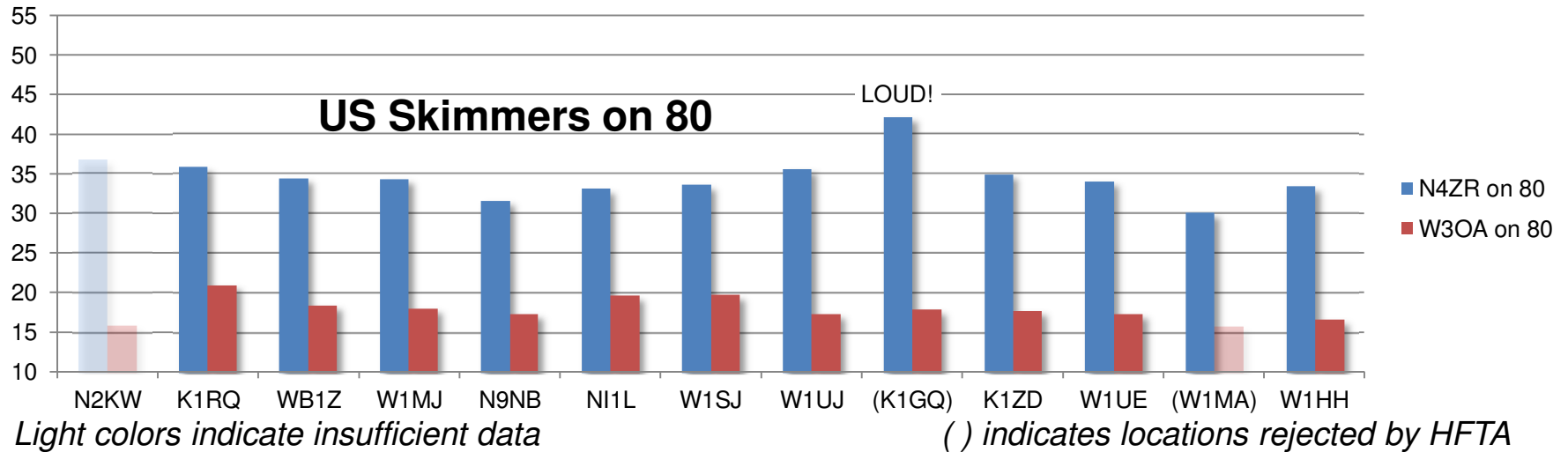
Europe Skimmers on 15



() indicates locations rejected by HFTA

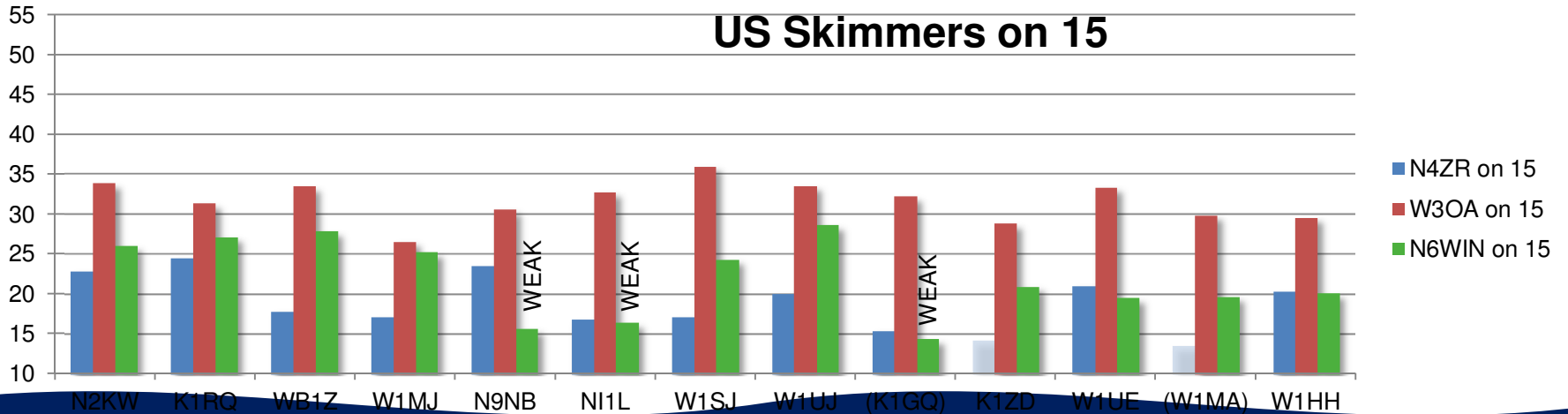
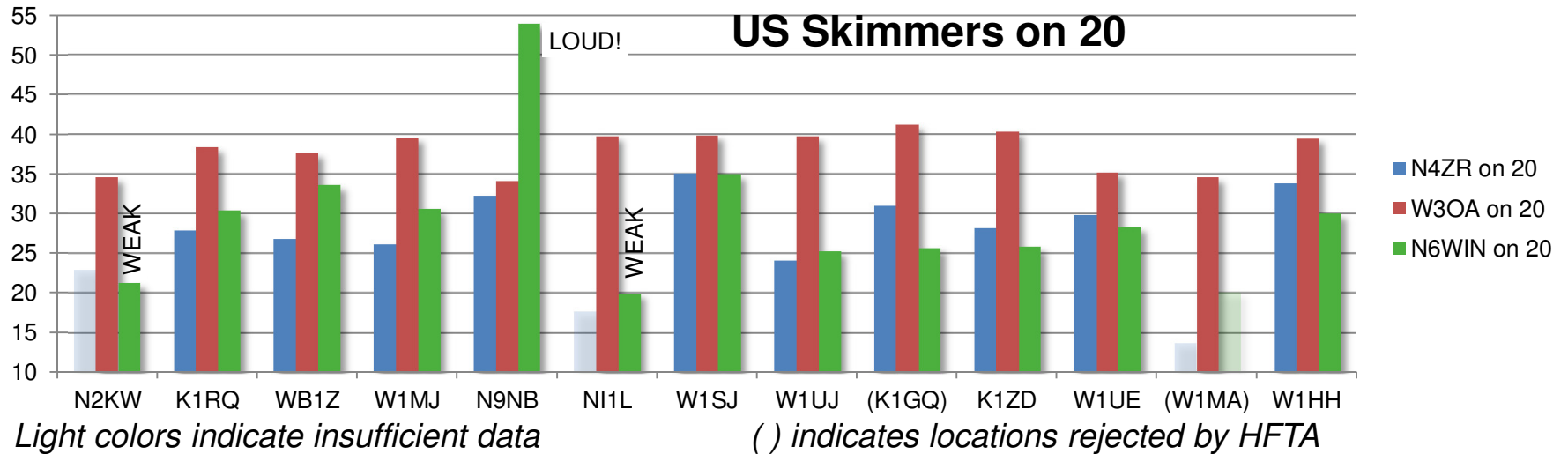
US Skimmer data 80/40M

N4ZR – West Virginia
W3OA – North Carolina
N6WIN – LA, California

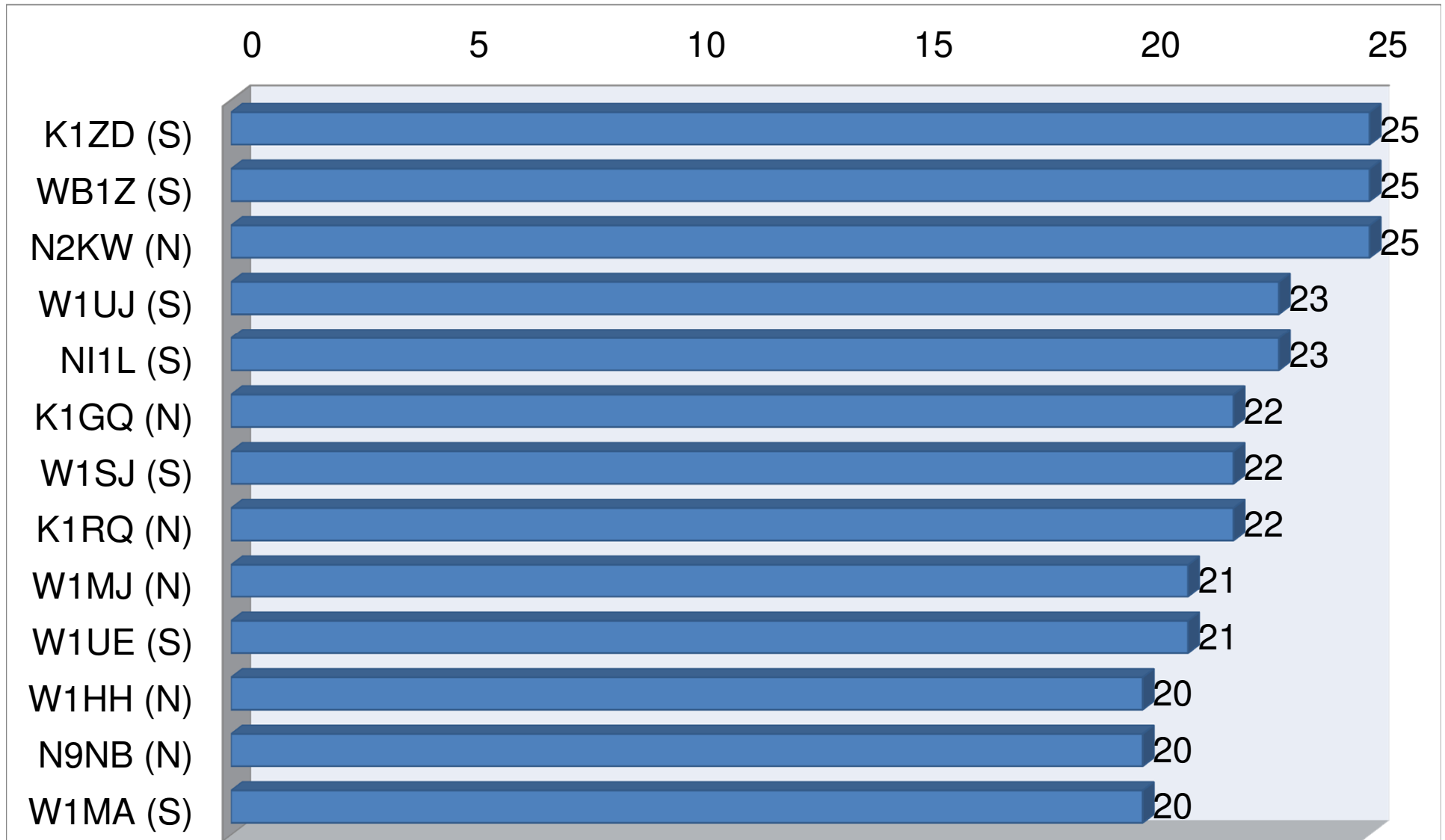


US Skimmer data 20/15M

N4ZR – West Virginia
W3OA – North Carolina
N6WIN – LA, California



Little Variation in Median S/N Ratio (dB) 10-minute periods only (combined) All Bands (combined), All Private Skimmers



Results of July 2012 Test



- No stations had line noise problems
- All were able to work EU HQ stations easily on 80M, could run EU stations on 40M (even SSB)
- RBN data being analyzed and compared to HFTA models – excellent agreement so far
- One site was 10dB louder to Europe, 10dB weaker to W6 in both HTFA and RBN testing; will not be used in 2014

Recent news, coming events



- February 2013: Judging Committee announced
 - (K1ZZ, G3XTT, EY8MM, K1TO, N6AA)
- March 2013: HQ hotel chosen
 - Doubletree by Hilton, Westborough, MA (I-495/Rte.9)
 - Lots of nearby hotels for overflow
- ***April 2013: Referee Applications open***
- June 2013: Training session for volunteers
- July 2013: 30-station test

Referee Qualifications



- High level of integrity
- Proficient in both CW and SSB
 - SO2R experience desirable
- Able to stay awake for full contest period
- Proficient in English
 - All committee business will be conducted in English
 - Other language skills helpful
- Able to travel to W1

The Dayton FTDX3000 Story



June 1, 2013 Training Session



- **~150 Volunteers Assembled for Training**
- **Assembled two complete stations in 2 hours**
- **Meeting (and storage) space provided by K1LZ**
- **Ben & Jerry's Ice Cream provided by KE1J**

July 2013: Station Test #2



- Goal is to improve our logistics
 - Try for 25-30 stations
 - Improve setup time
 - Two distribution points: 1 North, 1 South
- More multi-station sites
- Need more ops...but NOT potential competitors

Another milestone in 2014

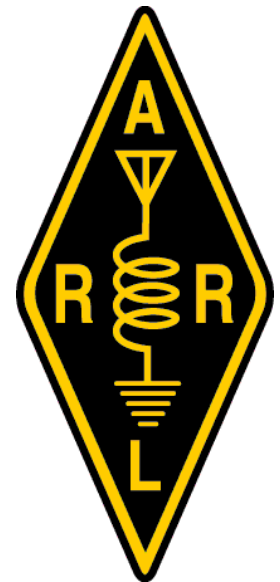


- 100th anniversary of founding of ARRL
- Day trip to ARRL planned
- ARRL Centennial National Convention in Hartford one week after WRTC2014



*A special VIP tour package
Is available to major donors
to both ARRL and WRTC2014*

Contact K1DG for details



VIP Donor Benefits

- Room and board for WRTC and ARRL Convention
- “All-access pass”
 - All tours, all banquets, visit to judging room
- Opportunity to operate in IARU Contest
 - Large W1 Multi-multi or “spare” WRTC2014 field station
- Private receptions at WRTC2014 and ARRL HQ

And more...



- Exclusive tours
 - Fenway Park, hosted by NK7U
 - U.S. Navy Submarine Museum, hosted by ADM N4OC (ret.)
 - Many XYL/YL-friendly tour options
- Round of golf with KØDQ, N4OC, NK7U, K5ZD, N2NT...
- Private concierge service for entire period

Radio-themed Tours



**Day trip to ARRL Headquarters,
Newington, CT**

Shopping trip to HRO, Salem, NH

**Radio History Tour 1 – Marconi
Site and Chatham Marconi &
Maritime Center**

South Wellfleet ... Cape Cod National
Seashore... Marconi Center
...Fessenden Marshfield site

**Radio History Tour 2 –
Boston/Cambridge**

Alexander Graham Bell's first telephone
call site... MIT Radiation Lab site...
W1MX, W1AF, MIT History Museum

**New England Wireless and
Steam Museum**

Groton, CT Submarine Museum

**Radio Club of America 1BCG
Station site – Greenwich, CT**

Electronics Company Tour

Non-Radio-themed Tours

Boston Duck Tour
with Fenway Park or Harbor Cruise

Basketball Hall of Fame

**Shopping trip to LL Bean,
Freeport, ME**

**Deep-sea fishing or whale-
watching**

Tall ships?

American History

Concord/Lexington/Walden Pond
American Revolution
Old Sturbridge Village...Plymouth
Plantation

Newport, RI Mansion tour

Golf

Baseball Game

Possible conflict with All-star
game... Lowell Spinners, Pawtucket
Red Sox

North End Feast/parade

**Mount Washington or Mount
Greylock**

Tentative Schedule



	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
July	6	7	8	9	10	11	12
Morning	Early arrival	Early arrival	Early arrival Airport pickups provided	Last Arrival day Airport pickups provided Tours/free time	Competitor meeting 8-9 AM Tours/free time	Location draw 9 AM Teams, refs go to sites	Contest begins 8 AM
Afternoon				Tours/free time	Tours/free time	Visitors may take tours	Visitors may take tours
Evening				Welcome party/BBQ	Opening Ceremony & banquet	Teams stay at or near sites overnight	
July	13	14	15	16	17	18	19
Morning	Contest ends 8 AM Teams return to HQ	Tours/ free time	Departure		CTU HARTFORD	ARRL CONVENTION HARTFORD	
Afternoon	(logchecking begins)		Transport to airports or Hartford provided				
Evening	Free time	Closing Ceremony banquet and awards					

Books, movies about games-turned-sports



- Birding (“Big Year”)
- Monopoly (“Under the Boardwalk”)
- Scrabble (“Word Freak”, “Word Wars”)
- Arcade video games (“King of Kong”)
- Air Hockey (“The Way of the Puck”)

***“What is it like to be a champion
at a sport nobody knows about?”***

(wayofthepuck.com)

Mass Media about Contesting



- “To Win the World”
 - (Documentary about K2GL 1981 CQWW)
- Videos of previous WRTCs
 - Broadcast coverage in Brazil
- “The Battle of the Hams”, Sports Illustrated, June 30, **1958**)

Isn't it about time for some new mass-media coverage of radiosport?

Press coverage

W5 donations make it happen

TIME



*Can anyone beat the
Russians in 2014?*

WRTC2014 Can the Americans make it work?

The
Economist

The Team Captains
SO2R x 2 Ops?
Propagation from W1
Exchanges and rates

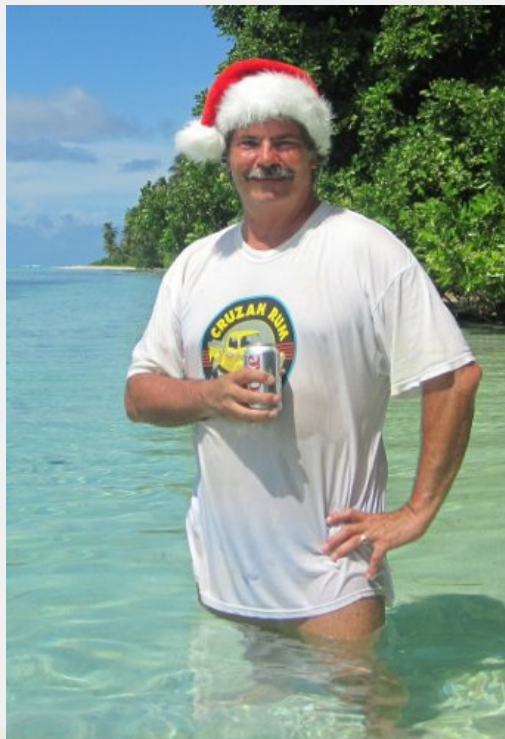
Radiosport

Who are the world's best ops?



Sports Illustrated

July
2014



***WRTC2014 Swimsuit
Edition***

PLAYBOY

ENTERTAINMENT FOR MAN

ISSUE # 121 • NOVEMBER 2012 • \$5.99

*Exclusive photos
of Wild WRTC Action
in Westborough*



Major Sponsors and Donors



INDEXA



Additional Sponsors



Tent Sponsors - Clubs



USA

- Florida Contest Group (5)
- YCCC, PVRC, FRC (4) each
- NCCC, (3)
- SMC, CTDXCC MRRC, NCC (2)
- Alabama Contest Group
- CTU Dayton Class of 2012
- Arizona Outlaws Contest Club
- Minnesota Wireless Association
- Pacific Northwest DX Clubs
- South East Contest Club
- Arizona Outlaws Contest Club
- Twin City DXC
- TN Contest Group
- Grand Mesa Contesters of Colorado
- Reisert Family Radio Club
- West Gulf Div Contest/DX Clubs

DX

- Contest Club Ontario
- CTU Italy Class of 2012
- Contest Club Finland
- Grupo DXXE
- Bavarian Contest Club
- JA WRTC Veterans
- Fortaleza DX Group (PY)
- Estonian RAU
- Bavarian CC
- WWROF
- SN3R/SP3KEY Contest Club
- D4C Contest Club

All 65 tents are sponsored!

"In Memoriam" Tents



- Ken Adams K5KA
- Phil Goetz N6ZZ
- John R. Beck W4AI/ZD8J
- Bill Fisher W4AN
- Gary Schmidt W5ZL
- Bob White W1CW and Jim White K4OJ
- James L. Lawson W2PV
- Hazard "Buz" Reeves K2GL
- Ed Bissell W3AU
- Paolo Cortese I2UIY
- Larry Amodeo W2AX
- Gene Zimmerman W3ZZ
- FCG Silent Keys
- John Thompson W1BIH/PJ9JT
- Frank Hurlbut KL7FH and Dan Robbins KL7Y
- Stu Santelmann KC1F
- Vic Dubois N4TO
- Johan (Joop) Bok P43JB

shop.wrtc2014.org



Welcome to the WRTC 2014 Store

Show your support for WRTC 2014 in New England with official apparel and accessories.

Every item you purchase helps provide funding for acquisition of equipment and hosting of the 59 competing teams.

Featured Products

 T-Shirt Long Sleeve WRTC-LST \$25.00	 Polo WRTC-POLO \$30.00	 T-Shirt Short Sleeve WRTC-SST \$20.00
 Sweatshirt WRTC-SW \$40.00	 Cap WRTC-CAP \$15.00	 Donation WRTC-D \$10.00

Top Sellers

1. T-Shirt Short Sleeve - \$20.00
2. Polo - \$30.00
3. Cap - \$15.00
4. T-Shirt Long Sleeve - \$25.00
5. Sweatshirt - \$40.00
6. Mouse Pad - \$8.00
7. Donation - \$10.00

The Thrill of a Lifetime



New friends, old friends



The Olympics of RadioSport is coming to New England, USA...

**Thank you for your help
and support for a world
class event!**