

18 Mar 2017



ADXXA

Albuquerque DX
Association

Good DX

Good Luck in the Contest!

<http://groups.yahoo.com/group/adxa/>

Reverse Beacon Network

- NCDXA/IARU Beacon System
- What Does it Do?
- How Does it Work?
- Why do I Care?
- How Can I Use It?

NCDXF/IARU Beacon System

- 14.100, 18.110, 21.150, 24.930, and 28.200 MHz
- Is the band dead? (note—no WARC Bands!)
- Band Open to These Locations?
- Is It Worth Calling CQ?
- Open to Specific QTH?



NCDXA/IARU Beacon System

- Handy for Quick Propagation Check
But,
- Where Are You Heard?
- How Well do Your Antennas Work?
- Compare Your Antennas in Real Time?
- Looking for Rare DX Stations?

RBN—What?

- Network of World-Wide Stations
- Listening to Entire (CW/RTTY) Bands
- Reports What They Hear When & How Well
- Near Real Time Spots
- Presented in Spot Search, Data, or Map
- RBN & Beacons for Propagation Study

List of Active Stations On-Line Reporting Spots to RBN 16 Mar At 1700 UTC

AF

AS

NA

EU

SA

3B8CW -	DL9CTB	JA1LZR	LA6TPA	PR1T	W1NT
7KiNUY -	DQ8Z	JA4ZRK	LB5WB	PY1FR	W2AXR
7L4IOU -	E28AC	JF1WNY	LZ4UX	PY1KN	W2LB
7N4XCV	EA5WU	JF2IWL	LZ7AA	RoBB	W2NAF
9M2CNC	EA6VQ	JJ2VLY	MoVSE	RN4WA	W2UTH
A45WG	EC1CT	JSiJRZ	N2QT	RU9CZD	W3CP
AA4VV	ES5PC	K1TTT	N4ZR	RX3AFE	W3LPL
ACoG	ET3AA	K2MFF-2	N6EV	S5oARX	W3OA
BD2FW	F4KJI	K2MFF-3	N6TV	SEoX	W3UA
BH4RRG	F5RRS	K2PO	N7TR	SK3W\	W4AX
CX7ACH	F6IIT	K3PA	N7TUG	SM2IUF	W4KAZ
DBoMMO	GoLUJ	K6XT	N9YKE	SM6FMB	W4KKN
DF1LON	GoTTV	K8ND	NC7J	SV1DPJ	W7HR
DF4UE	GI4DOH	K9IMM	NH6HI	SV3EXP	W8WTS
DF4XX	GW8IZR	K9TM	NO1D	SV8RV	W8WWV
DF7GB	HA1VHF	KB7IJ	NY3A	TF3Y	WA2ZYU
DJ3AK	HA2KSD	KCoVKN	OE6TZE	UA4M	WA7LNV
DKoTE	HA6PX	KH6LC	OG6G	V3iHQ	WA9VEE
DK3UA	HB9BXE	KL7RA	OH6BG	VE2WU	WB6BEE
DK8NE	HB9DCO	KO7SS	OK1IAK	VE6AO	WE9V
DK9IP	HB9JCB	KP3Z	ON5KQ	VE6JY	WZ7I
DLoLBS	HK6F	KQ8M	ON6ZQ	VE6WZ	ZLiAB
DL4RCK	I2DMI	KS4XQ	OZ5W	VK4CT	ZL2HAM
DL6ZB	IK3STG	KU7I	PAoMBO	VU2PTT	ZL2RV
DL8LAS	JA1JRS	LA5EKA	PJ2A	WoMU	

Skimmers' Statistics 16 Mar

- we have 150 skimmers online now
- we have had 4 new skimmers in the last 7 days
- we have had 152 skimmers online in the last hour
- we have had 166 skimmers online the last 24 hours
- we have had 203 skimmers online the last 7 days
- we have had 1890 skimmers online since we begin

Active Stations' Bands Reported

7N4XCV - 40m		
9M2CNC - 40m, 20m, 30m		
A45WG - 40m		
AA4VV - 20m, 15m, 17m		
AC0G - 20m		
BD2FW - 40m		
CX7ACH - 12m, 15m		
DF1LON - 40m, 30m, 17m, 20m		
DF4UE - 40m, 17m, 20m, 15m, 30m, 80m, 160m		

CW Skimmer Decoding

The screenshot shows the CW Skimmer software interface. The main window displays a list of decoded CW signals on the right side, with a frequency of 7025.66 kHz shown in the center. The status bar at the bottom indicates the current signal is 14 TU EA3AKY TEST A ? KA4GE, with a signal strength of 69%, 491 decoders, 10 dB SNR, and 29 WPM.

CW Skimmer

File View Help

7025.66

027

026

QRL?

CQ EA5FV

CQ MW5A

CQ EA4KA

CQ AE6PP

CQ W2UP

CQ UA6LV

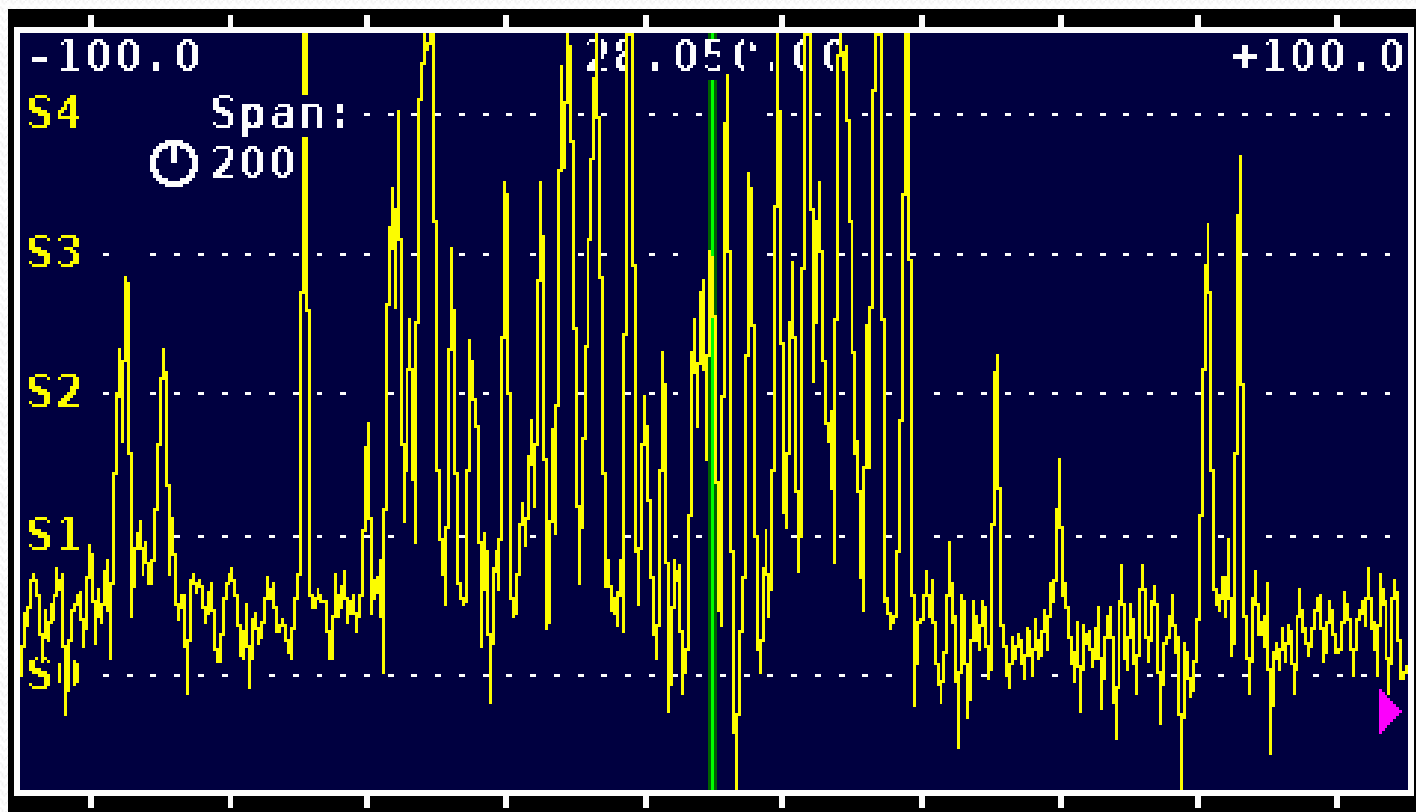
KTOR

CQ EA3AKY

14 » TU EA3AKY TEST » A ? » KA4GE

69% Decoders: 491 of 491 SNR: 10 dB 29 WPM

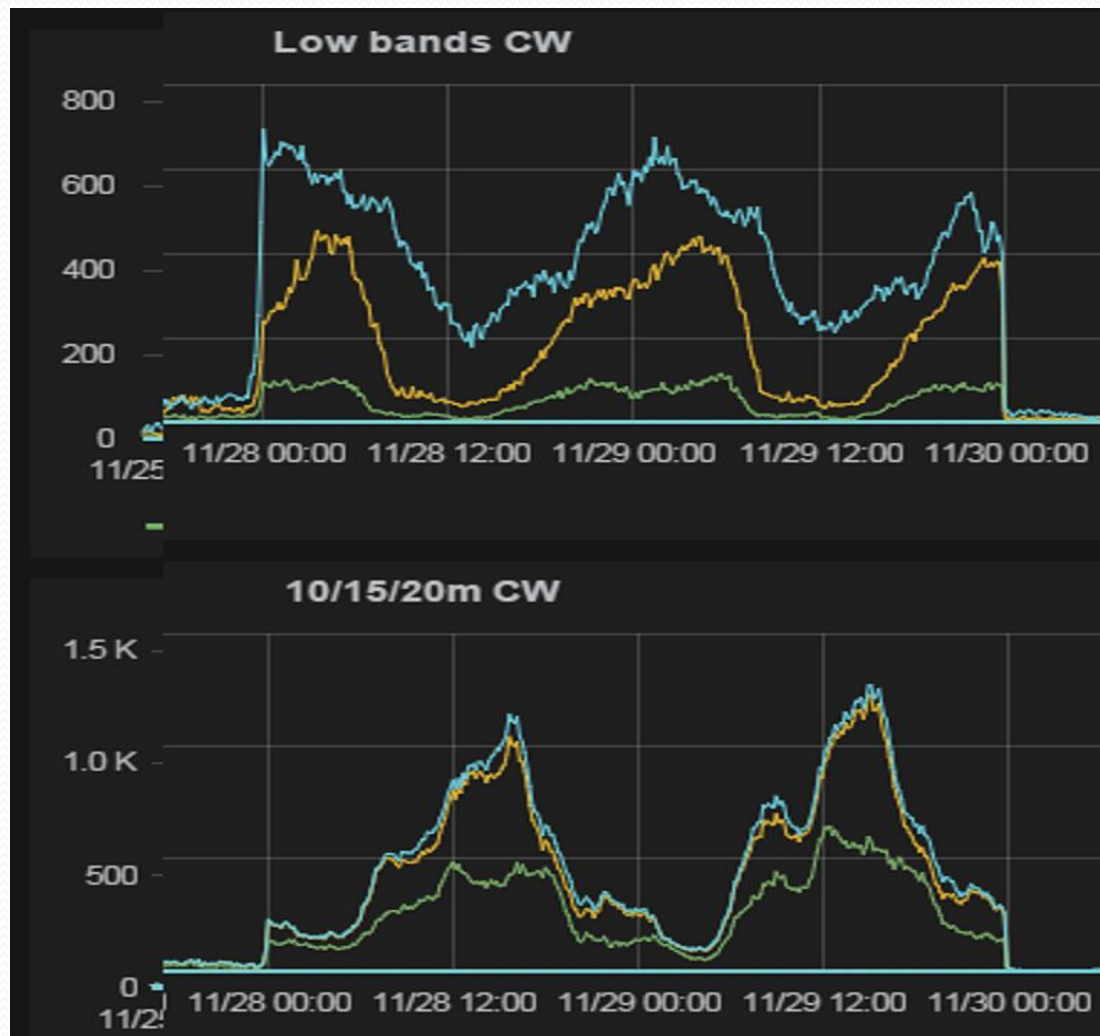
Typical Contest CW Spectrum



ARRL 10M Contest 2015 at K8TE

2015 CQ WW CW Stats and Trivia

- No Hiccups for the Entire 48 Hours!
- Seven Million Spots 7,000,000+!
- 2.1% Error Rate—Listen First!



Typical Spot List (Condensed!)

de	dx	freq	snr	speed	time
KP3Z	5U5R	14024	14 dB	35 wpm	1857z 16 Mar
K8ND	WX6B	14035	24 dB	28 wpm	1857z 16 Mar
W1NT	DJ1KJ	14013	7 dB	24 wpm	1857z 16 Mar
W3LPL	ON6PJ	14029.8	3 dB	24 wpm	1857z 16 Mar
VE2WU	KoRO	14050.2	11 dB	14 wpm	1857z 16 Mar
WZ7I	ON6PJ	14029.8	16 dB	23 wpm	1857z 16 Mar
WZ7I	PE2JB	14048	20 dB	15 wpm	1857z 16 Mar
TF3Y	5U5R	14024	5 dB	35 wpm	1857z 16 Mar
ON5KQ	W3HGT	14035.1	20 dB	31 wpm	1857z 16 Mar
HA6PX	5U5R	14024	17 dB	35 wpm	1857z 16 Mar
K2PO	F6HKA	14047	27 dB	14 wpm	1857z 16 Mar
W3LPL	PE2JB	14048	12 dB	15 wpm	1857z 16 Mar
KM3T	F6HKA	14047	41 dB	14 wpm	1857z 16 Mar

Up to 100 Spots

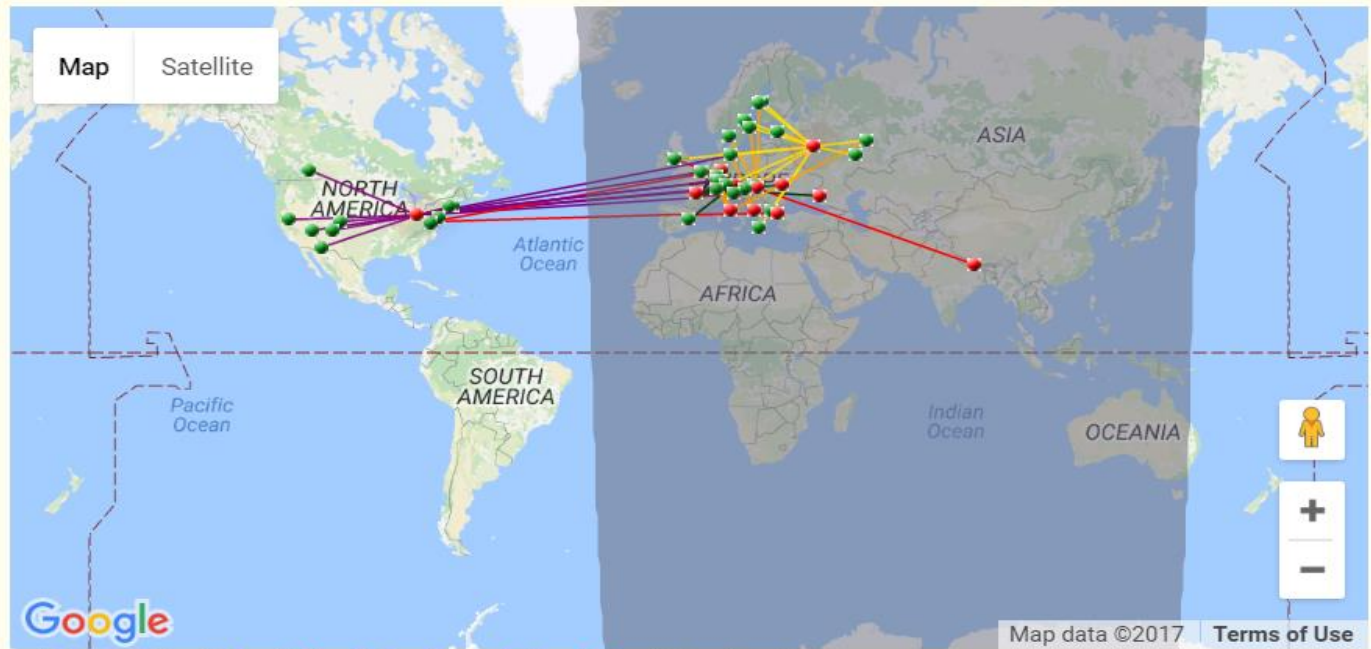
RBN—What?

- Database of Past Spots!
- Compare Your Signal with Others'
- Best Coverage is in North America and Europe
- CW Only (so far)

REVERSE BEACON NETWORK

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- RBN Map
- 16 Mar
- Only Most Current Spots



[/ 160m / 80m / 40m / 30m / 20m / 17m / 15m / 12m / 10m / 6m / 2m](#)
[world wide](#) / [zoom to US](#) / [zoom to Europe](#) / [zoom to North Atlantic](#)

[show/hide my last filters](#)

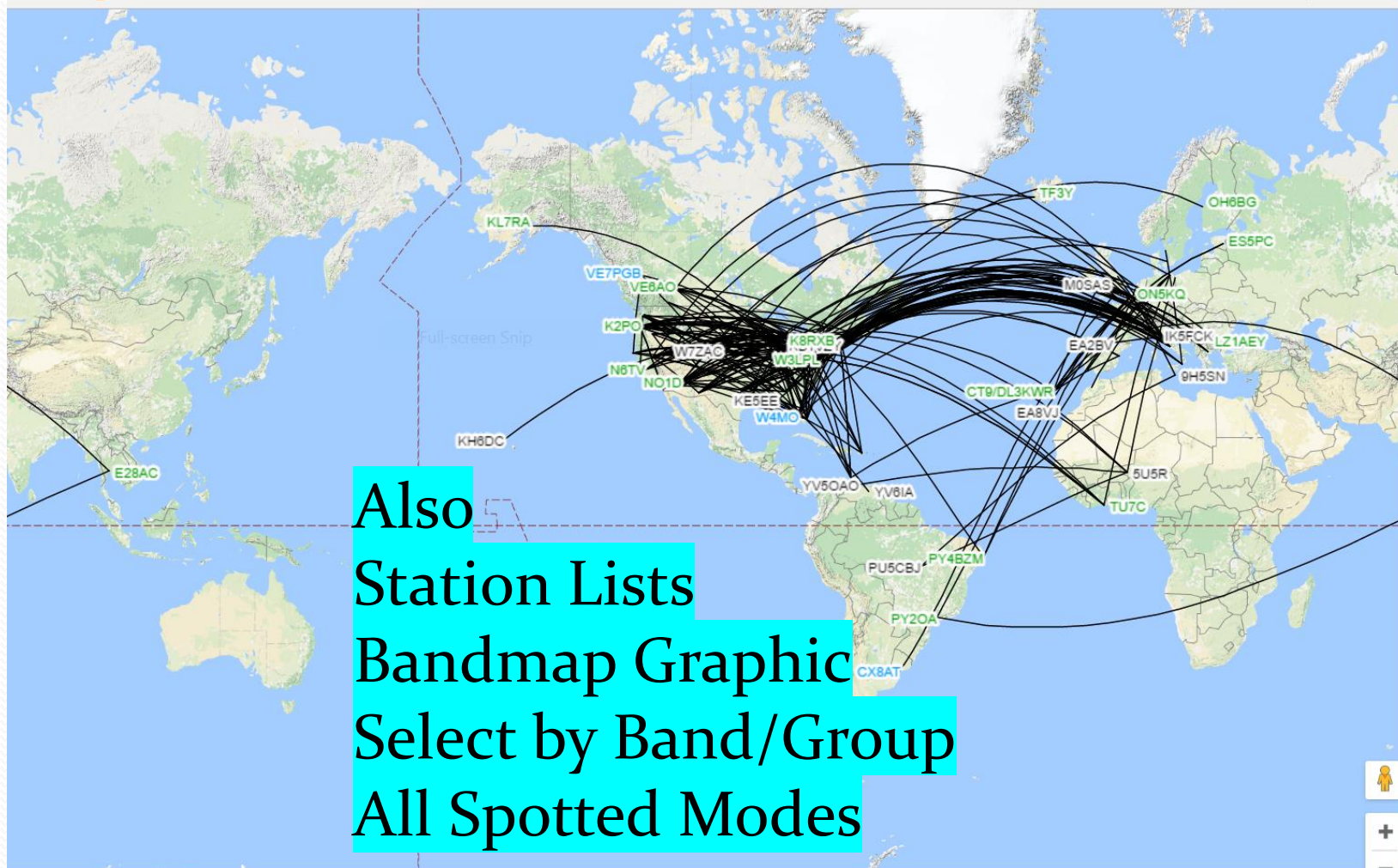
no filter selected, showing all spots

rows to show: 50 ▼

[search spot by callsign](#)

de	dx	freq	cq/dx	snr	speed	time
DK3UA	R6AP	1818.4	CW CQ	11 dB	23 wpm	2005z 16 Mar
HB9JCB	IW0GPW	7036.1	CW CQ [LoTW]	15 dB	15 wpm	2005z 16 Mar
HB9JCB	ER3MM	3526.0	CW CQ	10 dB	29 wpm	2005z 16 Mar
SK3W	R6AP	1818.5	CW CQ	14 dB	23 wpm	2005z 16 Mar
DF7GB	IW0GPW	7036.1	CW CQ [LoTW]	35 dB	15 wpm	2005z 16 Mar
SE0X	R6AP	1818.5	CW CQ	12 dB	23 wpm	2005z 16 Mar
DN4WA	IW0GPW	7036.1	CW CQ [LoTW]	6 dB	15 wpm	2005z 16 Mar

DXMaps.com

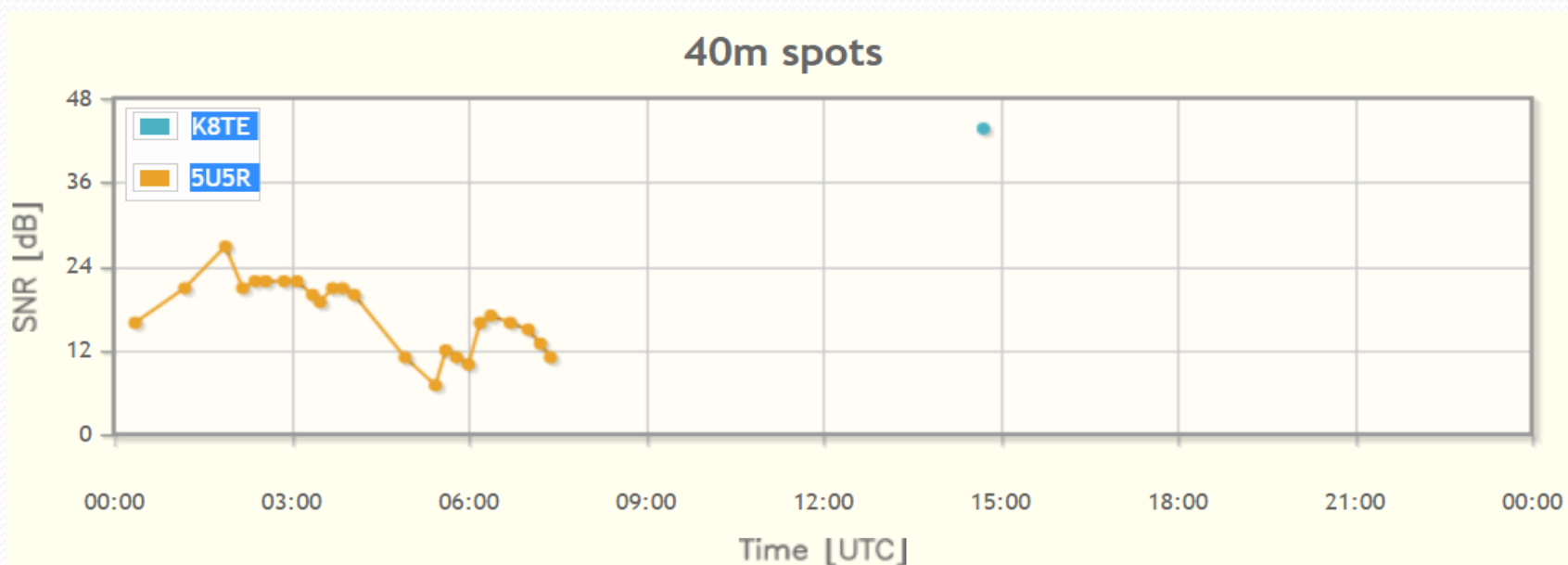


RBN—Why in My Station?

- Is there a station I need to work operating now?
- Am I likely to hear and work it?
- What is his frequency?
- What is his CW speed?
- When should I get on the air to work him?
- How does my signal compare with...?
- Work more DX?
- Make More Contacts (Contesting)!
- Do I need to make station changes?

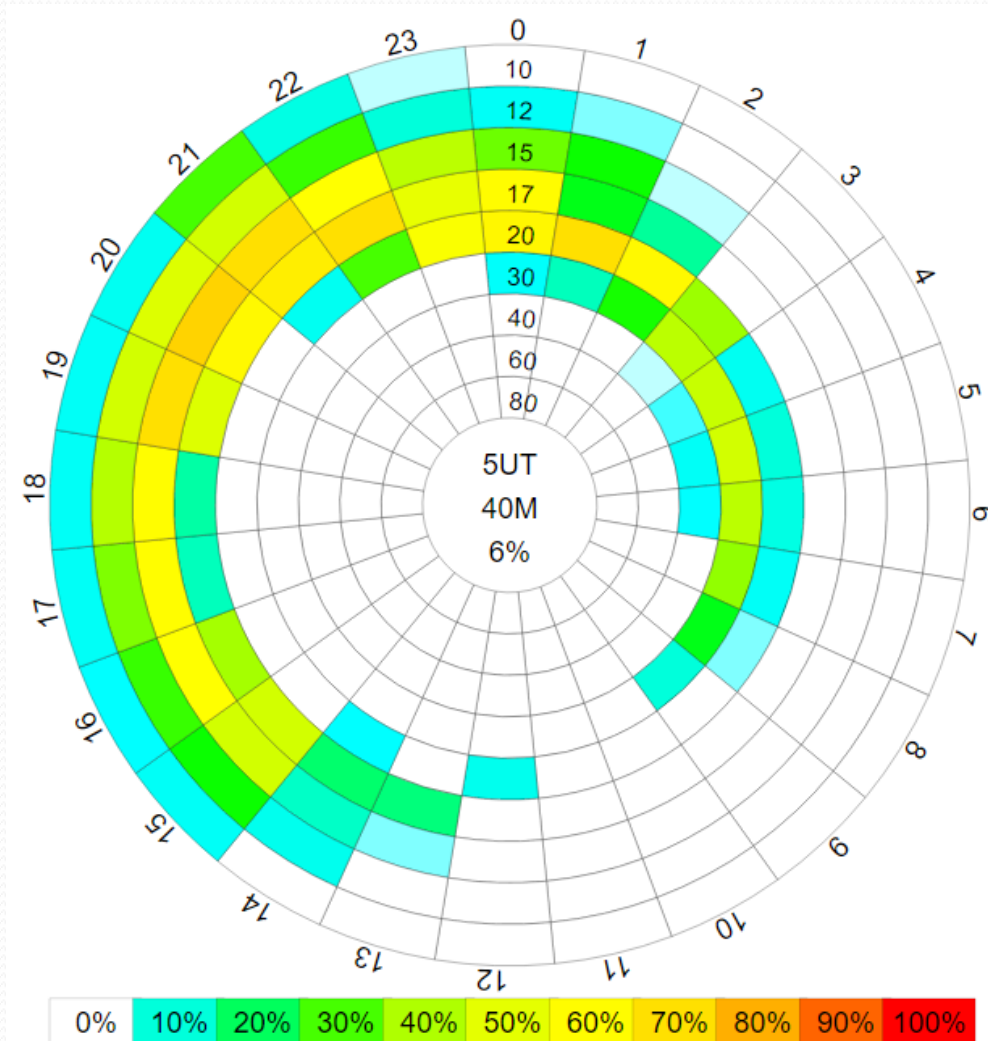
RBN—When to work him?

- Any DX Spotting Works for Right Now
- RBN Provides Historical Data for Future Contacts
- Combine with VOACAP for Highest Probabilities
- KO7SS on Mt. Lemmon 15 Mar:



5U5R—Niger

- 30m Best
- 000 UTC
- 0100 MDT
- 6% Probability
- Possible—Maybe



15 Mar RBN Data Elements

- callsign
- de_pfx
- de_cont
- freq
- band
- dx
- dx_pfx
- dx_cont
- mode
- db
- date
- speed
- tx_mode

15 Mar RBN Data for 5U5R

- 2,273 Reports
- All Continents But Antarctica Reported
- KO7SS Reported 27 dB on 7003 at 0153 UTC
- Very Copyable Signal at a Quiet Location
- Tucson “Near” Albuquerque
- Reasonable Expectation to Work Them

RBN—How in Your Station?

- Chasing DX with Spots
- Data Dump, Sort, and Analysis
- Live Filtering
- Biggest Bang for the Buck
Antenna Comparisons!

RBN—Antenna Comparisons

- Immediate Comparisons
- Computer vs. Human Reliability
- Multiple Sites Available
- 24/7 Coverage (With Propagation)
- Compare Over Time:
Time of Day, Time of Month, Seasons
- Only Good for Same Moment in Time!
- Not Anecdotal!

My signal compared with...?

Raw data download

Data from the RBN are freely available for study and analysis.

Simply use the interface below to select the data extracts you want. The zipped files can be downloaded by a single click on the filename.

The data files themselves are in CSV format, readily viewed by opening in Excel. Note, however, that on busy days the amount of data will far exceed Excel's 65536-row limit. For example, on Saturday, during the 2010 ARRL DX CW contest, the RBN produced over 300,000 spots. You can use Microsoft Access or other data tools to examine and manipulate the full daily data set, or break it down into smaller chunks.

The only thing that we ask in return for these data is that you share your ideas for analyzing them, as well as any results, with the RBN community. If you agree, we can post it on our RBN blog. Of course, you will retain full rights for any other publication. Please use the website contact form to keep in touch with us.

Click on the year, and then on the month name to see available data. You can also use the controls below.

[collapse all months](#) | [expand all months](#)

2017

January

February

March

2016

January

February

- Choose Month then Date
- ZIP'd CSV File
- Open in Excel or Equivalent
- Sort as Needed
- 15 Mar 235,910 Lines of Data!

RBN—Antenna Comparisons

- Raw Data Comparisons with Other Stations
- Compare Against “Locals”
In Town, Nearby States, CONUS Regions
- Same Times Mean Antennas/Power Levels
- Different Times Point to Propagation and Above
- Who Is Your “Competition”
- NOTE: Most Skimmers at Contest Stations
Some at DX Stations
Almost All at One or Both

RBN—Antenna Procedure

- Have CW Memories/Hand Key or Paddle
- Send “RBN TEST DE K8TE K8TE” on Frequency 1
- Switch to Next Antenna
- Send “RBN TEST DE K8TE K8TE” on Frequency 2
- Repeat for 2 or 3 Minutes to Ensure Good Data
- Search for Your Call with 100 Spots (Maximum)
- Highlight Data
- Paste into Excel or Equivalent
- Analyze the Data

Antenna Comparison Procedure—K8TE

- Sorted by
- Date
- Time
- Re-Sort By
- Frequency
- Sub Antenna Name
- Compare Antennas at Each “de” QTH
- Look Up at QRZ
- W2LB Farmington NY
- KM3T Amherst NH
- NY3A Glen Rock PA
- W7HR Port Orchard WA
- KO7SS Tucson AZ
- K9TM Sylvania OH

de	dx	freq	snr	time
W2LB	K8TE	OCF	15 dB	1424Z 13 Mar
W2LB	K8TE	OCF	15 dB	1425Z 13 Mar
W2LB	K8TE	OCF	21 dB	1425Z 13 Mar
W2LB	K8TE	OCF	22 dB	1426Z 13 Mar
KM3T	K8TE	OCF	8 dB	1425Z 13 Mar
JS1JRZ	K8TE	OCF	7 dB	1425Z 13 Mar
NY3A	K8TE	OCF	13 dB	1425Z 13 Mar
W7HR	K8TE	OCF	38 dB	1424Z 13 Mar
W7HR	K8TE	OCF	41 dB	1425Z 13 Mar
W7HR	K8TE	OCF	42 dB	1426Z 13 Mar
W2LB	K8TE	FAN	13 dB	1425Z 13 Mar
W2LB	K8TE	FAN	18 dB	1425Z 13 Mar
W2LB	K8TE	FAN	13 dB	1425Z 13 Mar
W2LB	K8TE	FAN	18 dB	1426Z 13 Mar
KO7SS	K8TE	FAN	31 dB	1425Z 13 Mar
VE2WU	K8TE	FAN	18 dB	1425Z 13 Mar
K9TM-4	K8TE	FAN	6 dB	1425Z 13 Mar
KM3T	K8TE	FAN	10 dB	1425Z 13 Mar
JE1SGH	K8TE	FAN	13 dB	1426Z 13 Mar
W7HR	K8TE	FAN	34 dB	1424Z 13 Mar
W7HR	K8TE	FAN	42 dB	1425Z 13 Mar
W7HR	K8TE	FAN	35 dB	1426Z 13 Mar

Antenna Comparison Procedure—K8TE

- W2LB Farmington NY
- Fan Dipole Lowest dB
- OCF Dipole Highest dB
- 9 dB Highest to Lowest
- Highest Within 2 dB
- Lowest Within 2 dB
- Better Antenna?
Like Often, “It Depends!”

W2LB	K8TE	FAN	13 dB	1425Z 13 Mar
W2LB	K8TE	FAN	13 dB	1425Z 13 Mar
W2LB	K8TE	FAN	13 dB	1442Z 15 Mar
W2LB	K8TE	OCF	15 dB	1424Z 13 Mar
W2LB	K8TE	OCF	15 dB	1425Z 13 Mar
W2LB	K8TE	FAN	18 dB	1425Z 13 Mar
W2LB	K8TE	FAN	18 dB	1426Z 13 Mar
W2LB	K8TE	FAN	20 dB	1442Z 15 Mar
W2LB	K8TE	OCF	21 dB	1425Z 13 Mar
W2LB	K8TE	OCF	22 dB	1426Z 13 Mar

Antenna Comparison Procedure—K8TE

- W7HR Port Orchard WA
- Fan Dipole Lowest dB
- Both Highest dB
- Lowest Within 4 dB
- 8 dB From Highest and Lowest
- So What?
- Both Antenna Play Well at 8:25 MDT
(Well After Sunrise)
- CRITICAL—Be Ready to Switch Antennas Rapidly!
- Lowered Dipole Ends Matter! Fan Used to be Better!

W7HR	FAN	34 dB	1424z 13 Mar
W7HR	FAN	35 dB	1426z 13 Mar
W7HR	OCF	38 dB	1424z 13 Mar
W7HR	OCF	41 dB	1425z 13 Mar
W7HR	FAN	42 dB	1425z 13 Mar
W7HR	OCF	42 dB	1426z 13 Mar

RBN—How in Your Station?

- Everybody Has an Internet Connect—Right?
- Go to: <http://www.reversebeacon.net>
- Choose Your “Flavor”
- DX/CONUS/Your Station
- Have Your Logging Program Ready
- Nab Him
- Log Him
- QSL Him

RBN—Live Filtering

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create your filter, or choose one on the list at the right side of the screen >>>

	DX station	DE station	band	mode
dxcc:	<input checked="" type="radio"/> any	<input checked="" type="radio"/> any	<input type="checkbox"/> all	<input type="button" value="CW"/>
itu zone:	<input type="radio"/> any	<input type="radio"/> any	<input type="checkbox"/> 137kHz	
cq zone:	<input type="radio"/> any	<input type="radio"/> any	<input type="checkbox"/> 472kHz	
continent:	<input type="radio"/> any	<input type="radio"/> any	<input type="checkbox"/> 160m	
			<input type="checkbox"/> 80m	
			<input type="checkbox"/> 60m	
			<input type="checkbox"/> 40m	

[proceed](#)

the **DX station** column refers to the station which is being spotted.

the **DE station** column refers to the station where the spot comes from.

my last filters:

DX dxcc: 4U1I - ITU HQ Geneva / band: 6m

Summary

- NCDXA/IARU Beacon System
- What Does it Do?
- How Does it Work?
- Why do I Care?
- How Can I Use It?
- Standby for K8TE Skimmer on RBN—2017 I Hope!
- Questions?