Das Reverse-Beacon-Netzwerk

Die Beacons (Baken) sind im Allgemeinen automatische Sendestationen in CW, welche auf einer festen Frequenz senden, und welche man zur Kontrolle von Ausbreitungsbedingungen abhören kann. So z.B, das **NCDXF Beacon Network**, welches weltweit 18 Stationen betreibt, wo jede Station alle 3 Minuten eine Aussendung macht. So kann man z.B. durch Abhören auf 14,100 MHz feststellen, wohin es momentan gute Ausbreitungsbedingen auf 20m gibt.

https://www.ncdxf.org/pages/beacons.html

Beim **RBN** (Reverse Beacon Network) ist es genau umgekehrt (**reverse**). **Anstatt** eine Anzahl **Sendestationen** einzurichten wird eine Anzahl automatischer CW-,RTTY- und PSK31-**Empfangsstationen** eingesetzt, welche die Frequenzbänder empfangen, dekodieren und die gehörten Stationen laufend übers Internet melden. Eine intelligente Software erlaubt dann das Herausfiltern der gewünschten Daten aus den gehörten Stationen. Man erhält damit sehr aussagekräftige Daten über die eigene Aussendung.

Die gesammelten Empfangsdaten sind für jeden frei zugänglich.

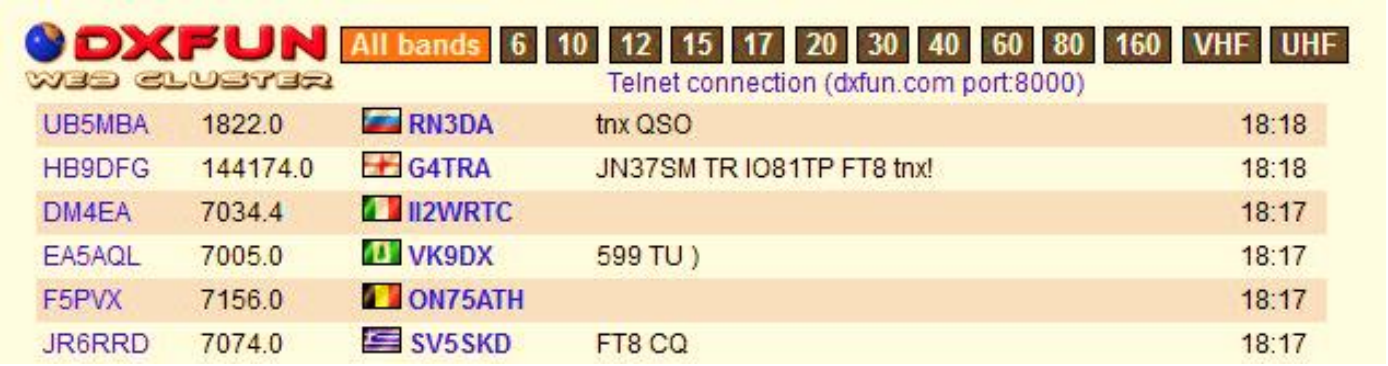
Man kann ohne jeglichen Aufwand sehr gut testen, wie weit sein eigenes Signal hörbar ist, was z.B. für Antennentests von Vorteil ist.

Unterschied DX-Cluster und RBN:

DX-Cluster sind weltweit vernetzte, von Funkamateuren betriebene Server, die Meldungen (sogenannte DX-Spots) sammeln und an alle verbundenen Teilnehmer weiterleiten. Diese Meldungen beinhalten:

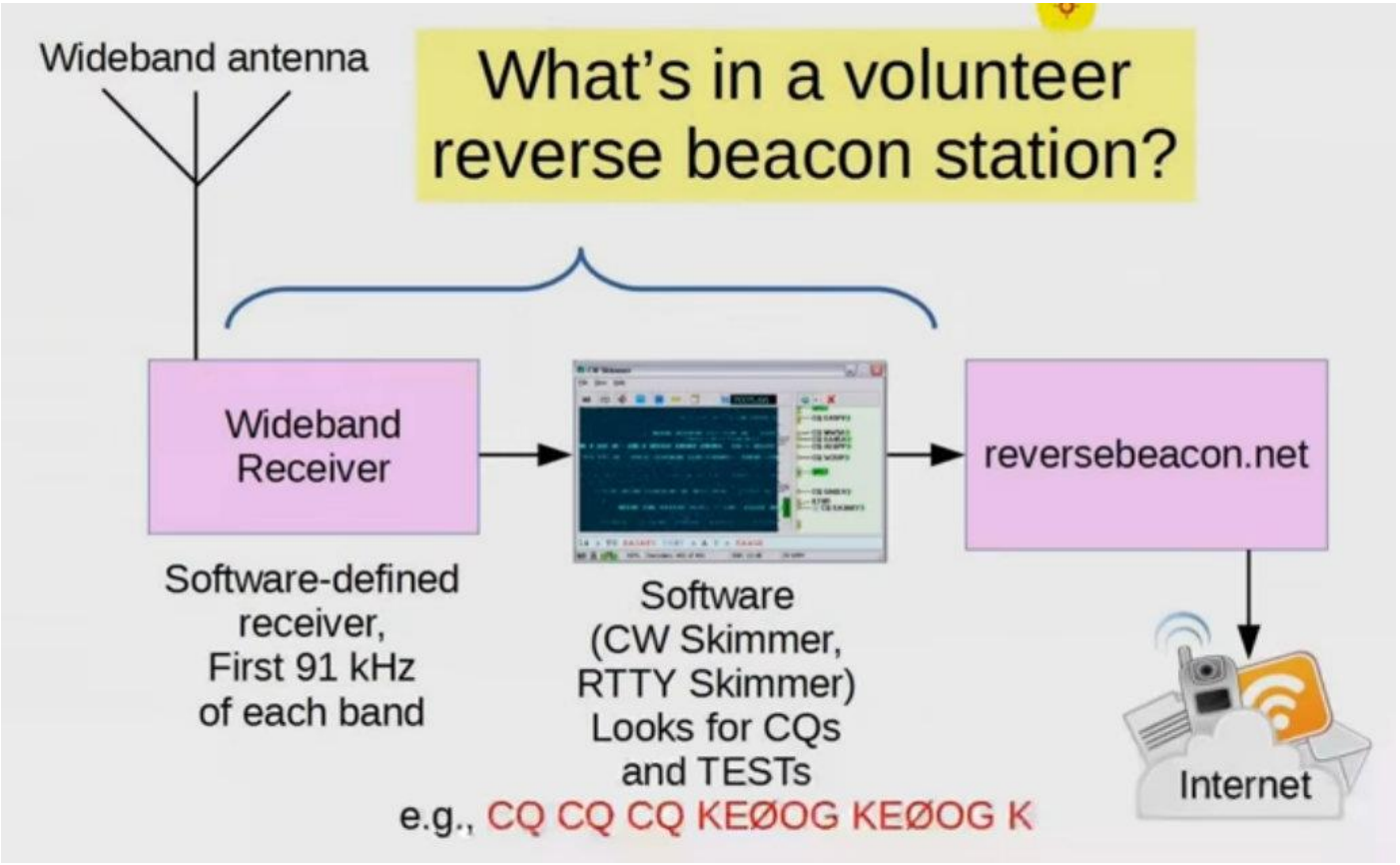
- welcher Funkamateur
- zu welcher Zeit
- welches Funkrufzeichen
- auf welcher Frequenz

gehört hat. Zusätzlich ist ein Kommentar z. B. über die Empfangsqualität möglich.



Vorteil RBN: Alle gehörten CW-Stationen (RTTY, PSK31) werden aufgenommen, nicht nur die als „selten“ eingestuften DX-Stationen.

100x so viele Spots wie ein herkömmliches Spotting-Netzwerk (DX-Cluster etc.)

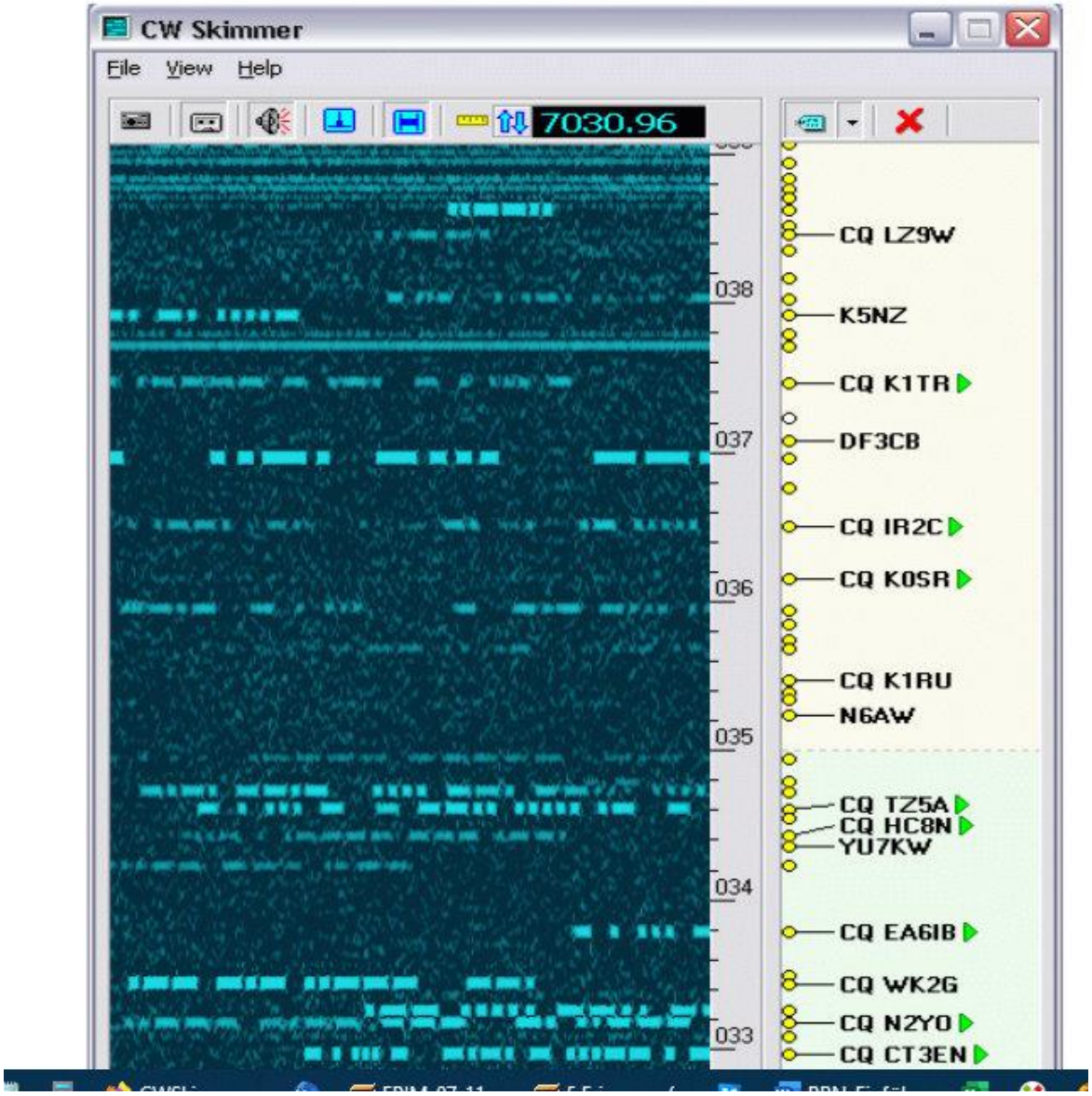


Das **RBN** ist ein von Funkamateuren betriebenes weltweites automatisch arbeitendes **Netzwerk**. Die automatischen Empfangsstationen heißen **RBN-Skimmer** und bestehen aus einem **SDR-Empfänger**, einer intelligenten Software, welche aus dem gesamten Spektrum CW-Rufzeichen dekodieren und via Internet an einen Auswertungs-Server senden.

Was ist ein CW-Skimmer?

Ein **CW-Skimmer** ist eine kommerzielle Windows-Software zur automatischen **Dekodierung von Morsecode**.

Entwickler ist Alex Shovkoplyas, VE3NEA.



Wie sehe ich die Ausbreitung meines eigenen CW-Signals im Reverse Beacon Network (RBN)?

Man startet einen üblichen CQ-Ruf (1 Minute reicht) oder „TEST CALL CALL TEST CALL CALL“ und sieht sich das Empfangsergebnis im Internet an. Dazu ruft man die Seite des RBN auf:

http://www.reversebeacon.net/

und gelangt auf die Einstiegsseite:

REVERSE BEACON NETWORK

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Welcome to the reverse beacon network!

The Reverse Beacon Network is a revolutionary new idea. Instead of beacons actively transmitting signals, the RBN is a network of stations listening to the bands and reporting what stations they hear, when and how well.

If you already know all this, skip directly to the main page.

So why should you care? Well, to begin with, you can see band openings in near-real time on an animated map. You can call a quick CQ, and see which reverse beacons hear you, and how strong you are. Try It!

But the real breakthrough is in the database of past "spots". You can instantly find out what stations, from a given country or zone, have been heard, at what times and on what frequencies. You can see when you've been spotted, who spotted you, and how loud you were. Try It!

"But wait," as they say on the TV ads, "there's more!" Now, for the first time, you can compare your signal with those of your friends and competitors, in near real time or historically. If you wonder how your signal stacked up during last weekend's contests, the Signal Comparison Tool will give you real, quantitative data. Tell it what stations you want to compare, based on signals heard by a given reverse beacon on a certain band at a certain time, and there you'll have it. Of course, whether you like what you see is up to you. Try It!

The Reverse Beacon Network depends on volunteer stations. Currently, we have a few dozen, some active almost 24/7, others coming up only occasionally. We have decent coverage in North America and Europe, but can always use more. It needn't cost a lot, or tie up your station equipment. Learn More!

statistics:

we have 200 skimmers online

skimmers online:

3B8CW - 17m, 15m, 12m
3D2AG - 40m, 20m
3V8SS - 40m, 30m, 20m, 15m
5W1SA - 80m, 40m
9A1CIG - 40m, 30m, 20m, 17m, 15m
9M2CNC - 40m, 20m, 17m
AA4VV - 160m, 80m, 40m, 20m, 15m
AC0C-1 - no spot last 15min
AC0C-2 - 80m, 40m, 20m
AC0C-3 - 80m, 40m, 20m
BA7QT - 40m
BD8CS - 80m, 40m, 30m, 20m
BG0ARE - 40m, 20m
BG4WOM - 40m, 20m
BG8FZU - 40m
BG8PA - 40m
BH4DEG - 80m, 40m
BH4PAN - 80m, 40m
BH4RRG0 - 80m, 40m
BH4XDZ - 40m
CX6VM - 15m, 12m
DD5XX - 40m, 30m, 20m, 17m
DE1LON - 40m, 30m, 20m, 17m, 15m

The RBN map is coming back!

A beta version of RBN maps is available for general use at: beta.reversebeacon.net. It now has the ability to filter on band, mode, callsign, dxcc, itu zone, cq zone, and continent. It also supports legacy filtering URLs, for example beta.reversebeacon.net/dxsd1/dxsd1.php?f=45, which indicates RTTY mode.

show/hide my last filters

no filter selected, showing all spots

search spot by callsign

rows to show: 15

de	dx	freq	cq/dx	snr	speed	time
DL8LAS	R80PWO	3519.6	CW CQ	26 dB	31 wpm	1824z 23 Jan
OH4KA	G0BON	3558.4	CW CQ	5 dB	19 wpm	1824z 23 Jan
LA6TPA	II2WRTC	7034.4	CW CQ	10 dB	30 wpm	1824z 23 Jan
DL1HWS	II2WRTC	7034.4	CW CQ	19 dB	29 wpm	1824z 23 Jan
WZ7I	EG4LRG	14058.0	CW CQ	20 dB	20 wpm	1824z 23 Jan
LZ7AA	R80PWO	3519.6	CW CQ	16 dB	32 wpm	1824z 23 Jan
LZ4AE	YO4BEX	3542.2	CW CQ	16 dB	29 wpm	1824z 23 Jan
EA5WU	II2WRTC	7034.4	CW CQ	45 dB	30 wpm	1824z 23 Jan
W1NT-6	EG4LRG	14058.0	CW CQ	23 dB	20 wpm	1824z 23 Jan
OK1HRA	YO4BEX	3542.1	CW CQ	14 dB	29 wpm	1824z 23 Jan
OK1HRA	OH6KD	3528.5	CW CQ	9 dB	28 wpm	1824z 23 Jan
WE9V	N9KOJ	14038.0	CW CQ	7 dB	16 wpm	1824z 23 Jan
WE9V	N2BXC	14054.0	CW CQ	12 dB	14 wpm	1824z 23 Jan
HB9JCB	UA1AUW	3519.0	CW CQ	3 dB	27 wpm	1824z 23 Jan
DO4DXA	EA6NB	7026.5	CW CQ	15 dB	26 wpm	1824z 23 Jan

options:

show/hide

news

RBN blog: stay tuned!

we have 201 skimmers online

skimmers online:

3B8CW - 40m, 30m, 20m
3D2AG - no spot last 15min
3V8SS - 160m, 80m, 40m, 30m, 20m
5W1SA - 40m, 20m, 17m, 15m
9A1CIG - 160m, 80m, 40m, 30m, 20m
9M2CNC - no spot last 15min
AA4VV - no spot last 15min
AC0C-1 - 40m, 20m, 17m, 12m
AC0C-2 - 40m, 20m, 17m, 15m, 12m
AC0C-3 - 40m, 20m, 17m, 12m
BA7QT - no spot last 15min
BD8CS - 80m, 40m, 30m
BG4WOM - no spot last 15min
BG8FZU - no spot last 15min
BG8PA - 40m, 30m
BH4DEG - no spot last 15min
BH4PAN - 40m
CX6VM - 17m, 15m, 12m, 10m
DD5XX - 160m, 80m, 60m, 40m, 20m
DE1LON - 80m, 40m, 30m, 20m
DF0RW - 160m
DF4XX - 160m, 80m, 40m, 30m, 20m

Praktische Vorführung

Das Herausfiltern der eigenen Aussendung erfolgt dann über das MAIN-Menü. Viele Menüpunkte sind selbsterklärend.

Eine gute Einführung in die Nutzung des RBN findet man in einer PDF von DL1DXL: http://www.funkamateure-dresden-ov-s06.de/files/rbn.pdf

Quellen:

http://www.funkamateure-dresden-ov-s06.de/files/rbn.pdf

http://cms.reversebeacon.net/sites/cms.reversebeacon.net/files/2018-04/The%20RBN%20and%20You.pdf

http://www.reversebeacon.net/

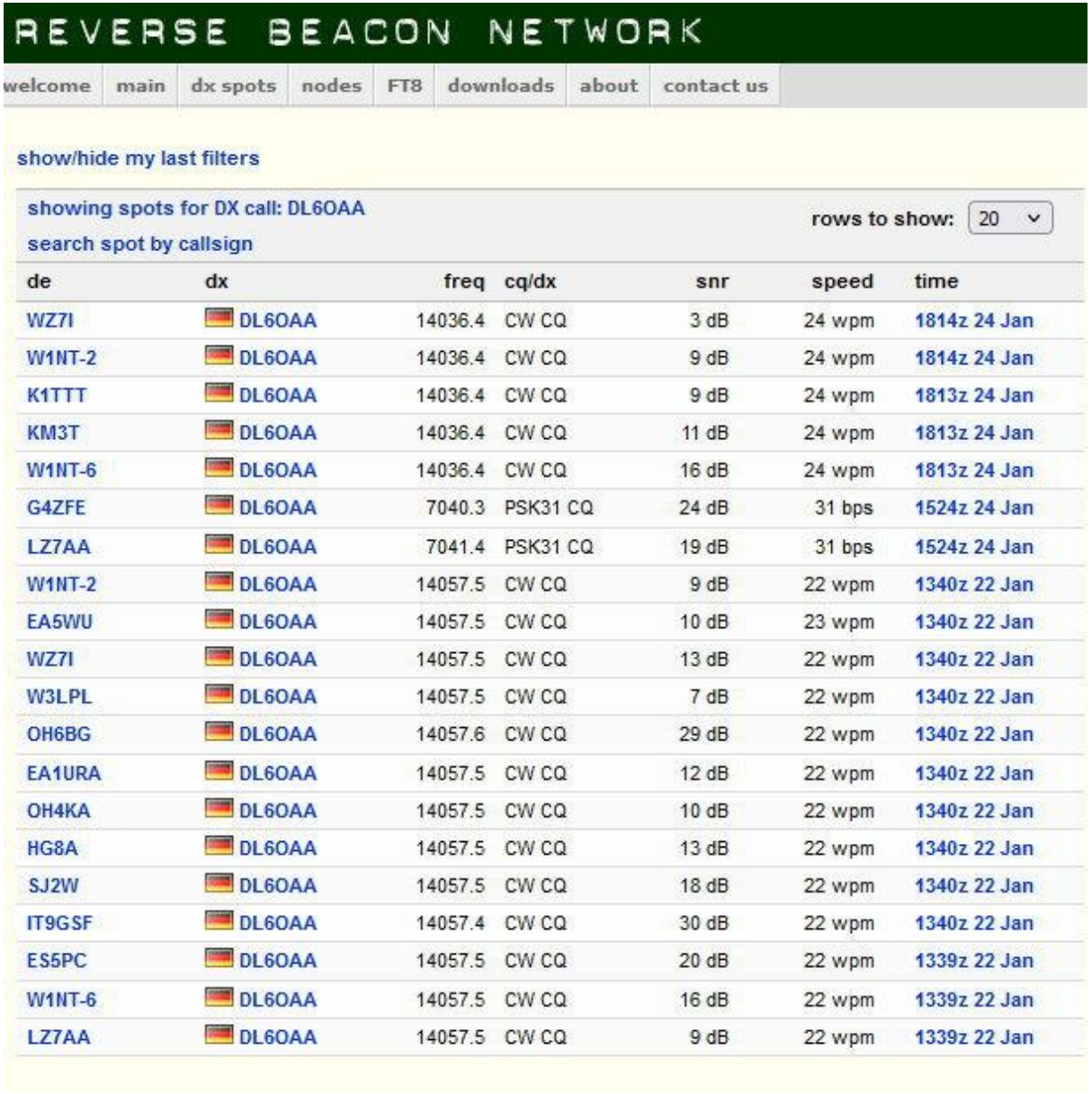
https://dl0tud.tu-dresden.de/Translate/CWSkimmer13_Hilfe_PDF.pdf

http://hb9abx.no-ip.biz/RBN-Einfuehrung.pdf

https://www.youtube.com/watch?v=4Y5ZHqfeJgo

https://saure.org/cq-nrw/2021/04/01/verwendung-des-red-pitaya-sdrlab-im-reverse-beacon-network-teil-1-teil-2-von-pete-smith-n4zr-aus-dem-red-pitaya-blog/

Anhang



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show/hide my last filters

showing spots for DX call: DL6OAA

search spot by callsign

rows to show: 20

de	dx	freq	cq/dx	snr	speed	time
WZ7I	DL6OAA	14036.4	CW CQ	3 dB	24 wpm	1814z 24 Jan
W1NT-2	DL6OAA	14036.4	CW CQ	9 dB	24 wpm	1814z 24 Jan
K1TTT	DL6OAA	14036.4	CW CQ	9 dB	24 wpm	1813z 24 Jan
KM3T	DL6OAA	14036.4	CW CQ	11 dB	24 wpm	1813z 24 Jan
W1NT-6	DL6OAA	14036.4	CW CQ	16 dB	24 wpm	1813z 24 Jan
G4ZFE	DL6OAA	7040.3	PSK31 CQ	24 dB	31 bps	1524z 24 Jan
LZ7AA	DL6OAA	7041.4	PSK31 CQ	19 dB	31 bps	1524z 24 Jan
W1NT-2	DL6OAA	14057.5	CW CQ	9 dB	22 wpm	1340z 22 Jan
EA5WU	DL6OAA	14057.5	CW CQ	10 dB	23 wpm	1340z 22 Jan
WZ7I	DL6OAA	14057.5	CW CQ	13 dB	22 wpm	1340z 22 Jan
W3LPL	DL6OAA	14057.5	CW CQ	7 dB	22 wpm	1340z 22 Jan
OH6BG	DL6OAA	14057.6	CW CQ	29 dB	22 wpm	1340z 22 Jan
EA1URA	DL6OAA	14057.5	CW CQ	12 dB	22 wpm	1340z 22 Jan
OH4KA	DL6OAA	14057.5	CW CQ	10 dB	22 wpm	1340z 22 Jan
HG8A	DL6OAA	14057.5	CW CQ	13 dB	22 wpm	1340z 22 Jan
SJ2W	DL6OAA	14057.5	CW CQ	18 dB	22 wpm	1340z 22 Jan
IT9GSF	DL6OAA	14057.4	CW CQ	30 dB	22 wpm	1340z 22 Jan
ES5PC	DL6OAA	14057.5	CW CQ	20 dB	22 wpm	1339z 22 Jan
W1NT-6	DL6OAA	14057.5	CW CQ	16 dB	22 wpm	1339z 22 Jan
LZ7AA	DL6OAA	14057.5	CW CQ	9 dB	22 wpm	1339z 22 Jan

REVERSE BEACON NETWORK

SSN:22 SFI:95 A:10 K:1 DxWatch Callsign Lookup:

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Hosted by www.dxwatch.com.

630m 160m 80m 60m 40m 30m 20m 17m 15m 12m 10m 6m 4m 2m

cw rtty psk31 psk63

Max rows: 10 Max age: 10 Days

New spots: 10

Show Spotters Advanced Mode

CW Speed: Min all Max all

	● Spotter (de)	● Spotted (dx)
callsign	spotter-callsign	DL6OAA

● spotter	● spotted	freq	cq/dx	snr	speed	time	seen
W1NT-2	DL6OAA	14057.5	CW CQ	9 dB	22 wpm	1340z 22 Jan	28 hours ago
EA5WU	DL6OAA	14057.5	CW CQ	10 dB	23 wpm	1340z 22 Jan	28 hours ago
WZ7I	DL6OAA	14057.5	CW CQ	13 dB	22 wpm	1340z 22 Jan	28 hours ago
W3LPL	DL6OAA	14057.5	CW CQ	7 dB	22 wpm	1340z 22 Jan	28 hours ago
OH6BG	DL6OAA	14057.6	CW CQ	29 dB	22 wpm	1340z 22 Jan	28 hours ago
EA1URA	DL6OAA	14057.5	CW CQ	12 dB	22 wpm	1340z 22 Jan	28 hours ago
OH4KA	DL6OAA	14057.5	CW CQ	10 dB	22 wpm	1340z 22 Jan	28 hours ago
HG8A	DL6OAA	14057.5	CW CQ	13 dB	22 wpm	1340z 22 Jan	28 hours ago
SJ2W	DL6OAA	14057.5	CW CQ	18 dB	22 wpm	1340z 22 Jan	28 hours ago
IT9GSF	DL6OAA	14057.4	CW CQ	30 dB	22 wpm	1340z 22 Jan	28 hours ago

Version v1.0.5

REVERSE BEACON NETWORK

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Skimmers list

Check here for detailed skimmers list

we have 201 skimmers online now
we have had 3 new skimmers in the last 7 days
we have had 207 skimmers online in the last hour
we have had 229 skimmers online in the last 24 hours
we have had 265 skimmers online in the last 7 days
we have had 2981 skimmers online since we begin this!

callsign	band	grid	dxcc	cont	itu	cq	first seen	last seen
WZ7I	10m,12m,15m,17m,20m,30m,40m	FN20KK	K	NA	8	5	12 years ago	online
OE9GHV	15m,160m,20m,30m,40m,80m	JN47WK	OE	EU	28	15	2 years ago	online
KP2RUM	10m,15m,20m,30m	FK77PR	KP2	NA	11	8	1 year ago	online
CX6VM	10m,12m,15m	GF27XU	CX	SA	14	13	10 years ago	online
KM3T-1	40m	FN42ET	K	NA	8	5	4 years ago	online
BG8PA	30m,40m	ON80HE	BY	AS	43	24	3 years ago	online
KL7RA		BP40JS	KL	NA	1	1	4 years ago	online
VK4CT	40m,80m	QG62JV	VK	OC	55	30	7 years ago	online
SV8RV	160m,40m,80m	KM07KS	SV	EU	28	20	13 years ago	online
IK3STG	160m,20m,30m,80m	JN55XK	I	EU	28	15	10 years ago	online
KM3T-2	15m,20m,30m,40m	FN42ET	K	NA	8	5	4 years ago	online
JI1HFJ		PM95SS	JA	AS	45	25	3 years ago	online
SZ1A	160m,40m	KM08QR	SV	EU	28	20	4 years ago	online
TF3Y	17m,20m,30m,40m,80m	HP94BD	TF	EU	17	40	11 years ago	online
K9LC	12m,15m,17m,20m,40m	EN52MG	K	NA	8	4	2 years ago	online
F4VSQ	80m	JN23QF	F	EU	27	14	3 years ago	online
HA8TKS	160m,40m,60m,80m	JN96UV	HA	EU	28	15	8 years ago	online
OL7M	30m,40m,80m	JO80CF	OK	EU	28	15	11 years ago	online
VE6WZ	17m,20m,30m,40m	DO21ST	VE	NA	2	4	11 years ago	online
OH4KA	160m,20m,30m,40m,80m	KP31WN	OH	EU	18	15	2 years ago	online
AC0C-1	12m,15m,17m,20m,40m	EM28QP	K	NA	7	4	1 year ago	online
DF0RW	160m	JO31GG	DL	EU	28	14	5 years ago	online
LZ3CB	160m,20m,30m,40m,80m	KN32SN	LZ	EU	28	20	1 year ago	online
HS/F8UKP		OK03GR	HS	AS	49	26	99 days ago	online
K4PP	15m,20m,30m	EM64PT	K	NA	8	4	291 days ago	online
W7HR	20m	CN87RN	K	NA	6	3	6 years ago	online
K2PO/7	20m,40m	CN85LI	K	NA	6	3	7 years ago	online
ZL3X		RE66IM	ZL	OC	60	32	1 year ago	online
LZ2ZG	160m	KN23BE	LZ	EU	28	20	5 years ago	online

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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:	any	any	all, 137kHz, 472kHz, 160m, 80m, 60m	any
itu zone:	any	any		
cq zone:	any	any		
continent:	any	any		

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:

band: 160m,80m,60m,40m,30m,20m,17m,15m,12m,10m

ready made filters

HF last 50 HF
137kHz HF/CW
1.8MHz HF/SSB
3.5MHz
5MHz 1.8/3.5/7MHz
7MHz 14/21/28MHz
10MHz 10/18/24MHz
14MHz
18MHz
21MHz
24MHz
28MHz

VHF+ VHF+/CW
50MHz VHF+/SSB
70MHz
144MHz
430MHz
1.2GHz