



DXING WITH DXPEDITIONS

BARC MEMBERSHIP MEETING

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The screenshot shows a software interface for logging radio contacts. At the top, there is a menu bar with 'File', 'View', and 'Help'. Below it is a title bar for 'Recent Contacts'. The main area is a table with columns: Rec, Off, Country, ST, County, Name, Other, S, and a final column with 'Y' and 'N'. The table lists various countries and their corresponding status. Below the table are several control fields: 'Band', 'Mode', 'Power', 'Time On', 'Sent', and 'Re'. There are also checkboxes for 'QSL Sent' and 'QSL Rcvd', and a 'Spot Last' button. At the bottom, there is a 'Comments' section with a table of log entries.

Rec	Off	Country	ST	County	Name	Other	S	
		Ecuador					Y	N
		Cape Verde					Y	N
		Suriname					Y	N
		USA					Y	N
		Puerto Rico					Y	N
		French Guiana					Y	N
		Puerto Rico					Y	N
		Belgium					Y	N
		England					Y	N
		USA					Y	N
		Brazil					Y	N
		Chile					Y	N
FT8		USA	ID	KOOTENAI			Y	Y
FT8		Azores					Y	Y
FT8		Brazil					Y	Y
FT8		Canada					Y	Y
FT8		USA					Y	N
FT8		Belize					Y	Y
FT8		Switzerland					Y	Y

Band	Mode	Power	Time On	Sent	Re

County	Frequency	Other

QSL Sent
 QSL Rcvd

Spot Last

Comments

Comments	Pfx	Time	C...	Bea...	Dist...
U5FCV: CORRJO FRECUENCIA	CX	1731Z	SA	156	5
CLJ: USB	CX	1730Z	SA	156	
Gracias 73's GI	AO	1729Z	EU		

JOHN WESTERKAMP, W8LRJ

- Always interested in radio and have always been a SWL
- Extra Class Operator and BARC Member since April 2018
- Bachelor of Electrical Engineering from University of Dayton
- Ph.D. in Electrical Engineering from Purdue University
- Specialized in Digital Signal Processing/Communications
- Electrical Engineering Faculty at U.D. for 17 years
- Computers and Networking for 10 years
- Retired and enjoying a great hobby
- **LRJ stands for Lori, Rachel, and Jacob (wife and two kids)**
- Nephew is Jordan Westerkamp, football player University of Nebraska





OVERVIEW

- Previously, we looked at logging and rig control for *voice and digital* contacts using N3FJP locally and LotW and ClubLog over the Internet.
- Tonight, we will look at working DX and using DXpeditions including finding DXpedition information, spotting, propagation, and DX techniques.
- Note that this information is available in five articles in the BARC Newsletter (April through August 2023).



WHAT IS DX?

- DX stations are any countries outside the continental USA (Alaska and Hawaii are DX).
- So who are these DX entities and which ones are the most wanted (fewest stations have worked them)?
- You can find a list at [ClubLog Most Wanted](#).
- That will give you an idea of the number of official DX entities (340) and which ones are the hardest to work (North Korea).
- In the next few slides, we will look at ways to find these DX entities when they are on the air.

The screenshot shows the ClubLog website interface. At the top, there is a navigation bar with links for Settings, Upload, QRS, Donate, Expeditions, and Livestreams. The main content area is titled 'DXCC Most Wanted List' and includes a disclaimer: 'The information generated in this report is derived from QSOs uploaded to Club Log. To improve quality, only QSOs that have QSLs confirmed are considered. Certain logs, including SWLs and SKs, are excluded. The most wanted charts are rebuilt once per month, on average, but it can take up to a year for expeditions to influence the rankings as only confirmed QSOs are considered.' Below this, there is a note: 'These reports are improved by greater participation. Please sign up if you are willing to add your QSOs to Club Log, and help improve the database - thank you!' The interface includes several filters: 'No Mode Filter' (selected), 'CW', 'Phone', and 'Data'. The 'Filter by band' is set to 'All bands' and 'Filter by continent' is set to 'Use global log'. The 'Generate using QSOs to end of' is set to 'Present day'. A button labeled 'Generate Most-Wanted List' is visible, along with a link to 'Analyse a specific DXCC entity'. Below the filters is a table with the following data:

Rank	Prefix	Entity Name	Whitelisted?
1.	P5	DPRK (NORTH KOREA)	✓
2.	3Y/B	BOUVET ISLAND	✓
3.	FT5/W	CROZET ISLAND	✓
4.	BS7H	SCARBOROUGH REEF	✓
5.	CE0X	SAN FELIX ISLANDS	✓
6.	BV9P	PRATAS ISLAND	✓
7.	KH7K	KURE ISLAND	✓
8.	KH3	JOHNSTON ISLAND	✓
9.	3Y/P	PETER 1 ISLAND	✓
10.	FT/G	GLORIOSO ISLAND	✓
11.	FT5/X	KERGUELEN ISLAND	✓
12.	YV0	AVES ISLAND	✓



HOW TO FIND DX

- ClubLog *DXCC Cluster* (new DX not in your log yet)
- DX Summit spots
<http://www.dxsummit.fi/>
- DX Watch spots
dxwatch.com
- N3FJP and N1MM+ spots
- Use DXpeditions!



Settings | Upload | QRS | Donate | Expeditions | Livestreams

Your Log

- DXCC Charts
- Satellite Charts
- Timelines
- Grid Squares
- QSL Charts
- Zone Charts
- Log Inspector
- Log Matching
- League Tables**
- DXCC Leagues
- Satellite Leagues
- Zone Leagues
- Club Leagues
- CDXC Challenges
- Super League
- Uniques League
- Tools**
- DX Cluster
- Log Search
- Call Tester
- Most Wanted
- DXCC Analysis
- Propagation
- Great Circle Maps
- LoTW Sync
- ADIF Diff
- QSL Archive

DX Spots for Needed DXCCs

Using this tool, you can search the DX Cluster for spots related to DXCCs that you have not yet worked.

Choose your call:

Filter style:

Filter mode:

K6RC	14074.9	XW0LP		LAOS LoTW	2023-07-18 14:11	Prop.
OV50	21014.0	4K6FO	tu qso, 73	AZERBAIJAN LoTW	2023-07-18 14:09	Prop.
JF30WJ	14074.0	XW0LP	ft8	LAOS LoTW	2023-07-18 14:09	Prop.
K9MK	14074.0	9V1XX		SINGAPORE LoTW	2023-07-18 14:06	Prop.
W3LPL	14021.7	9V1YC	heard in az	SINGAPORE LoTW	2023-07-18 14:06	Prop.
DL8FMA	21014.0	4K6FO	cq	AZERBAIJAN LoTW	2023-07-18 13:58	Prop.
F5PAC	21074.0	KH8RRC	ft8	AMERICAN SAMOA Most-Wanted #71	2023-07-18 13:51	Prop.
IW35P0	18110.0	KH8RRC	cq not rx	AMERICAN SAMOA Most-Wanted #71	2023-07-18 13:36	Prop.
IW35P0	18110.0	KH8RRC/QRP		AMERICAN SAMOA Most-Wanted #71	2023-07-18 13:34	Prop.
AI6GM	14075.5	9M8LJW	cp5h vertical,80w setpoint	EAST MALAYSIA	2023-07-18 12:37	Prop.
BG2ENW	7074.0	4F1EBD	ft8 -11db 1819hz	PHILIPPINES	2023-07-18 12:12	Prop.
DK1WB	14074.0	KH8RRC	pse 20m ft8, band is open	AMERICAN SAMOA Most-Wanted #71	2023-07-18 12:06	Prop.
UA3ARC	21074.0	KH8RRC	ft8 -16 db 583 hz	AMERICAN SAMOA Most-Wanted #71	2023-07-18 12:00	Prop.
DA1GA	18110.0	KH8RRC		AMERICAN SAMOA Most-Wanted #71	2023-07-18 11:46	Prop.
UA3ARC	18100.0	KH8RRC	ft8 -12 db 378 hz	AMERICAN SAMOA Most-Wanted #71	2023-07-18 11:45	Prop.
MI0SAI	18110.0	KH8RRC	55 hr qrx now !!	AMERICAN SAMOA Most-Wanted #71	2023-07-18 11:28	Prop.
PB7Z	18100.0	KH8RRC	trnx for trying, 73	AMERICAN SAMOA Most-Wanted #71	2023-07-18 11:27	Prop.



DX SPOTTING IN N3FJP

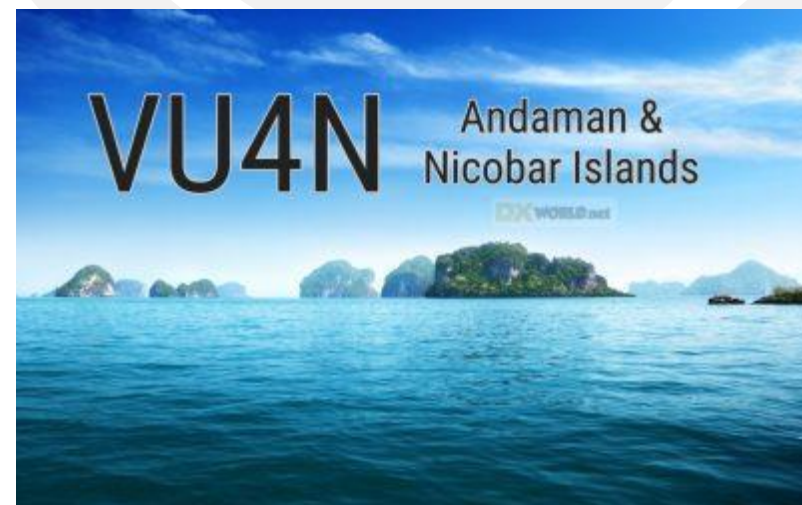
DX Spotting Setup (Ctrl D)

Data Source <input checked="" type="radio"/> Telnet Host <input type="radio"/> LAN Relay	Telnet Host: dxspots.com <small>Delete Host From List</small>	Telnet 23	Telnet Login W8LRJ	Login Command SHOW/DX	<input type="checkbox"/> Enable DX Spotting % of Form <input checked="" type="checkbox"/> Auto Reconnect <input type="checkbox"/> 3 Min Keep Alive 12 <input checked="" type="checkbox"/> Show Band Map on Startup (Ctrl E) <input type="checkbox"/> Show Large Form on Startup (Ctrl+Shift D)
Display spots for these continents on the main form: <input checked="" type="checkbox"/> AF <input checked="" type="checkbox"/> AS <input checked="" type="checkbox"/> EU <input checked="" type="checkbox"/> NA <input checked="" type="checkbox"/> OC <input checked="" type="checkbox"/> SA <small>More Filtering</small>		Audio Alerts: <input type="checkbox"/> DX <input type="checkbox"/> Needed Spot <input checked="" type="checkbox"/> Beep When Spotted Speak Details: <input type="checkbox"/> DX <input type="checkbox"/> Needed Spot			
<pre>To enable Telnet DX spotting, enter your call sign in the login field above and then click the check box to enable DX spotting. You can also optionally add a command to be sent automatically when you log in such as SHOW/DX to retrieve recent DX spots immediately when you connect. You can change the size of the DX spots list on the main form by adjusting the percentage above. Press Ctrl E from the main form to also display a band map. The color codes on the band map are: Yellow Bold = < 3 minutes Yellow = 3 - 5 minutes White = 5 - 10 minutes Light Gray = 10 - 20 minutes Gray = 20+ minutes Italics = New Multiplier / Entity (in programs where applicable - not in state QSO programs) Red = New Entity LoTW user (AC Log only - must enable ID of LoTW Users on LoTW setup form) Note these color codes only apply to the band map, not the list on the main form. Also, only the last 200 spots are held in RAM, so during busy times, depending on your filtering, you may not see any gray spots. You can display the band map horizontally or vertically by clicking the Horz / Vert button at the bottom of the map. The button disappears after five seconds, but you can</pre>					
<small>Press Ctrl E from the main form to display the band map! Click here to learn more!</small>					
Please type text to send here and then press enter: <input type="text"/> <input type="button" value="Send"/> <input type="button" value="Spot Last"/> <input type="button" value="Done"/>					

- Click *Telnet Host*
- Enter *dxspots.com*
- Enter 23 for *Telnet* port
- Use your callsign for *Telnet Login*
- ***Be sure to click Enable DX Spotting.***
- Other settings as desired.
- Click *Done*.
- A section with spots will appear at the bottom of the N3FJP window.
- ***If you set up rig control with N3FJP, you can just click on the spot and radio will tune the DX automatically.***

WHAT ABOUT DXPEDITIONS?

- Many DX entities are sparsely populated (islands), uninhabited (rocky volcanic island or cold/poor weather), or just don't have many hams.
- Groups of amateurs get together and go to the remote location and operate. This is a DXpedition.
- These DXpeditions are often somewhat dangerous and expensive as the operators must bring radios and antennas as well as power along with food and other supplies.
- Often sponsored by clubs or DX organizations.
- Huge pileups result since the DX entity is often very rare, but it is an opportunity to work it if you get lucky.



HOW TO FIND DXPEDITIONS

- BARC website under QSO/QSL/DX
- DX News Calendar at <https://www.dx-world.net>
- Click on a callsign to get more information (bands and modes).

DX Calendar for Current Month

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
PZ5TW			VP9/AA1AC						T88PB						PR0T								S79K Mahe Island Seychelles		VK			
YJ0TT								ZL7A												VP9/AB2E								
E51JAN																										TO9V		
FG4KH																							3B8M					
	E6AJ																						HR5/F2JD					
YJ0CA																				P44W								
A25R																					TO0T							
	708AD 708AE																								5H3FM			
	TJ9MD																							9L5M				
																			V26K									
	TX7L																							V48A				
	TX7K																							FW2CW FW5N				
																							VK9XGM					
																							3B9KW					

PROPAGATION

- ClubLog has a *Propagation Tool* that can be used to see when the best time of day and best band to contact the DX.
- In *DX Cluster*, double-click on the DX name to bring up the *DXCC Analysis Tool*.
- Then click on *Check Propagation* to see real (actual QSO's) and predicted (using VOACAP) propagation.



CLUBLOG | Settings | Upload | OQRS | Donate | Expeditions | Livestreams

Propagation Wizard

Using the QSOs uploaded by Club Log users, an approximate pattern of activity can be determined. The information below is based on actual QSOs. You can also filter on history solar flux records (SFI). The average SFI value for the last 7 days is 191.

You may also wish to try the [Geographic Propagation Wizard](#)

Source DXCC:	UNITED STATES OF AMERICA	or zone:	Please choose...
Destination DXCC:	ARGENTINA	or zone:	Please choose...
Month:	All		
Only include last 12 months:	<input type="checkbox"/>		
Solar Flux:	Minimum SFI: No limit	Maximum SFI:	No limit

Activity between UNITED STATES OF AMERICA and ARGENTINA

VOACAP predictions combine short and long path data.

Real (QSOs)
 Predicted (Tx VOACAP 1)

6m: 19485 QSOs

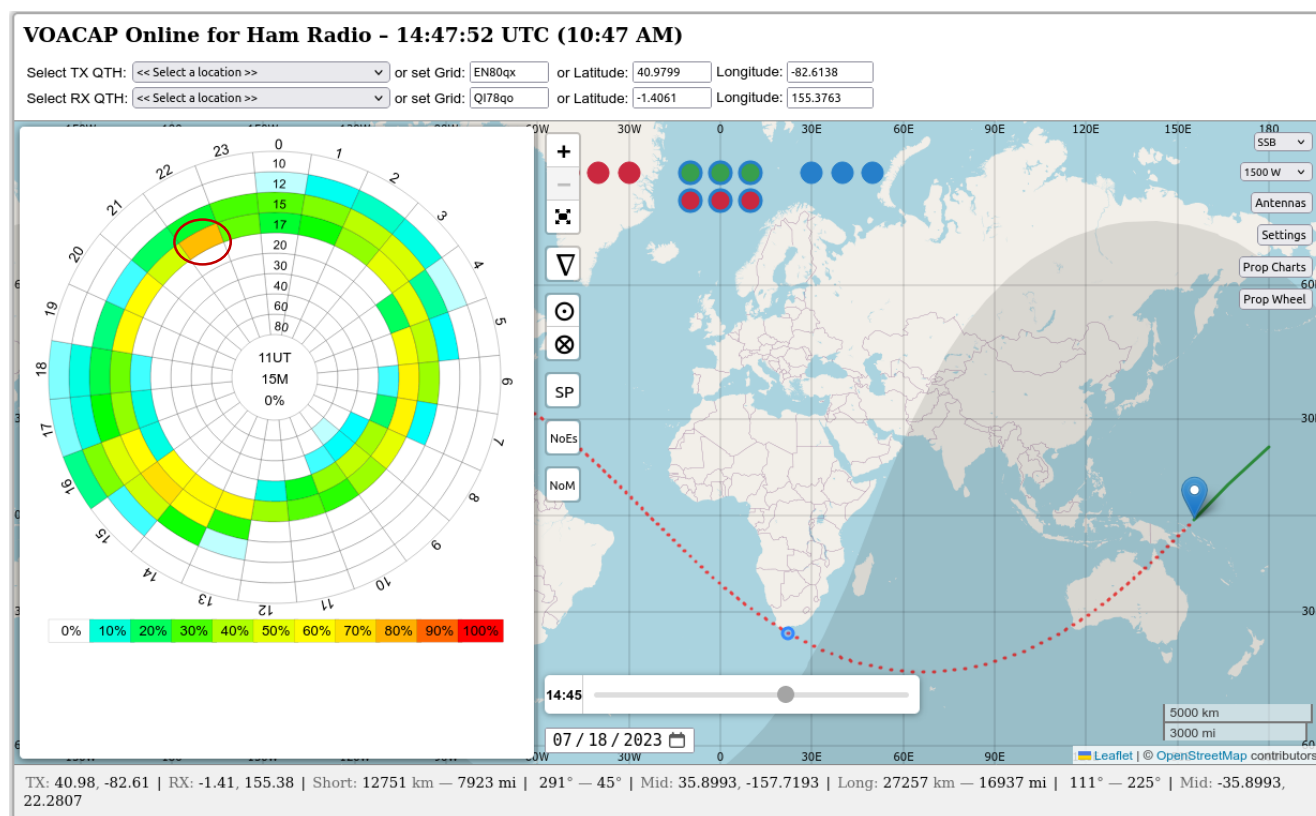
GMT Time	Real (QSOs)	Predicted (Tx VOACAP 1)
0	100	50
1	150	100
2	200	150
3	250	200
4	300	250
5	350	300
6	400	350
7	450	400
8	500	450
9	550	500
10	600	550
11	650	600
12	700	650
13	750	700
14	800	750
15	850	800
16	900	850
17	950	900
18	1000	950
19	1100	1050
20	1200	1150
21	1300	1250
22	1400	1350
23	1500	1450

10m: 679604 QSOs

GMT Time	Real (QSOs)	Predicted (Tx VOACAP 1)
0	1000	500
1	1500	1000
2	2000	1500
3	2500	2000
4	3000	2500
5	3500	3000
6	4000	3500
7	4500	4000
8	5000	4500
9	5500	5000
10	6000	5500
11	6500	6000
12	7000	6500
13	7500	7000
14	8000	7500
15	8500	8000
16	9000	8500
17	9500	9000
18	10000	9500
19	11000	10500
20	12000	11500
21	13000	12500
22	14000	13500
23	15000	14500

VOACAP PROPAGATION

Voice of America Coverage Analysis Program (VOACAP) [VOACAP Online for Ham Radio](#)



- Move pins on map to your location and the DX location.
- Select *Prop Wheel*.
- The wheel shows propagation for different bands during different times of day.
- Red oval shows that 2200Z on 17 meters is a good time to reach South Pacific on this date.
- Ride the “greyline”.

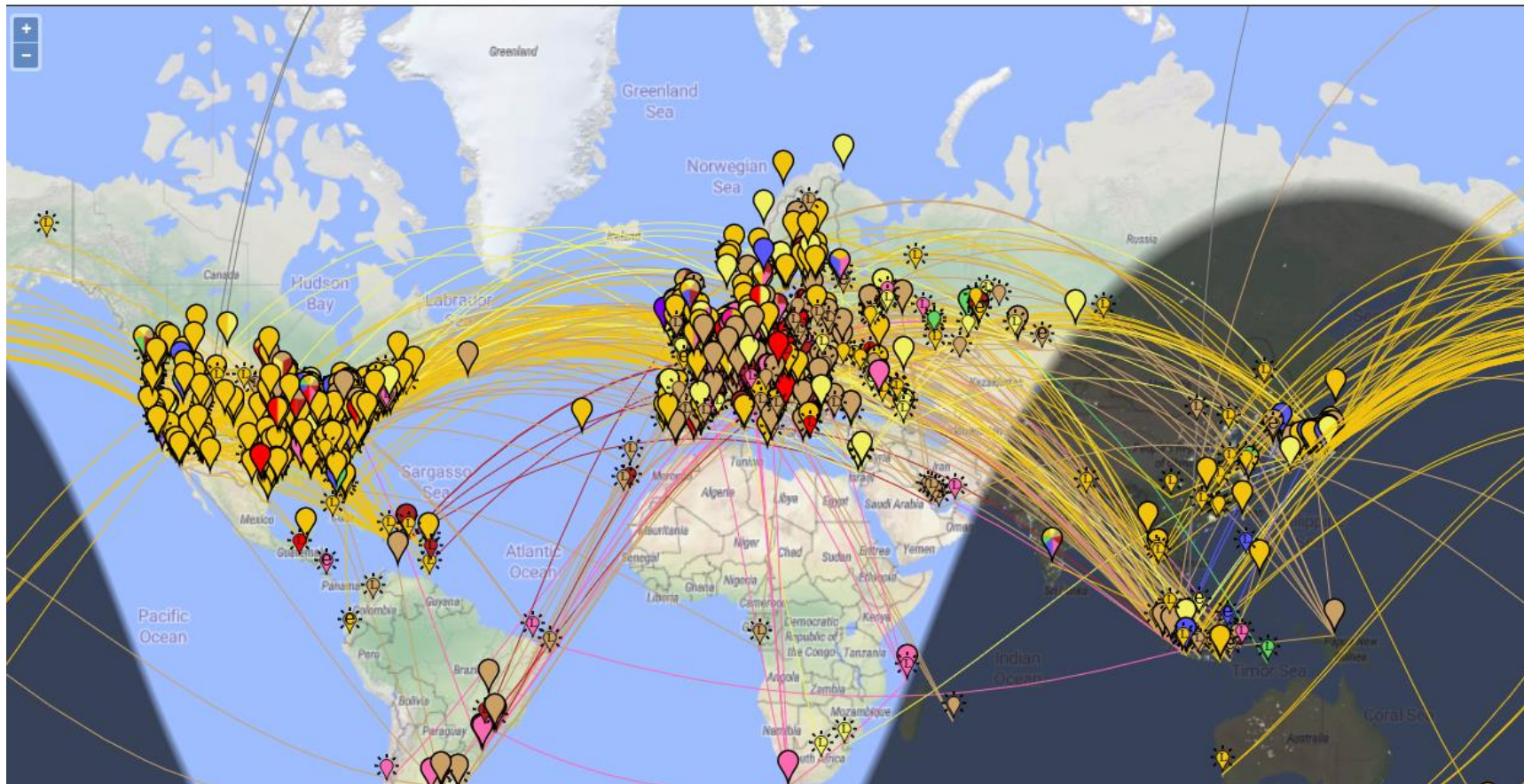
PROPAGATION (USEFUL FOR FT8)

[Display Reception Reports \(pskreporter.info\)](https://pskreporter.info)

On show sent/rcvd by using over the last [Display options](#) [Permalink](#)

Automatic refresh in 3 minutes. Large markers are monitors. [Display all reports.](#)

There are 5883 active FT8 monitors: 1673 on 20m, 1243 on 6m, 1195 on 15m, 820 on 17m, 722 on 10m, 558 on 40m, 385 on 30m, 338 on 12m, 270 on 2m, 96 on 80m, 49 on unknown, 23 on 4m, 13 on 60m, 11 on 2.4Ghz, 5 on 160m, 4 on 11m, 4 on 70cm, 3 on 2200m, 3 on 8m, 3 on 23cm, 3 on invalid, 1 on 10Ghz. [Show all on all bands.](#) [Legend](#)



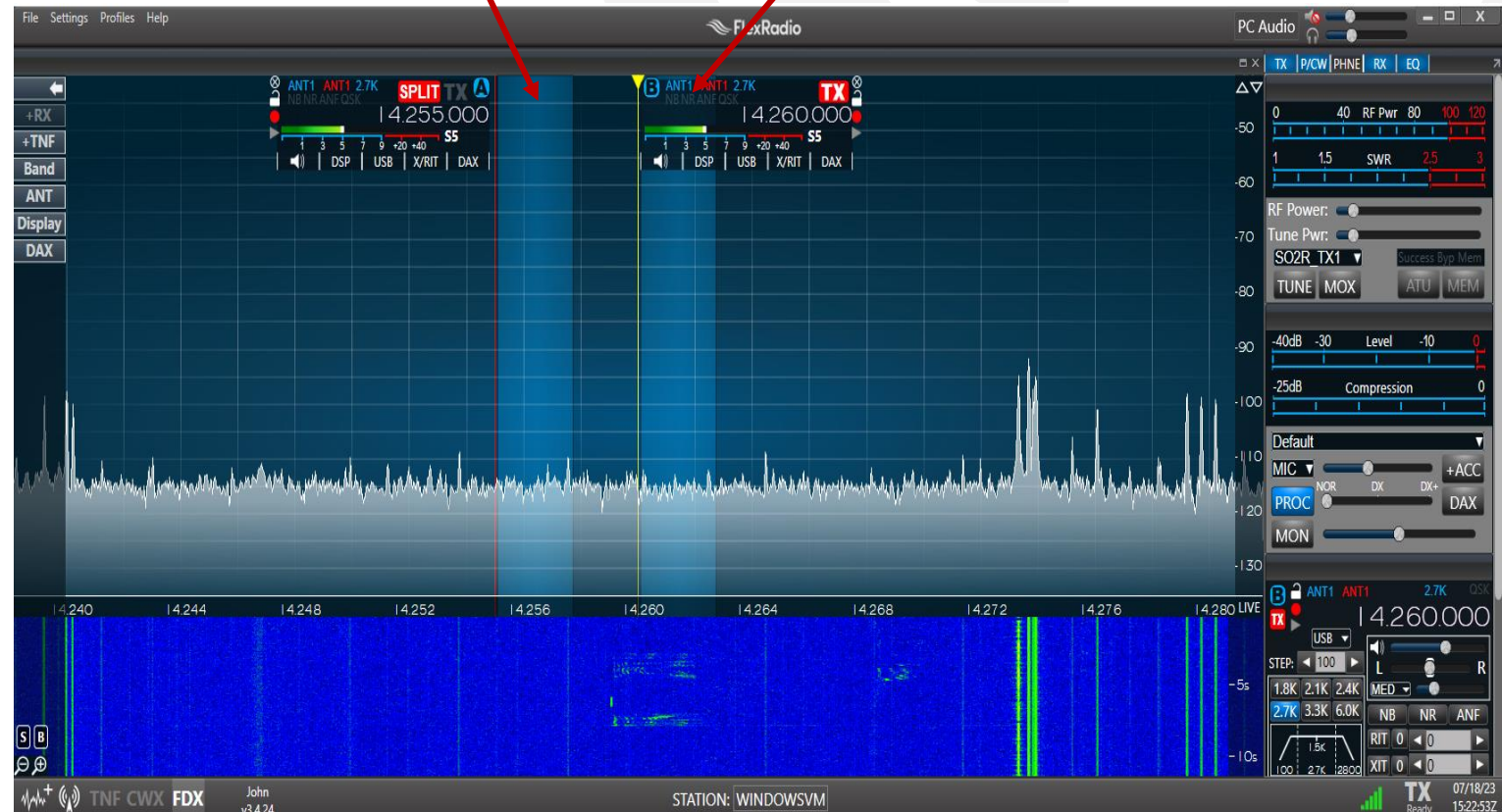


DX TECHNIQUES

DX
(where you listen)

DE
(where you transmit)

- Working “Split”
 - Avoid pile-ups and keep DX frequency clear
 - Voice “Up 5”
 - CW “Up 1”
 - FT8 “Fox and Hound”
 - DX below 1000 Hz (Fox)
 - Put WSJT-X in F/H mode
 - Call above 1000 Hz (Hound)
 - FT8 “MSHV”
 - Multi-stream variant
 - FT8 often works outside “normal” FT8 bands
- Check spots to decide
 - Use F/H if unsure



WHAT DO I NEED TO WORK DX?



K3LR 15m Stack

W8LRJ HARDWARE

- *MyAntennas* EFHW 8010 1k wire antenna on mast about 25 feet up.
- FlexRadio 6400 SDR Transceiver (100 watts)
- Expert Linear 1.5K Amplifier (optional)
- A beam antenna would make a huge difference, but a simple wire antenna at 100 watts is fine, especially using FT8.





BARC DXCC LEAGUE

League for BARC - Bellbrook Amateur Radio Club

W8LRJ ranks 7

Rank	Callsign	80	40	30	20	17	15	12	10	DXCC ▼	Slots	Range
1	K8ST	121	199	252	314	257	245	194	204	336	1786	61 yrs
2	W8ASA+2 ★	99	173	182	265	248	227	211	210	296	1615	17 yrs
3	W8NU ★	112	195	186	262	233	235	216	213	292	1652	5 yrs
4	K8SJM ★	75	172	175	237	228	213	188	186	284	1474	5 yrs
5	N8IE	86	153	106	208	97	199	64	185	251	1098	26 yrs
6	WA8PAM	5	42	112	143	197	119	115	161	239	894	1 yrs
7	W8LRJ	15	53	83	154	106	149	65	99	238	724	5 yrs
8	KA0AZS	53	92	123	166	167	154	128	135	213	1018	45 yrs
9	KE8LZD	6	47	45	108	89	102	76	54	152	527	4 yrs
10	AC8ZU+1	4	92	71	123	104	89	82	37	151	602	6 yrs
		80	40	30	20	17	15	12	10			
11	W8DGN	40	61	0	112	3	112	1	98	138	427	9 yrs
12	WS8R+1	5	88	0	109	37	23	7	25	133	294	6 yrs
13	WE8Y	2	34	21	64	14	65	31	38	91	269	1 yrs
14	KI5VNB	5	47	38	32	11	17	7	17	81	174	1 yrs
15	KE8SOX	0	3	0	7	0	0	0	3	9	13	0 yrs
16	KD8APT	0	0	0	2	0	0	0	0	2	2	0 yrs

- Join ClubLog and upload your DX logs
- Contact Paul Sharp, WS8R, to be added to the BARC DXCC League
- Prepare for bloody conflict