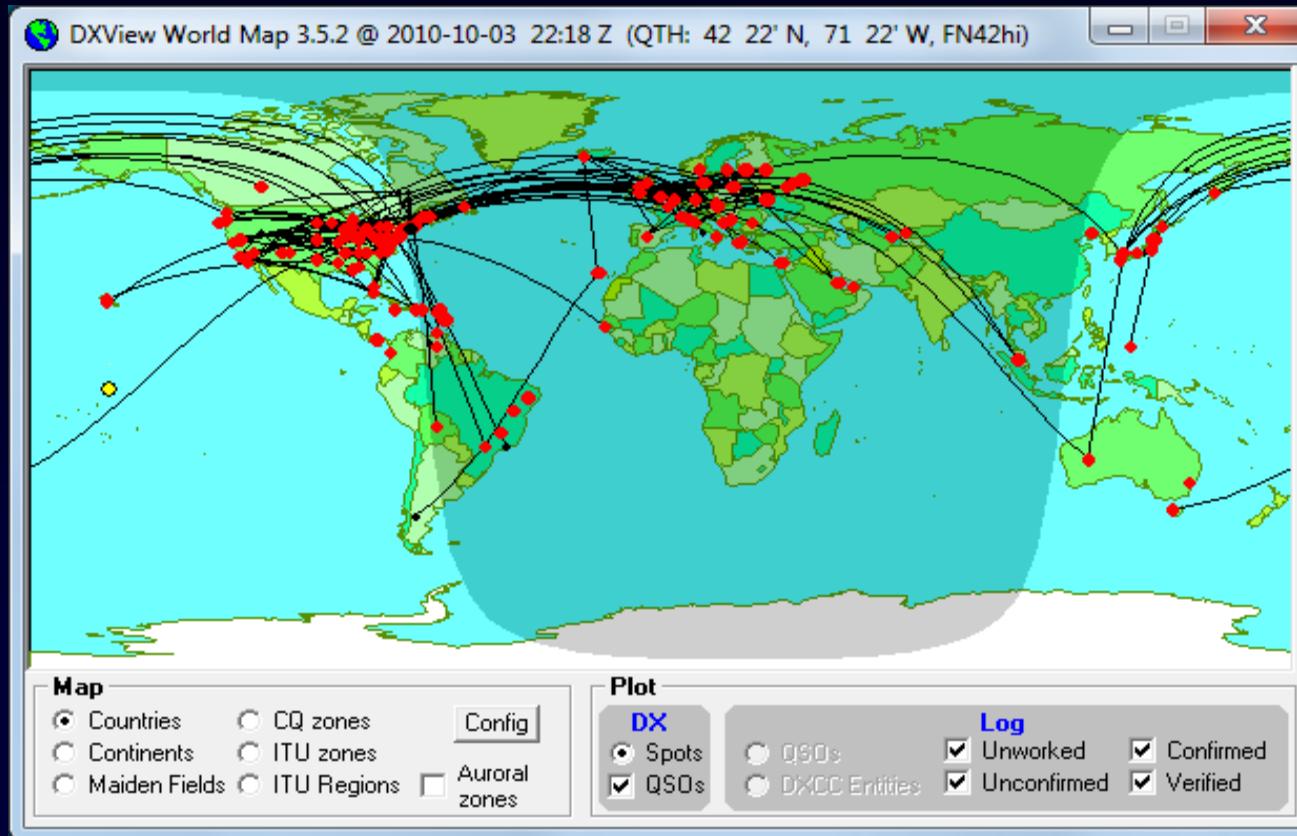


# DXing with DXLab

v12 2021-06



Better DXing Through Software

# DXing

The art and science  
of making two-way contacts  
with distant amateur radio stations  
using phone, CW, or digital modes

# DXLab: Better DXing Through Software

1. Automates QSL wrangling and award submissions to liberate more time for DXing
2. Makes time spent DXing more productive by helping you
  - Find the DX you need
  - Work the DX you need

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# Wrangling Electronic and Hardcopy QSLs

- Submit QSOs to LotW & eQSL, and download QSLs
- Request QSLs by sending outgoing QSL cards
  - Find QSL routes
  - Track responses
- Update DXing objectives as QSLs are received
- Submit QSLs for Award Credit

# Electronic QSL Automation

- eQSL.cc
  - Database of known Authenticity Guaranteed (AG) participants
  - Optional automatic upload as QSOs are logged
  - One-click download of new confirmations and award progress update
- LotW
  - Database of known participants with date of last submission
  - Optional automatic upload as QSOs are logged
  - One-click download of new confirmations and award progress update
  - Show QSOs that should be confirmed via LoTW, but aren't

# Identifying Missing LoTW QSLs

- DXLab's LoTW database contains all stations known to participate in LoTW, and the date at which each last submitted QSOs to LoTW
- You can identify all unconfirmed QSOs with stations known to participate in LoTW that have submitted QSOs to LoTW after the QSO date
  - contact your QSO partner
  - Ask them to submit your QSO, or correct the mismatch and resubmit

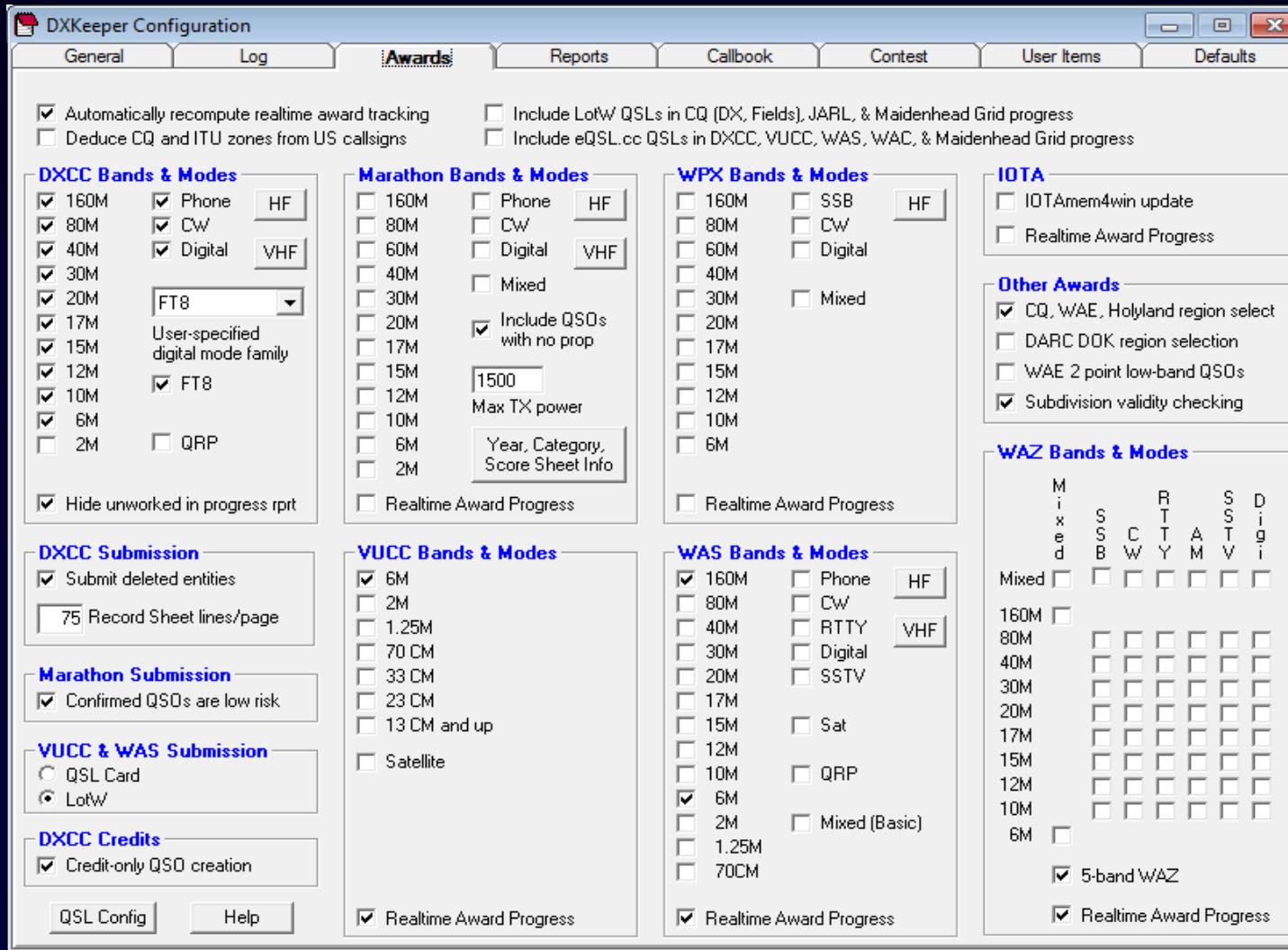
# Hardcopy QSL Automation

You can

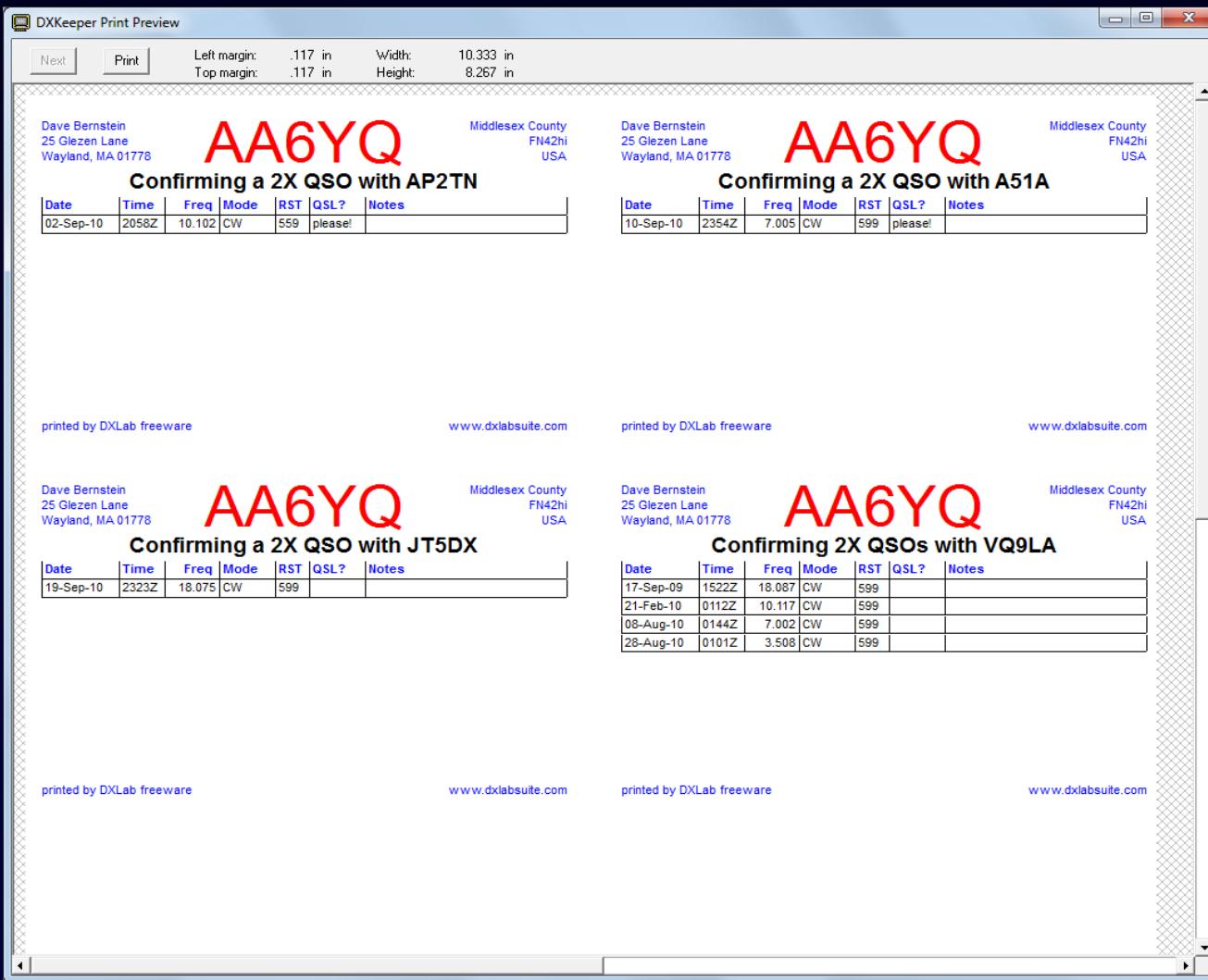
- Generate QSL cards or Labels requesting confirmations **needed** for DXCC, IOTA, Marathon, VUCC, WAS, WAZ, and WPX
- Locate QSL routes from more than 80 web-accessible sources
- Generate address labels or print envelopes
- Use full-page printers and individual label printers

# DXing Objectives Drive Automation

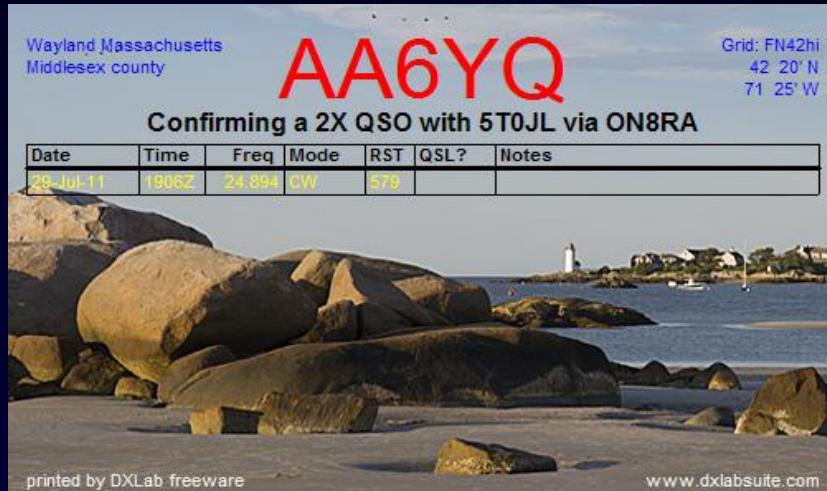
You can specify the bands and modes you are pursuing for each of DXCC, IOTA, Marathon, VUCC, WAS, WAZ, and WPX



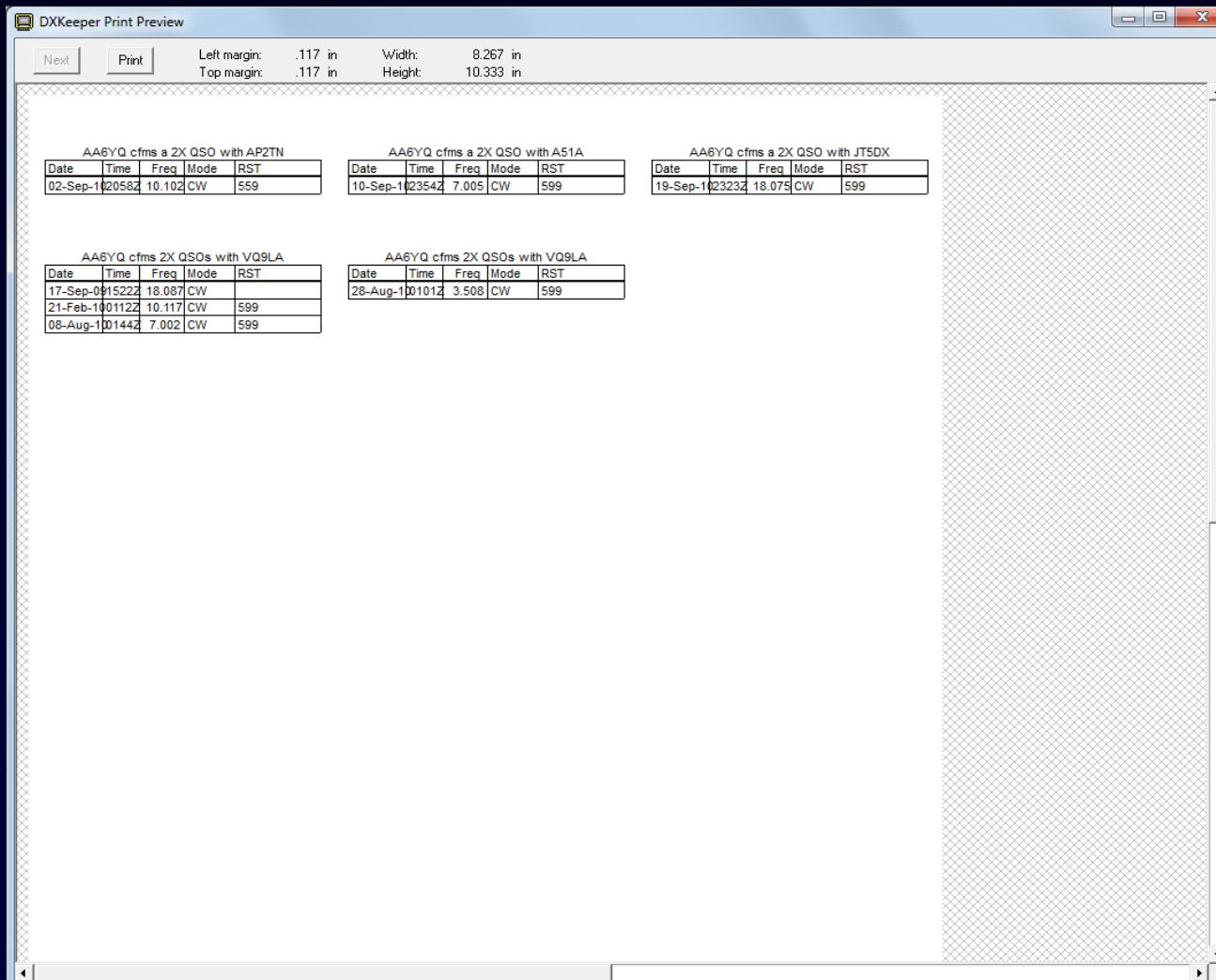
# QSL Card Printing



# QSL Card Printing



# QSL Label Printing



# Hardcopy QSL Automation

You can

- Generate QSL cards or Labels requesting confirmations needed for DXCC, IOTA, Marathon, VUCC, WAS, WAZ, and WPX
- Locate QSL routes from more than 80 web-accessible sources
- Generate address labels or print envelopes
- Use full-page printers and individual label printers
- Keep track of requested QSLs not yet received

# QSL Route Discovery

Pathfinder 5.2.7 {Script error notifications are hidden}: results from VK Callbook for VK3ZL

2020 X HC VK3ZL Buck QRZ Google K2DSL 425DXN IK3QAR Config  
RAC VK CB Club Log QRZ RU HamQTH DB0SDX JJ1WTL hamdb Help

 acma Register of Radiocommunications Licences

Search Register  
Licences by Sub Service  
Site Location Map  
Spectrum Areas Map  
Frequency Range Search  
Access Areas  
Antennas  
400MHz Search  
800MHz Search  
Direction Finder  
Site Photo Search  
Data Download  
Offline RRL  
RRL Archive  
Class Licences  
Help

**Client Details**

Client Number	137687
Licensee	Arie Groen
Postal Address	110 School Road BALLIANG EAST VIC 3340
Fee Status	Normal

**Licences Held**

Results 1 - 2 of 2 licences.

BSL/Licence No	Service	Sub Service	Date of Expiry	Callsign(s)	Ship Name	Status
9950204/3	Amateur	Advanced	14/Mar/2022	VK3ZL		Granted
1303411/1	Amateur	Advanced	11/Mar/2022	VK3AMZ		Granted

[ New Client Search ]

%engage | donotcall | cyber(smart) | smartnumbers | researchacma

The fine print | Privacy policy | Careers | Contact | Site map

Australian Communications and Media Authority  
communicating | facilitating | regulating

# Hardcopy QSL Automation

You can

- Generate QSL cards or Labels requesting confirmations needed for DXCC, IOTA, Marathon, VUCC, WAS, WAZ, and WPX
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- Keep track of requested QSLs not yet received

# QSLs Requested But Not Received

```
AA6YQ QSL aging analysis @ 05-May-2021
```

```
missing DXCC entities:          0
missing DXCC entity-bands:      1
missing DXCC entity-modes:      0

missing IOTA groups:           0
missing VUCC grid-bands:        2

missing WAS states:            0
missing WAS state-bands:        0
missing WAS state-modes:        0

missing WAZ zones:             0
missing WAZ zone-bands:         0
missing WAZ zone-modes:         0
missing WAZ zone-band-modes:    0
```

Call	Band	Mode	QSO Date	DXCC	IOTA	Grid1	Grid2	Grid3	Grid4	State	CQ	QSL Date	Weeks	Expired	QSL_SENT_VIA	Need
LA6SL	6M	CW	21-Nov-2001	LA		JP50					14	24-Nov-2001	999			VUCC
CE4WJK	6M	SSB	19-Sep-2011	CE		FF45					12	05-Oct-2011	500			D VUCC
5B4/YL2RR	6M	SSB	02-May-2014	5B							14	13-Jan-2021	16			D DXCC (entity-band)

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1. Automates QSL wrangling and **award submissions** to liberate more time for DXing
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# Award Submission Automation

You can

- Generate Award Progress Reports
- Identify confirmed QSOs for which award credit would advance progress towards your DXing objectives, and generate the required submission files (DXCC, IOTA, Marathon, VUCC, WAS, WAZ, WPX)
- Update confirmed QSOs to reflect award credit granted (DXCC, IOTA)

# Award Progress Reports

- DXCC & Challenge
- CQ DX
- CQ DX Marathon
- CQ Field
- Gridsquares
- IOTA
- TOPLIST
- VUCC
- Worked All Continents
- Worked All CQ Zones
- Worked All Europe
- Worked All ITU Zones
- Worked All Prefixes
- Worked All US States
- Worked All Belgian Provinces
- Worked All British Areas
- Worked All Canadian Provinces
- Worked All French Departments
- Worked All DARC DOKs
- Worked All Holyland Areas
- Worked All Hungarian Counties
- Worked All Italian Provinces
- Worked All Japanese Cities
- Worked All Japanese Guns
- Worked All Japanese Prefectures
- Worked All Korean Districts
- Worked All Russian Oblasts
- Worked All Russian Districts
- Worked All Summits on the Air (SOTA)
- Worked All Swiss Cantons
- Worked All US Counties
- Worked All US Gridsquares (FFMA)
- Worked All User-defined Counters

# DXCC Progress Report

## Confirmed DXCC Countries (excludes deleted countries)

mixed	340
phone	340
cw	339
digi	336
FT8	222
160m	258
80m	312
40m	333
30m	325
20m	339
17m	336
15m	338
12m	331
10m	331
6m	111
2m	002
Sat	003

## Top (9 HF Bands, Phone, CW, Digital, excludes deleted countries)

topmode	1015
topband	2903
toplist	3918

Entity	Prefix	Deleted	Mixed	Phone	CW	DIGI	FT8	160M	80M	40M	30M	20M	17M	15M	12M	10M	6M	2M	Card	LotW	Sat
Sov. Military Order Of Malta	1A	V	V	V	V	C	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Spratly Islands	1S	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Monaco	3A	V	V	V	V	W	V	V	V	V	V	V	V	V	V	V	V	V	C		
Agalega & St Brandon Islands	3B6	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V	V	V	C	
Mauritius Island	3B8	V	V	V	V	C	V	V	V	V	V	V	V	V	V	V	V	V	V	C	
Rodriguez Island	3B9	V	V	V	V	C	V	V	V	V	V	V	V	V	V	V	V	V	V	C	
Equatorial Guinea	3C	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Annonbon	3C0	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Conway Reef	3D2-C	V	V	V	V	W	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Fiji Islands	3D2-F	V	V	V	V	C	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Rotuma	3D2-R	V	V	V	V	W	V	V	V	V	V	V	V	V	V	V	V	V	V	C	
Swaziland	3DA	V	V	V	V	C	V	V	V	V	V	V	V	V	V	V	V	V	V	C	
Tunisia	3V	V	V	V	V	W	V	V	V	V	V	V	V	V	V	V	V	V	V	C	
Viet Nam	3W	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Guinea	3X	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V	V	V	C	
Bouvet Island	3Y-B	V	V	V			V	V	V	V	V	V	V	V	V	V	V	V	V	C	
Peter 1 Island	3Y-P	V	V	V	V		V	V	V	V	V	V	V	V	V	V	V	V	V	C	

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# Generated DXCC Record Sheet

AA6YQ DXCC LotW Record Sheet 30-Dec-2020

	Call	QSO Date	Band	Mode	Entity
0001	YE3WIL	27-11-2020	30M	FT8	Indonesia
0002	E44RU	11-01-2020	160M	FT8	Palestine
0003	HL5BLI	26-11-2020	30M	FT8	Republic of Korea

# Award Submission Automation

You can

- Generate Award Progress Reports
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# DXing With DXLab

- Introduction to the DXLab Suite
  - Drivers
  - Architecture
  - Multiple Views of Active DX
- Finding the DX You Need
- Working the DX You Need

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# Drivers

## 1. User-driven iterative development

- Online group with 4700+ participants
- Defect repairs get highest priority; goal is < 24 hours
- Public enhancement lists
- Frequent releases (several per month)

## 2. Powerful **and** Easy to Use

- Primarily for DXers
- Secondarily for casual operators

## 3. Runs on Windows NT, 2000, XP, Vista, 7, 8, and 10

- and Mac in a virtual machine
- and Linux in a virtual machine

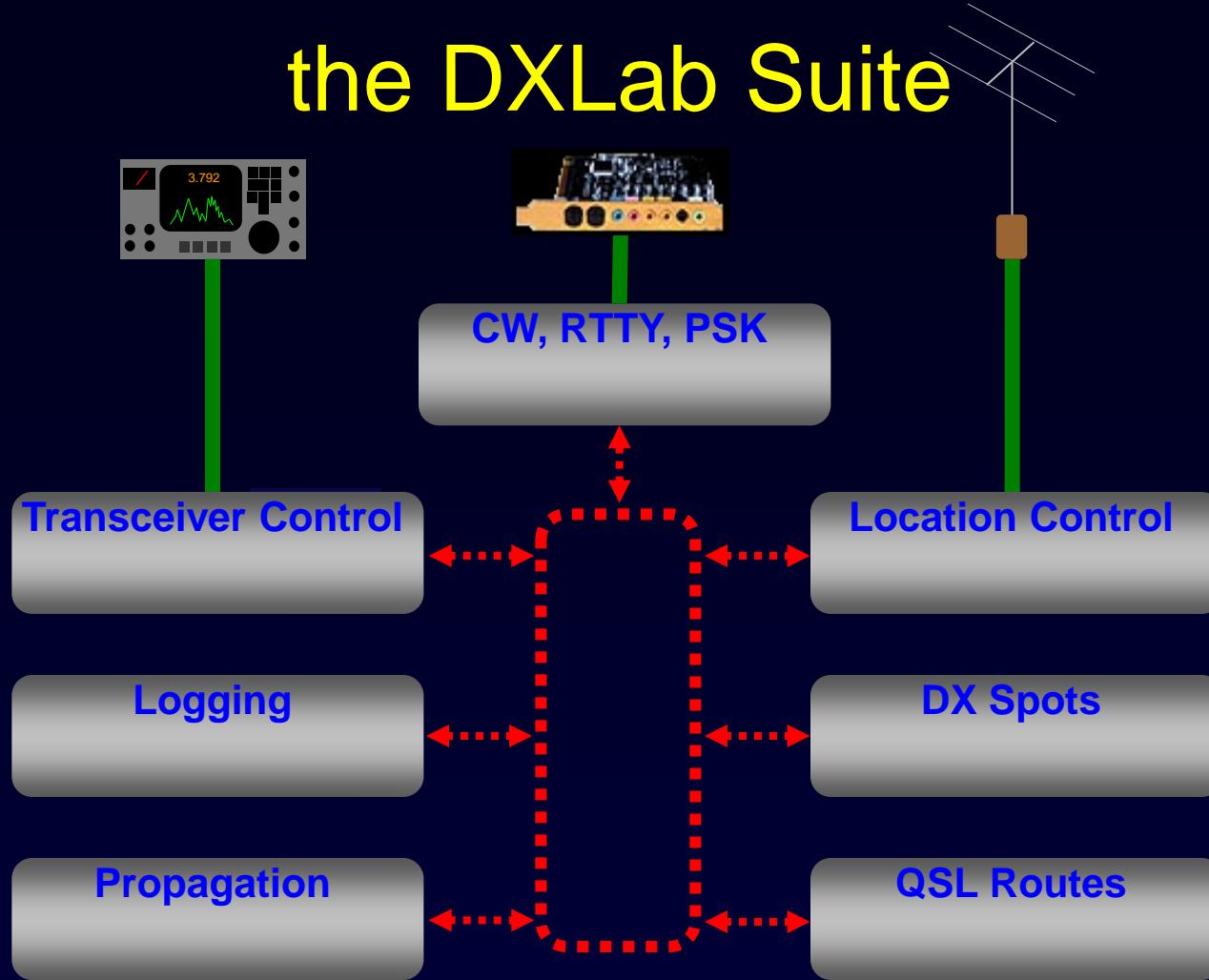
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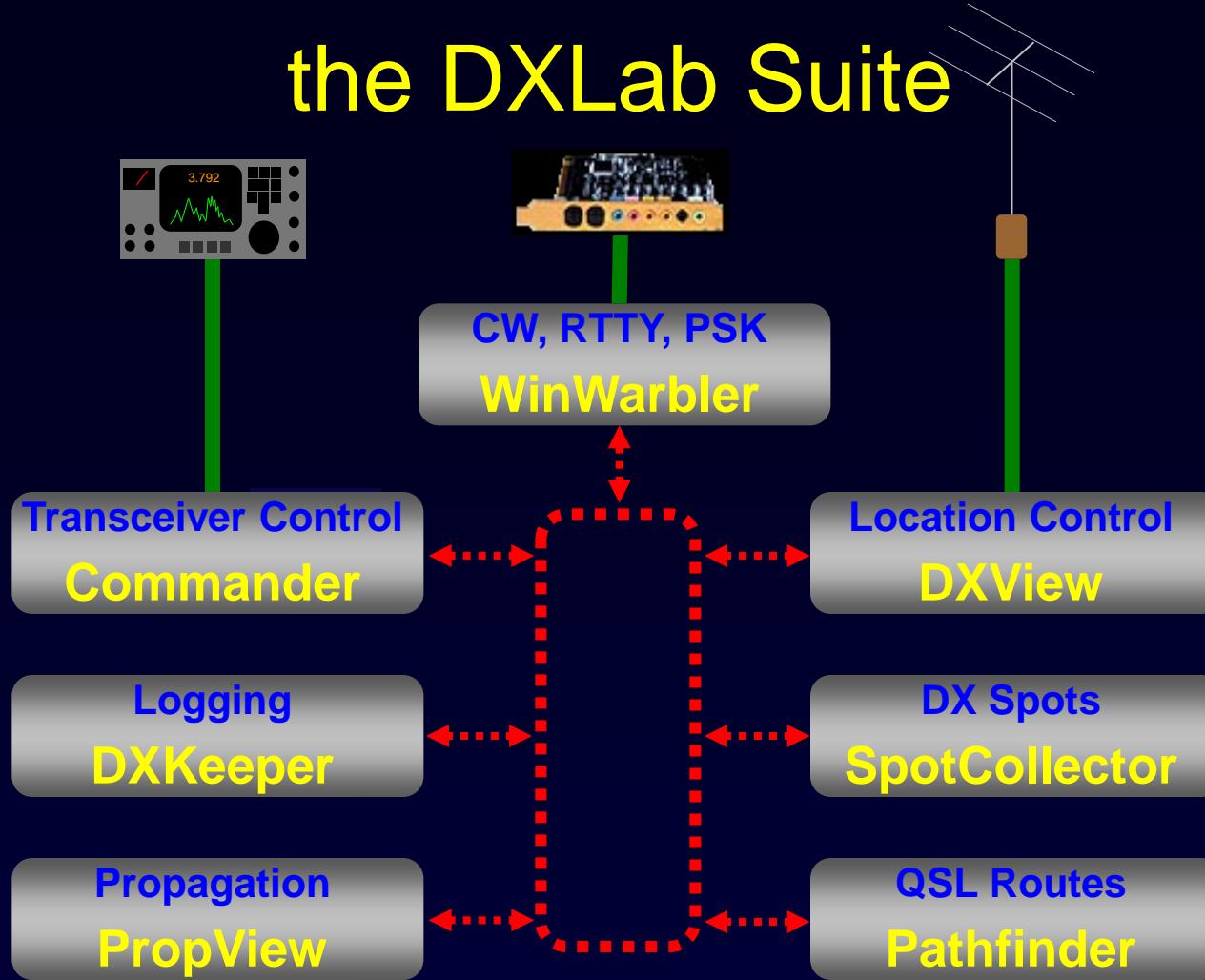
# the DXLab Suite

Eight free applications that run individually  
but  
when run simultaneously sense each other's presence  
and  
interoperate automatically

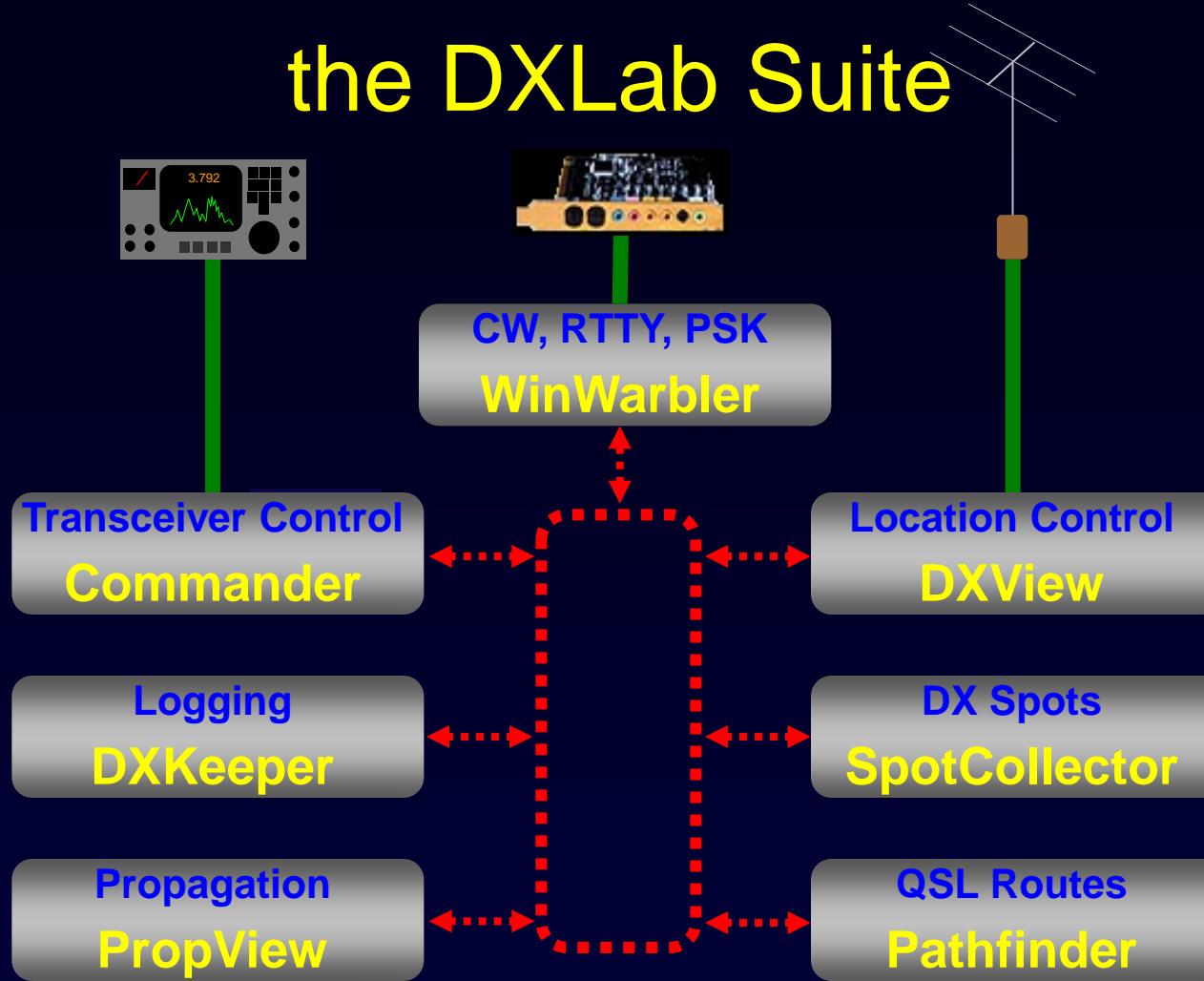
# the DXLab Suite



# the DXLab Suite

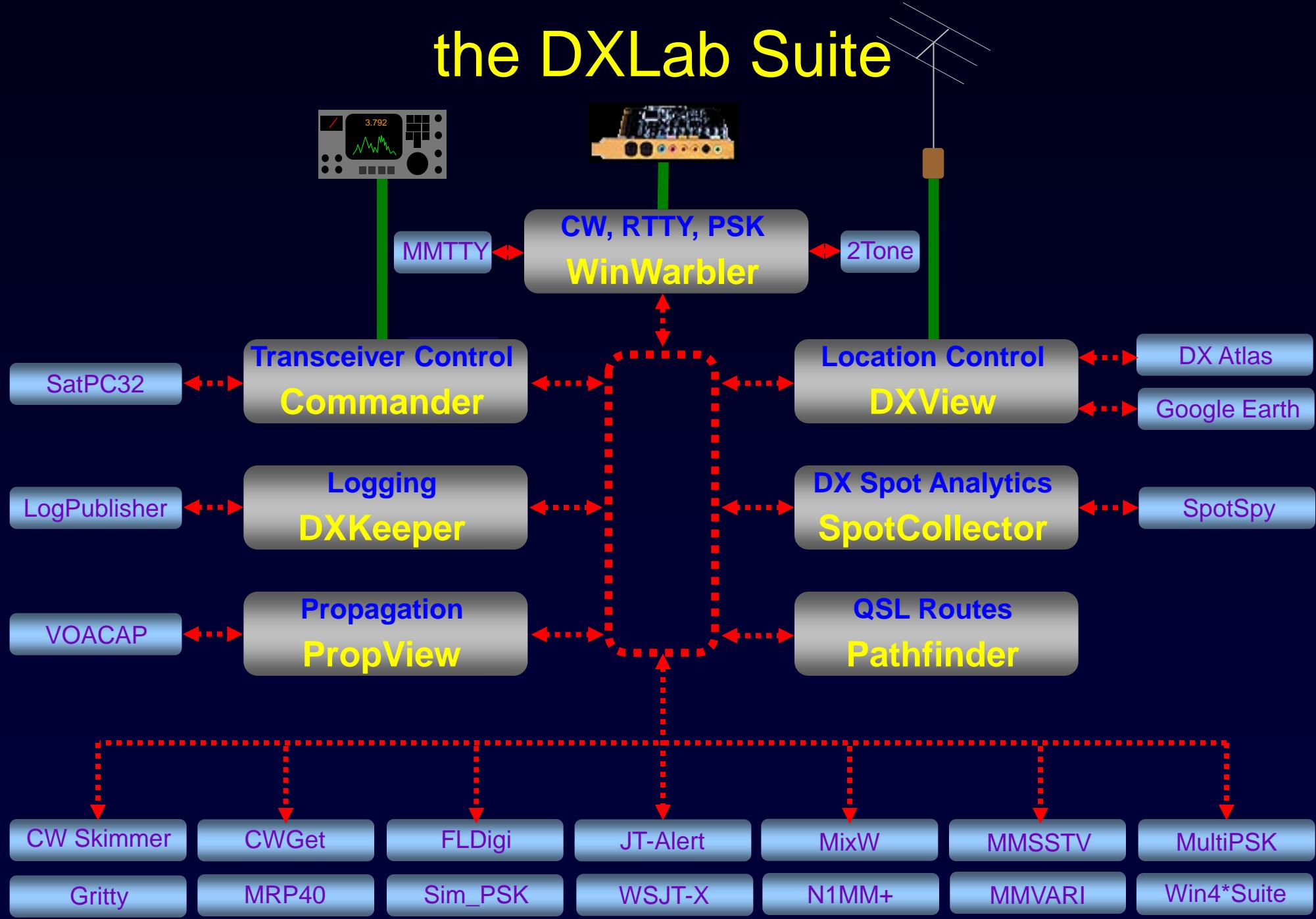


# the DXLab Suite

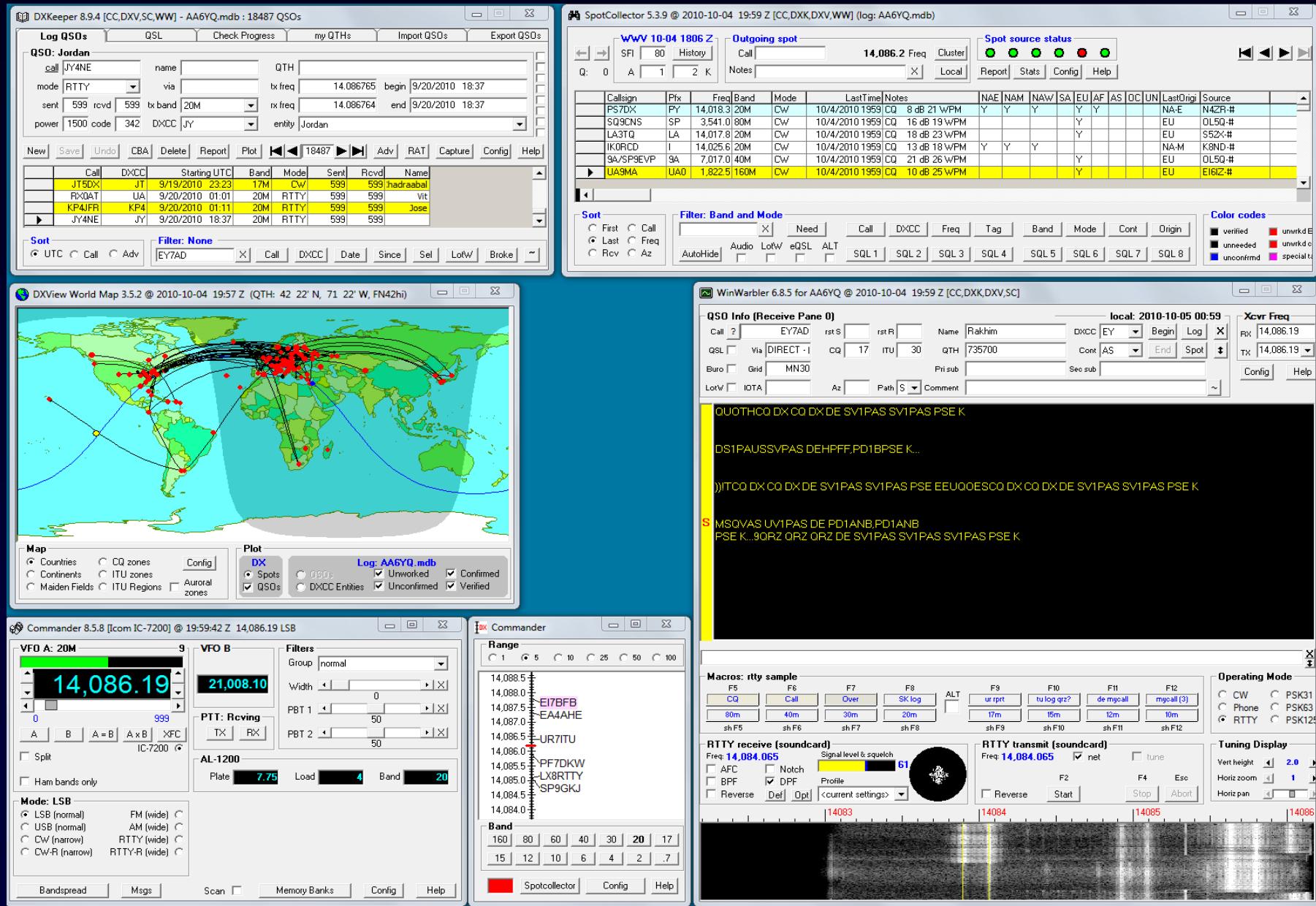


- Modular
- Loosely-coupled

# the DXLab Suite



# A Suite of DXing Applications



# Single Point of Control: DXLab Launcher

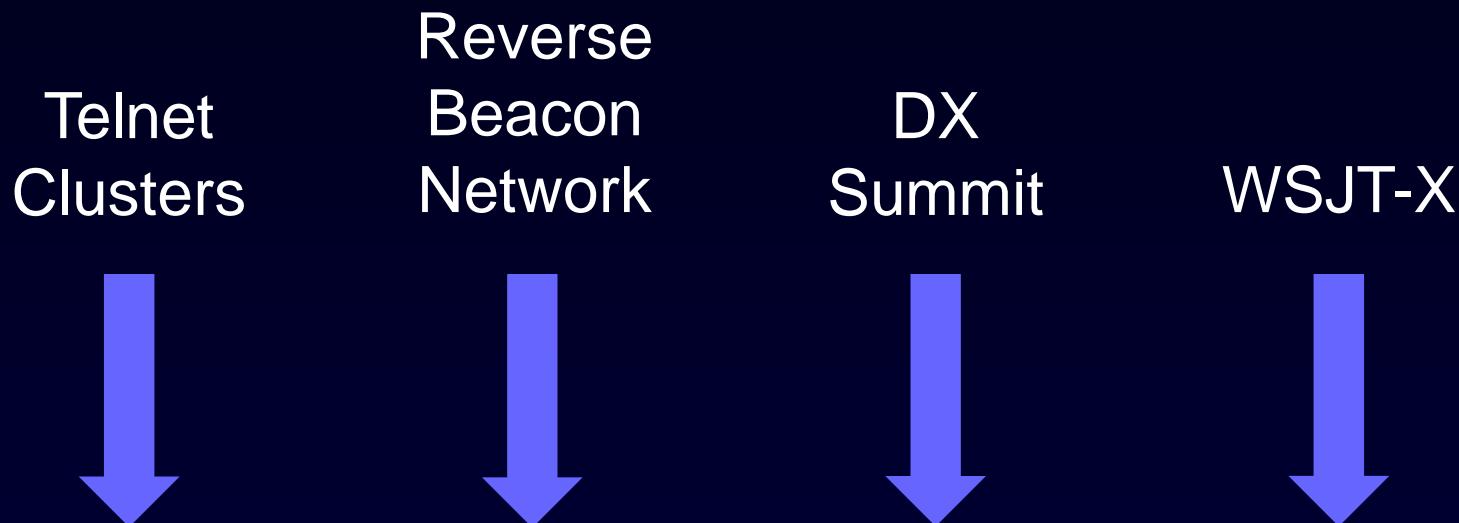


- Installation
- Upgrade
- Startup
- Shutdown

# DXing With DXLab

- Introduction to the DXLab Suite
  - Architecture
  - Drivers
  - Multiple Views of Active DX
- Finding the DX You Need
- Working the DX You Need

# Active DX Database



Active DX Database

# Multiple Views of Active DX

DX Spot Sources



Active DX Database

What DX stations are QRV ?

# Multiple Views of Active DX

DX Spot Sources



Active DX Database



Propagation  
Prediction  
(VOACAP)

Which DX stations can I likely copy ?

# Multiple Views of Active DX

DX Spot Sources



Active DX Database



Propagation  
Prediction  
(VOACAP)

Log Database



What QSOs and QSLs are “Needed” for the awards I’m pursuing on the bands and modes I’ve specified ?

# Multiple Views of Active DX

DX Spot Sources



Active DX Database



Propagation  
Prediction  
(VOACAP)

LotW  
Database

eQSL AG  
Database

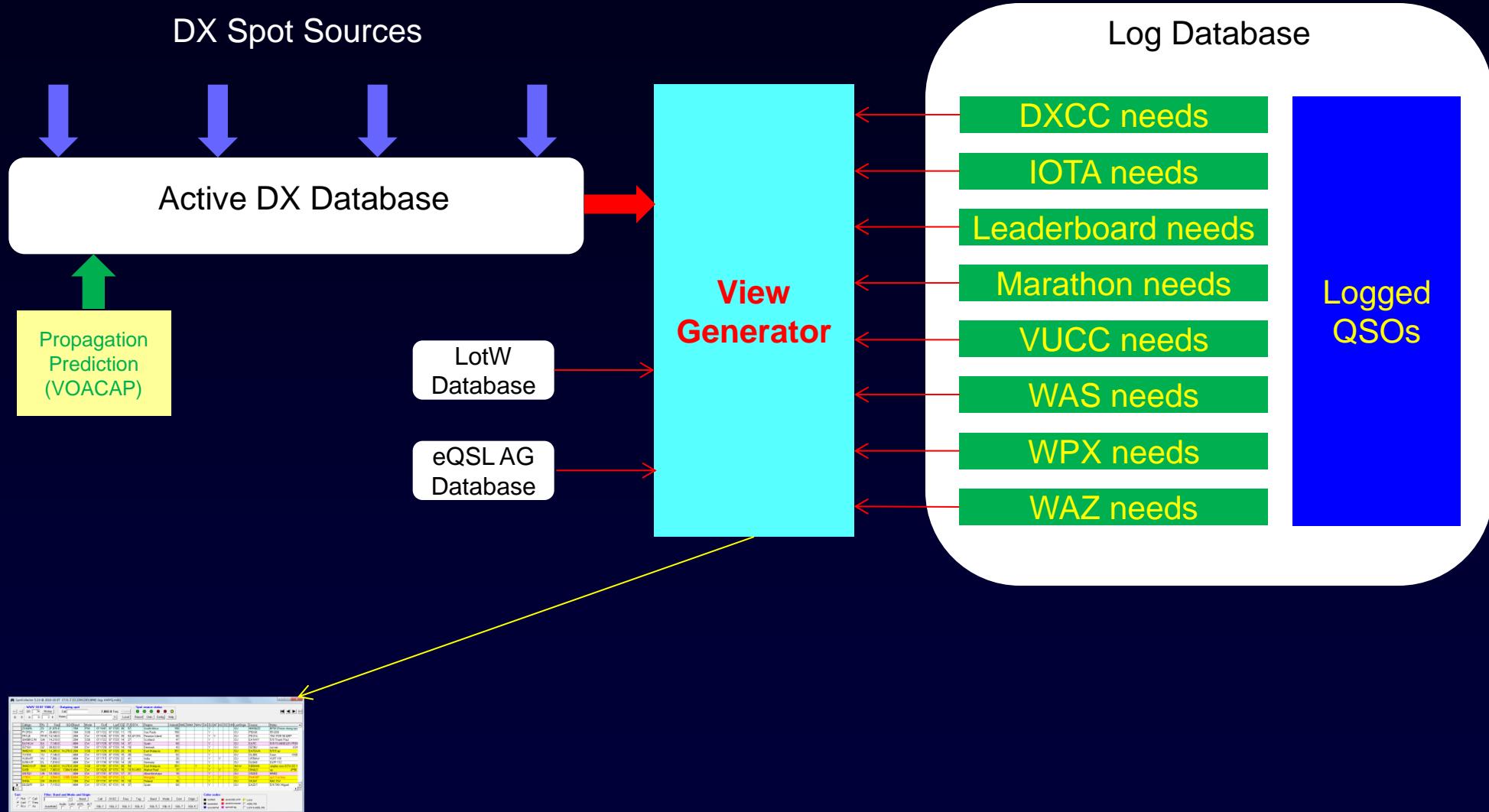
What DX stations QSL  
via LotW and eQSL ?

Log Database

- DXCC needs
- IOTA needs
- Leaderboard needs
- Marathon needs
- VUCC needs
- WAS needs
- WPX needs
- WAZ needs

Logged  
QSOs

# Tabular View of Active DX



# Tabular View of Active DX

## Selected Bands and Modes

SpotCollector 7.6.6 @ 2017-04-16 19:20 Z [CC,DXK,DXV,PV,WW] 8168 entries (log: AA6YQ.mdb)

Outgoing spot      Spot source status

Call  14.085.0 Freq Cluster  
Notes  Local

Report Stats Prop Config Help

Need Call Prefix Band Mode FirstTime LastTime Freq QSX Pri CQ IOTA DXGrid ODX EU AF SA NA-E NA-M NA-W AS OC SP SNR SP P LP SNR LP P

Need	Call	Prefix	Band	Mode	FirstTime	LastTime	Freq	QSX	Pri	CQ	IOTA	DXGrid	ODX	EU	AF	SA	NA-E	NA-M	NA-W	AS	OC	SP SNR	SP P	LP SNR	LP P
	TA7I	TA	20M	CW	16 1919	16 1919	14,027.4		20		KM69	3830	Y								29	82	-40	1	
	HB20MDC	HB	20M	SSB	16 1915	16 1919	14,216.0			14	JN47	515		Y		Y					28	65	-62		
	HA7JIV	HA	30M	CW	16 1918	16 1919	10,138.0			15	JN97	3931	Y								13	55	-155		
	PY1TJ	PY	10M	CW	16 1914	16 1919	28,035.0			RJ	11	GG87	4137			Y					-5	23	-56		
	N2MM	K	20M	CW	16 1911	16 1919	14,028.8			NJ	5	FM29	3727	Y							14	63	-103		
	CE7VPQ	CE	10M	SSB	16 1909	16 1919	28,445.0				12	FE33	4311		Y						15	41	-61		
	5K4R	HK	20M	SSB	16 1839	16 1919	14,214.0				9	FJ15	2304	Y	Y						35	92	-66		
	KM4TVU	K	20M	SSB	16 1919	16 1919	14,316.5			GA	5	EM73	3727	Y							43	86	-88		
D	3Y0RY	3Y-B	20M	RTTY	16 1920	16 1920	14,085.0				38	AN-002	JD14	1	Y						11	52	-50		
	KC1YL	K	20M	SSB	16 1903	16 1920	14,315.0			CT	5	FN31	319	Y		Y					27	70	-73		
	H18/KB1KK	HI	20M	RTTY	16 1920	16 1920	14,074.0				8	FK49	3830	Y							44	100	-82		
	8Q7VB	8Q	30M	CW	16 1717	16 1920	10,107.0	10,108.0			22	AS-013	MJ64	3486	Y						Y	-5	1	-117	
	PU2KOB	PY	10M	RTTY	16 1920	16 1920	28,076.0			SP	11	GG57	1047			Y					-8	18	-63		
	V31MA	V3	15M	CW	16 1920	16 1920	21,004.1				7	EK57	2503				Y				37	91	-49		

Sort: First Call Need Last Freq Rev Az

Filter: Band and Mode and Origin

Color codes:

- verified (green)
- unverified B or M (red)
- LotW (yellow)
- unneeded (black)
- unverified counter (red)
- eQSL AG (purple)
- unconfirmed (blue)
- special tag (pink)
- LotW & eQSL AG (light blue)

Font color indicates “needed” DX stations

Background color indicates LotW and eQSL participation

# Band Filter

SpotCollector Band Filter

Transceiver Band Only

Enable Start/End & Max Origin DX Filtering

Band	Enable	Start UTC	End UTC	Max origin DX	Band	Enable	Start UTC	End UTC	Max origin DX
630m	<input type="checkbox"/>				8m	<input type="checkbox"/>			
160m	<input checked="" type="checkbox"/>	SS-30	SR+45		6m	<input checked="" type="checkbox"/>			500
80m	<input checked="" type="checkbox"/>	SS-60	SR+90		5m	<input type="checkbox"/>			
60m	<input type="checkbox"/>				4m	<input type="checkbox"/>			
40m	<input checked="" type="checkbox"/>				2m	<input type="checkbox"/>			
30m	<input checked="" type="checkbox"/>				1.25m	<input type="checkbox"/>			
20m	<input checked="" type="checkbox"/>				70cm	<input type="checkbox"/>			
17m	<input checked="" type="checkbox"/>				33cm	<input type="checkbox"/>			
15m	<input checked="" type="checkbox"/>				23cm	<input type="checkbox"/>			
12m	<input checked="" type="checkbox"/>				12cm	<input type="checkbox"/>			
10m	<input checked="" type="checkbox"/>				?	<input type="checkbox"/>			

None  Top  Low  Tri  Warc  HF  VHF  UHF  Micro  All

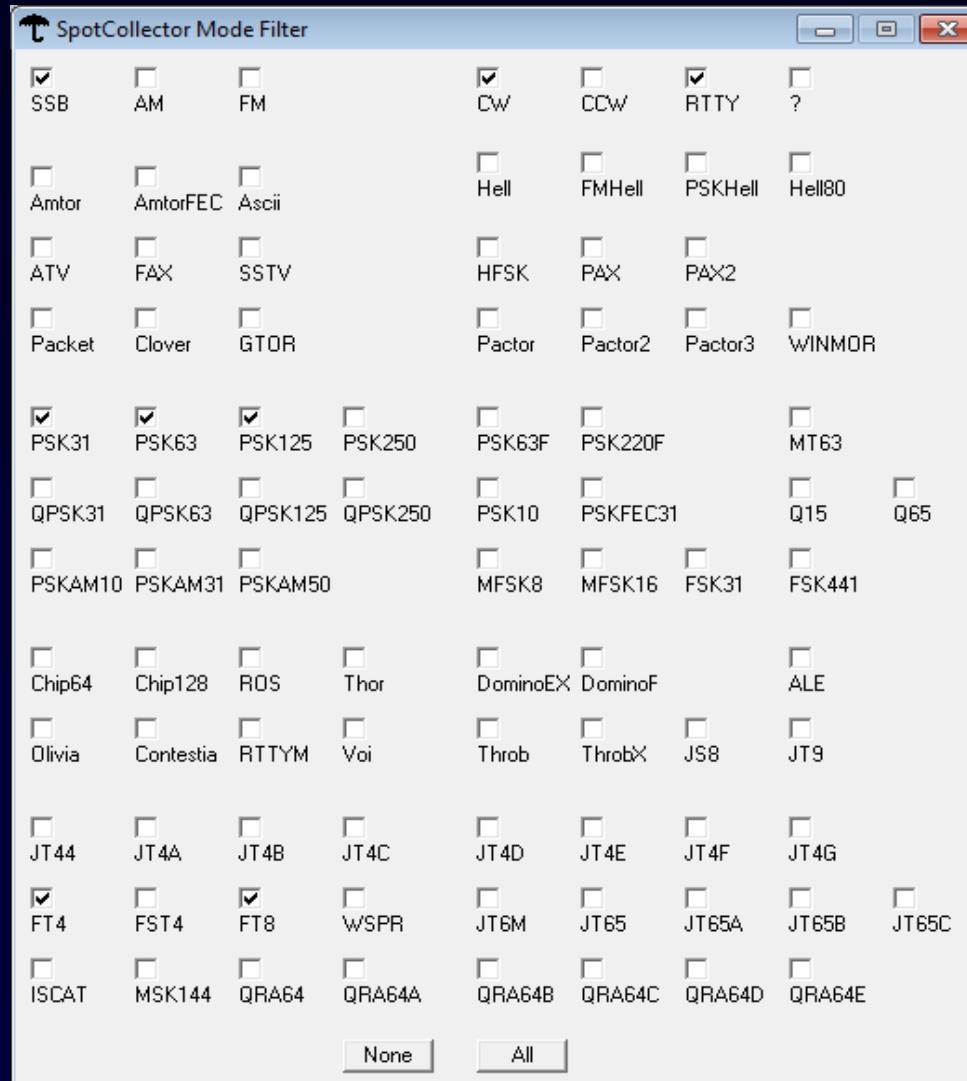
**Sunrise & Sunset**

Sunrise UTC	0935	Sunset UTC	2349
-------------	------	------------	------

**Ignore**

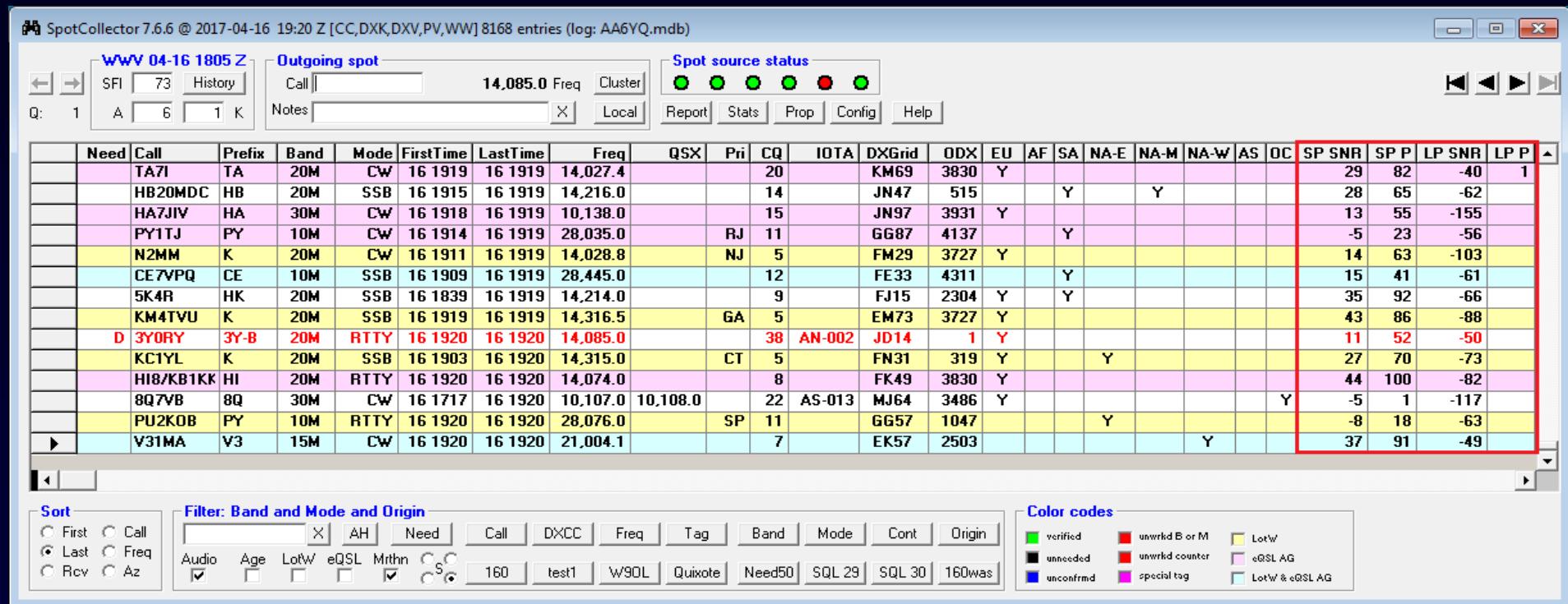
<input type="checkbox"/> Start & End times	<input type="checkbox"/> Max origin DX
--	--

# Mode Filter



# Tabular View of Active DX

## Propagation Forecasting



On 80m through 10m, PropView's VOACAP engine computes

- Short path SNR and probability
- Long path SNR and probability

# Tabular View of Active DX

## Needed DX on Selected Bands and Modes

SpotCollector 7.6.6 @ 2017-04-16 19:25 Z [CC,DXK,DXV,PV,WW] 6 entries (log: AA6YQ.mdb)

Outgoing spot

Spot source status

Need	Call	Prefix	Band	Mode	FirstTime	LastTime	Freq	QSX	Pri	CQ	IOTA	DXGrid	ODX	EU	AF	SA	NA-E	NA-M	NA-W	AS	OC	SP SNR	SP P	LP SNR	LP P	Re
D	DS5USH	HL	30M	PSK63	14 1802	14 1802	10,140.9		25		PM47	4179	Y								-6	2	-112			
D	DS4AOW	HL	30M	CW	15 1556	15 1714	10,108.0	10,109.0	25		PM47	3983	Y								-7	1	-113			
D	DS4AOW	HL	30M	CW	15 1819	15 1944	10,108.0	10,109.0	25		PM47	3539	Y	Y							-5	2	-111			
S	KC3BVL	K	6M	SSB	16 1521	16 1606	50,280.0		PA	5		FN20	228			Y										
D	DS4AOW	HL	30M	RTTY	16 1613	16 1618	10,146.0		25		PM47	3444	Y								-5	3	-110			
D	3Y0RY	3Y-B	20M	RTTY	16 1920	16 1920	14,085.0		38	AN-002	JD14	1	Y								11	52	-50			

Sort

Filter: Band and Mode and Origin and [Unconfirmed DXCC, Marathon, VUCC, WAS]

Color codes

verified	unwrld B or M	LotW
green	red	yellow
unneeded	unwrld counter	eQSL AG
black	red	purple
unconfrmd	special tag	LotW & eQSL AG
blue	magenta	light blue

# Tabular View of Active DX

Needed DX on Selected Bands and Modes spotted from NA-E

SpotCollector 7.6.6 @ 2017-04-16 19:26 Z [CC,DXK,DXV,PV,WW] 1 entries (log: AA6YQ.mdb)

WW 04-16 1805 Z Outgoing spot 14,085.0 Freq Cluster

Q: 1 SFI 73 History Notes X Local Report Stats Prop Config Help

Need	Call	Prefix	Band	Mode	FirstTime	LastTime	Freq	QSX	Pri	CQ	IOTA	DXGrid	ODX	EU	AF	SA	NA-E	NA-M	NA-W	AS	OC	SP SNR	SP P	LP SNR	LP P	Re
S	KC3BVL	K	6M	SSB	16 1521	16 1606	50,280.0	PA	5		FN20	228				Y										

Sort: First, Last, Rev, Call, Freq, Az, Need, Call, DXCC, Freq, Tag, Band, Mode, Cont, Origin, Audio, Age, LotW, eQSL, Mrtn, S, 160, test1, W90L, Quixote, Need50, SQL 29, SQL 30, 160was

Filter: Band and Mode and Origin and [Unconfirmed DXCC, Marathon, VUCC, WAS]

Color codes:

- verified (green)
- unwrld B or M (red)
- LotW (yellow)
- unneeded (black)
- unwrld counter (red)
- eQSL AG (purple)
- unconfirmd (blue)
- special tag (magenta)
- LotW & eQSL AG (light blue)

# Tabular View of Active DX

Needed DX on Selected Bands & Modes with SP Prob > 50%

SpotCollector 7.6.6 @ 2017-04-16 19:29 Z [CC,DXK,DXV,PV,WW] 1 entries (log: AA6YQ.mdb)

Outgoing spot

Spot source status

Need	Call	Prefix	Band	Mode	FirstTime	LastTime	Freq	QSX	Pri	CQ	IOTA	DXGrid	ODX	EU	AF	SA	NA-E	NA-M	NA-W	AS	OC	SP SNR	SP P	LP SNR	LP P	Re
D	3Y0RY	3Y-B	20M	RTTY	16 1920	16 1920	14,085.0		38	AN-002	JD14	1	Y								11	52	-50			

Sort

Filter: SQL [Need50]

Color codes

# Tabular View of Active DX

Entries for K1JT modes show last SNR, max SNR, min SNR

SpotCollector 8.2.3 @ 2019-02-02 01:34 Z [CC,DXK,DXV,PV] 26367 entries (log: AA6YQ.mdb)

Outgoing spot      7.074.0 Freq      Cluster      Spot source status

Report      Stats      Prop      Config      Help

Autoscroll

Need	Cat	Callsign	Prefix	Freq	Band	Mode	FirstTime	LastTime	Network	QSX	Pri	CQ	IOTA	DXGrid	Gr	ODX	Source	EU	AF	SA	NA-E	NA-M	NA-W	AS	OC	SNR	SNRMax	SNRMin	
2		E76C	E7	14,074.3	20M	FT8	01 1258	01 1841	WSJTX	15			JN93	S	0	AA6YQ	Y		Y						-8	14	-22		
2		IZ3VBM	I	14,074.9	20M	FT8	01 1801	01 1841	WSJTX	15			JN65	S	0	AA6YQ			Y						-10	-1	-16		
2		EA7JZL	EA	14,074.8	20M	FT8	01 1841	01 1841	WSJTX	14			IM86	S	0	AA6YQ			Y						6	6	6		
2		HK3UA	HK	14,075.1	20M	FT8	01 1841	01 1841	WSJTX	9			FJ45	S	3187	CT7AIU	Y												
2		EA3CFV	EA	14,075.4	20M	FT8	01 1842	01 1842	WSJTX	14			IN80	S	3033	GD3YUM	Y												
2		DK2BK	DL	14,074.4	20M	FT8	01 1834	01 1842	WSJTX	14			JN49	S	1	AA6YQ	Y	Y							-7	-7	-7		
2		JF2KOZ	JA	7,077.0	40M	JT65	01 1842	01 1842	CQDX	25			PM85	S	4729	UA3QNA-@	Y												
M	0	GD3YUM	GD	14,075.4	20M	FT8	01 1834	01 1842	WSJTX	14			EU-116	I074	S	0	AA6YQ	Y	Y						-2	4	-7		
2		KE8ERH	K	14,075.2	20M	FT8	01 1829	01 1842	WSJTX	MI	4		EN83	S	1018	KK4RDI			Y										
2		IU2EBQ	I	14,075.2	20M	FT8	01 1703	01 1842	WSJTX	15			JN45	S	0	AA6YQ		Y							-6	10	-20		
2		DJ5EJ	DL	14,075.4	20M	FT8	01 1841	01 1842	WSJTX	14			JN57	S	0	AA6YQ			Y						-10	-1	-10		
2		SP2IQW	SP	14,074.2	20M	FT8	01 1815	01 1842	WSJTX	15			KO02	S	6634	Z81D	Y												
2		EA7KDR	EA	7,179.8	40M	SSB	01 1810	01 1843	K1TTT	14			IN80	S	3105	SP9MKG	Y	Y											
2		EA8AOC	EA8	14,218.3	20M	SSB	01 1842	01 1843	E17MRE	33			AF-004	I2L27	S	730	N4WMB	Y		Y									
2		EA5WO	EA	10,136.7	30M	FT8	01 1843	01 1843	JH1RFM	14			IN80	D	4084	9A3GNG	Y												
2		R4CI	UA	3,575.3	80M	FT8	01 1843	01 1843	JH1RFM	SA	16		LO31	S	4463	U5YAX	Y												
2		KX4FZ	K	14,075.1	20M	FT8	01 1843	01 1843	WSJTX	FL	5		EL87	S	0	AA6YQ		Y							-9	-9	-9		
2		SV1MO	SV	14,075.0	20M	FT8	01 1841	01 1843	WSJTX	20			KM17	S	0	AA6YQ		Y							-17	-14	-23		
2		N8AWW	K	14,075.3	20M	FT8	01 1801	01 1843	WSJTX	MI	4		EN82	S	1124	KW4IG	Y	Y											
2		4U1WB	K	14,074.5	20M	FT8	01 1801	01 1844	WSJTX	5			901			NY0V													
2		EA3CC	EA	14,260.0	20M	SSB	01 1752	01 1844	E17MRE	14			IN80	S	42	AB2KL	Y		Y										

Sort:  First  Call  Last  Freq  Rcv  Az

Filter: Band and Mode and Origin:  AutoHide  Need  Call  DXCC  Freq  Tag  Band  Mode  Cont  Origin  Audio  Age  LoTW  eQSL  Mtnh  S  DX160  DX80  DX40  DX30  DX20  DX17  DX15  DX6

Color codes:

- verified
- unverified
- unconfirmed
- unwrld B or M
- unwrld counter
- special tag
- LotW
- eQSL AG
- LotW & eQSL AG

Entries last updated by reports from WSJT-X

Entries last updated by my WSJT-X copying the station

last, maximum, and minimum SNRs reported by WSJT-X

# Tabular View of Active DX

in a web browser from anywhere

SpotCollector DX Spots

dxlab/spots

iGoogle DXLab Trusted QSL DX Status Foliage

SFI = 137, A = 4, K = 2

DX Spots @ 5/12/2013 0615Z

50096.55 USB

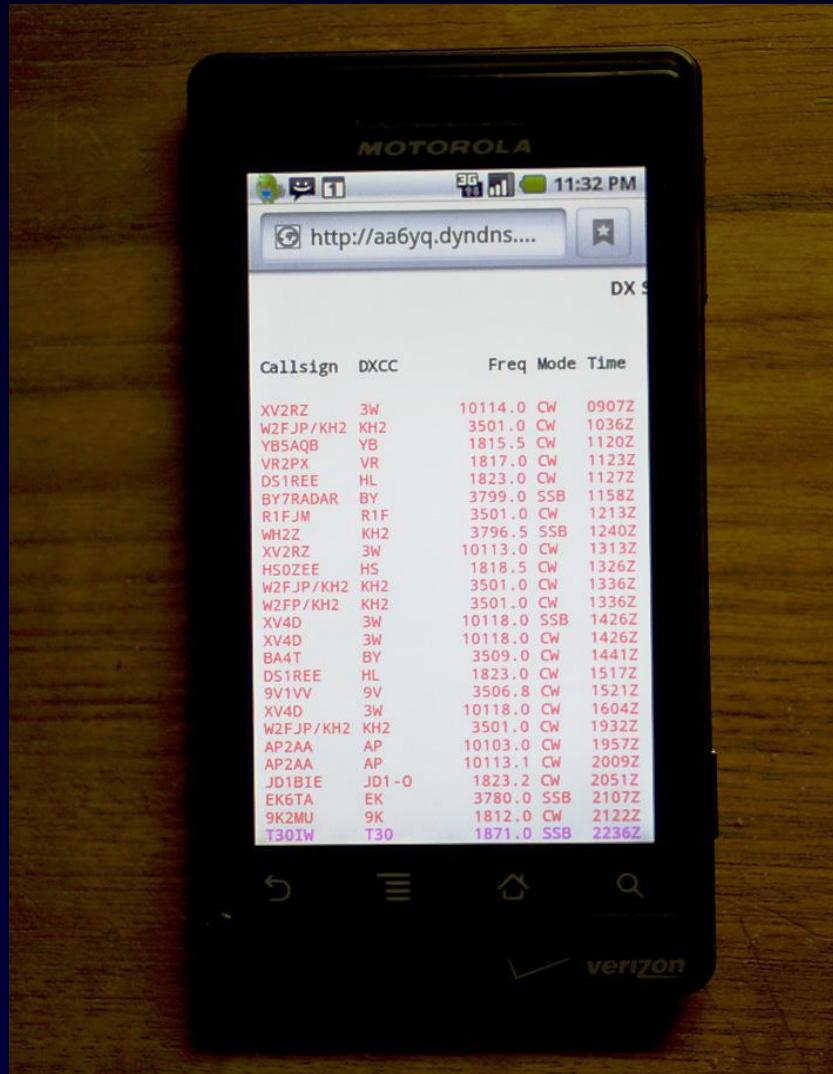
Callsign	DXCC	Freq	Mode	Source	NAE	LastTime	Notes	DXCC	Entity	Network
VU7KV	VU7	28,494.0	SSB	VK3SX		05-May-13 0508Z	Tnx fb signals VK3	Lakshadweep Islands		EI7MRE
VU7KV	VU7	28,518.0	SSB	VK2DAG-@		05-May-13 0531Z	VK/ZL only	Lakshadweep Islands		CQDX
VU7KV	VU7	24,960.0	SSB	RU6L		05-May-13 0641Z	simplex	Lakshadweep Islands		VE1DX
VU7KV	VU7	24,960.0	SSB	F4FEP		05-May-13 1200Z	but bad qrg qrm here 970 NA	Lakshadweep Islands		EI7MRE
VU7KV	VU7	24,950.0	SSB	K5OA		05-May-13 1529Z	no copy my qth esp only	Lakshadweep Islands		VE1DX
VU7KV	VU7	24,961.6	SSB	IWOHBY	Y	05-May-13 1707Z	nw strong	Lakshadweep Islands		EI7MRE
VU7KV	VU7	24,962.0	SSB	W4QN	Y	05-May-13 1928Z	not VU7 he is QRT and on a boa	Lakshadweep Islands		VE1DX
P51X	P5	21,030.0	CW	OH6PP-@		09-May-13 0927Z	correction call	DPRK (North Korea)		CQDX
VK9NT	VK9-N	1,821.7	CW	K5UR		09-May-13 1111Z		Norfolk Is		CQDX
9M2AX	9M2	1,831.5	CW	YC1COZ		09-May-13 1154Z	cq cq	West Malaysia		VE1DX
ZD8VHF/B	ZD8	50,032.5	CW	K1TOL	Y	09-May-13 2124Z	weak, in/out>ME	Ascension Island		EI7MRE
VK9NT	VK9-N	1,807.9	CW	JK7LXU		09-May-13 2154Z	UP1 599 TNX	Norfolk Is		JH1RFM
YC1COZ	YB	1,806.5	CW	9M2AX		09-May-13 2232Z	cqng	Indonesia		EI7MRE
9M2AX	9M2	1,831.5	CW	YC1COZ		09-May-13 2255Z	cq cq	West Malaysia		EI7MRE
ZD8VHF/B	ZD8	50,032.7	CW	N3DB	Y	10-May-13 2101Z	419	II22	Ascension Island	VE1DX
UPOL	UN	1,834.7	CW	RX9CAZ		11-May-13 2031Z	MN83	Kazakhstan		VE7CC
CX2TQ	CX	50,115.0	SSB	N3DB	Y	11-May-13 2041Z	59	GF15	Uruguay	VE1DX
CX9AU	CX	50,110.0	CW	N3DB	Y	11-May-13 2045Z	S9 cw	Uruguay		EI7MRE
CX2TQ	CX	50,110.0	SSB	K7BV	Y	11-May-13 2048Z	55 SSB	Uruguay		EI7MRE
CX9AU	CX	50,098.0	CW	K4QI-@	Y	11-May-13 2118Z	em85<>gf15 cqing 559	Uruguay		CQDX

Filter: Band and Mode and Cont and Origin and [entity-band unworked or unconfirmed, or entity-mode unworked or unconfirmed]

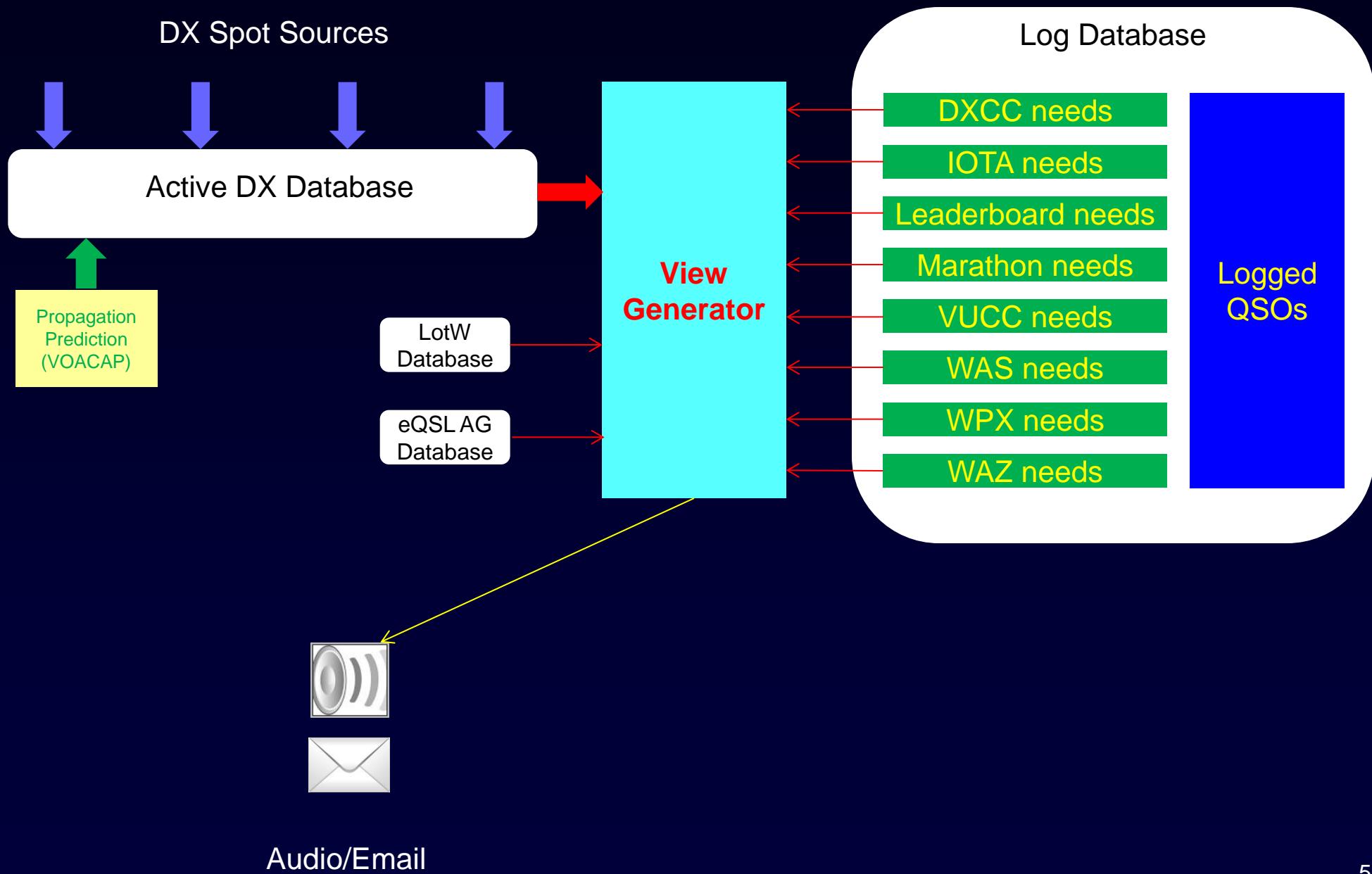
X Need Call DXCC Freq Tag Band Mode Cont Orig SQL Config

# Tabular View of Active DX

in a web browser from anywhere



# Audio and Email Views of Active DX

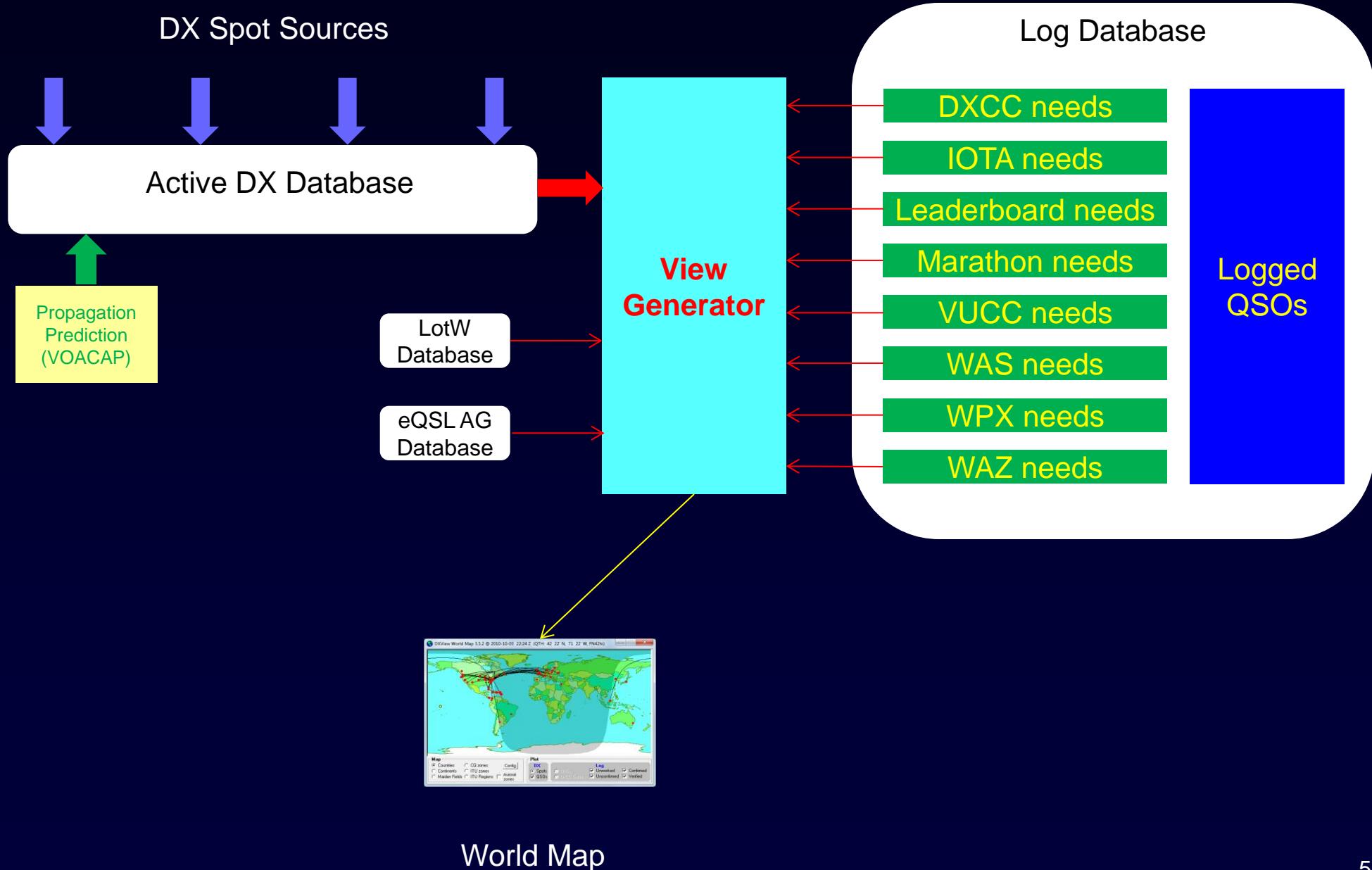


# Audio and Email Views of Active DX

Creation of a new Active DX Database Entry for a needed DX station can trigger

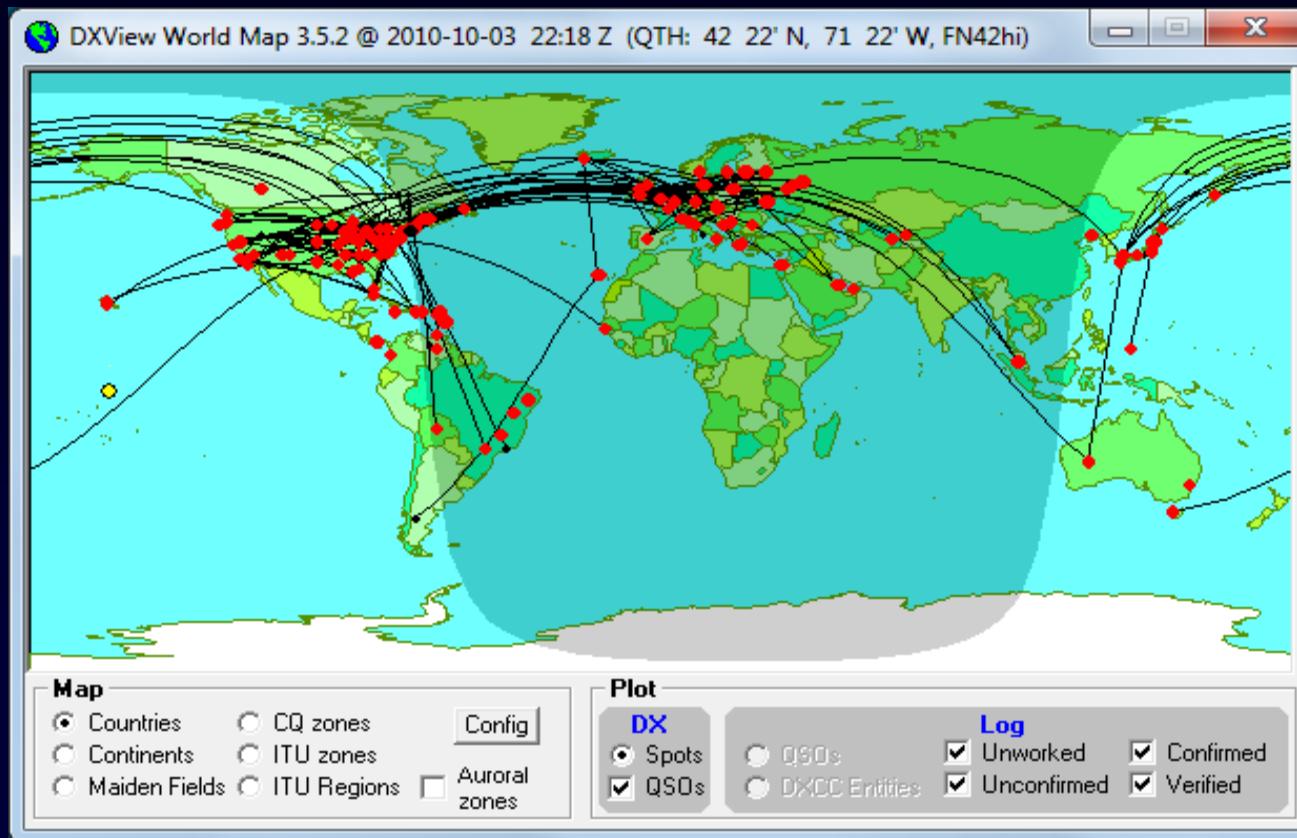
- an audio announcement (callsign, “counter”, band, mode)
- an outgoing email message (which can initiate a text message)

# World Map View of Active DX



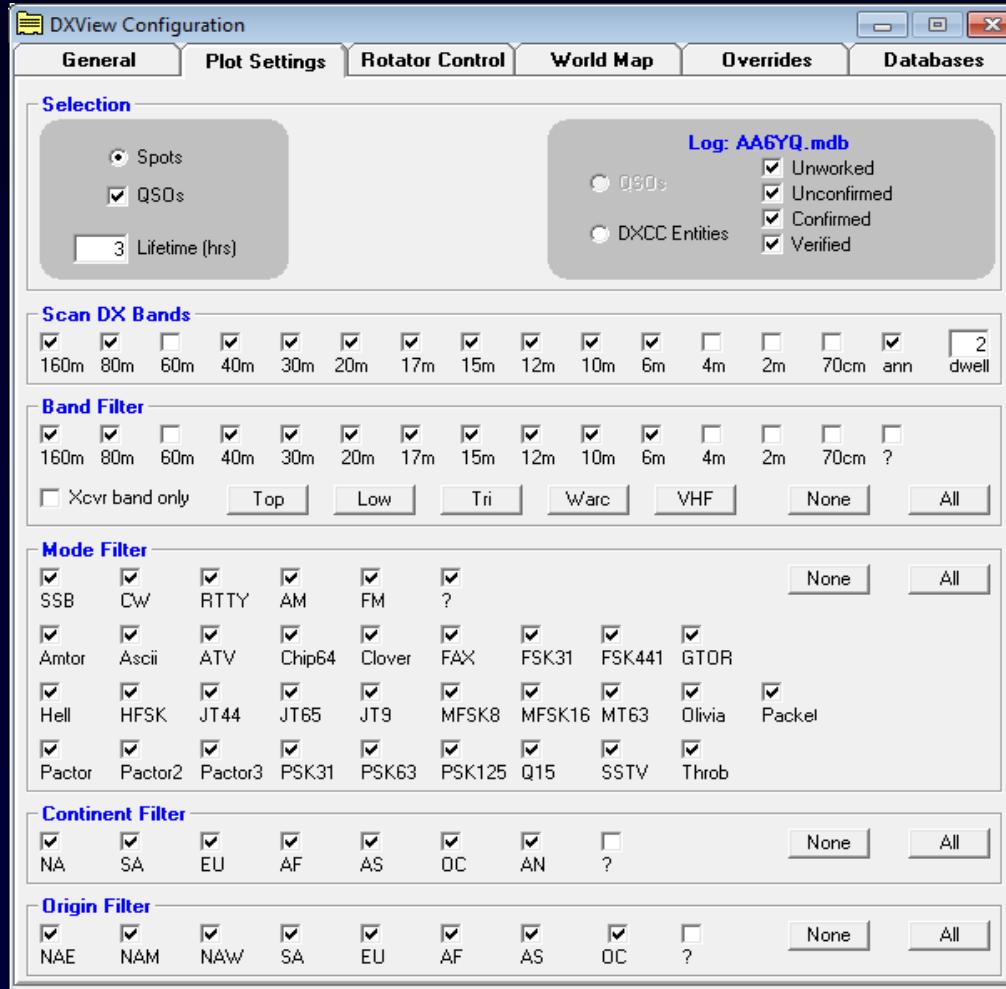
# World Map View of Active DX

“Active DX on Selected Bands”



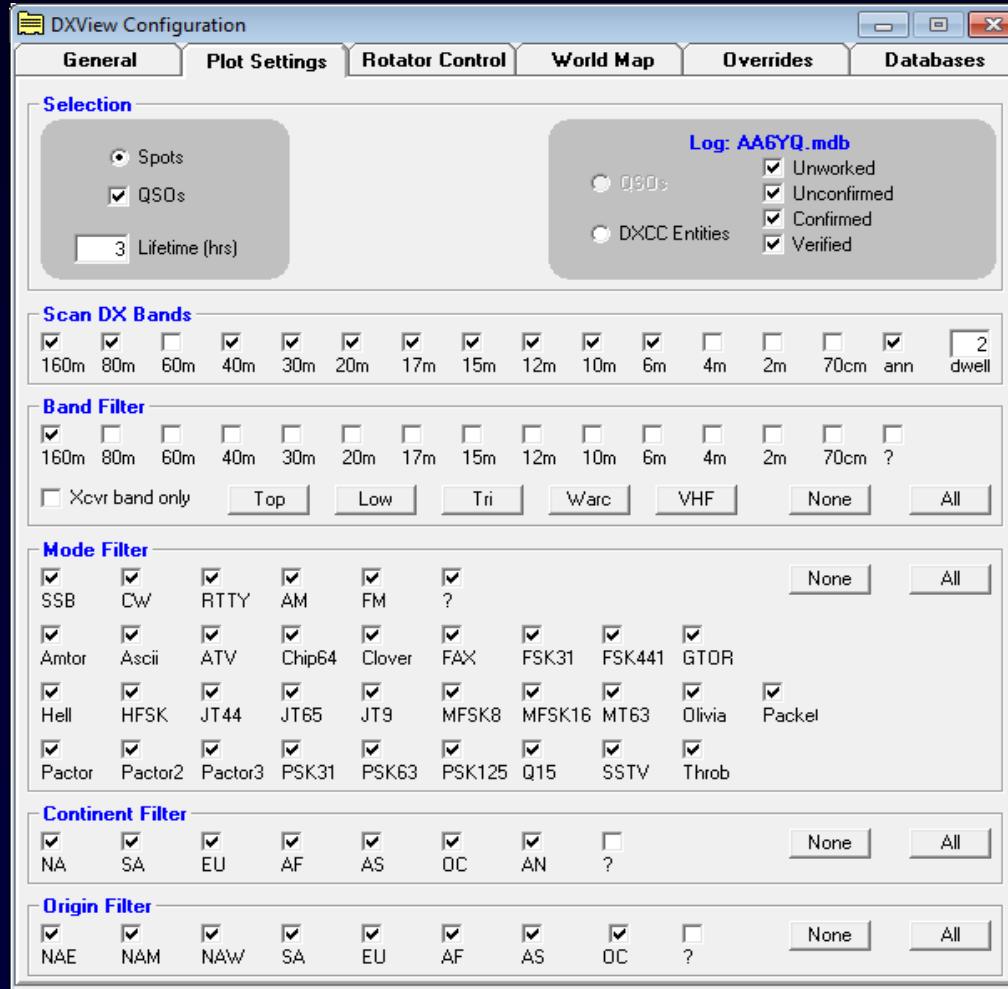
# World Map View of Active DX

## Controlling the Map View



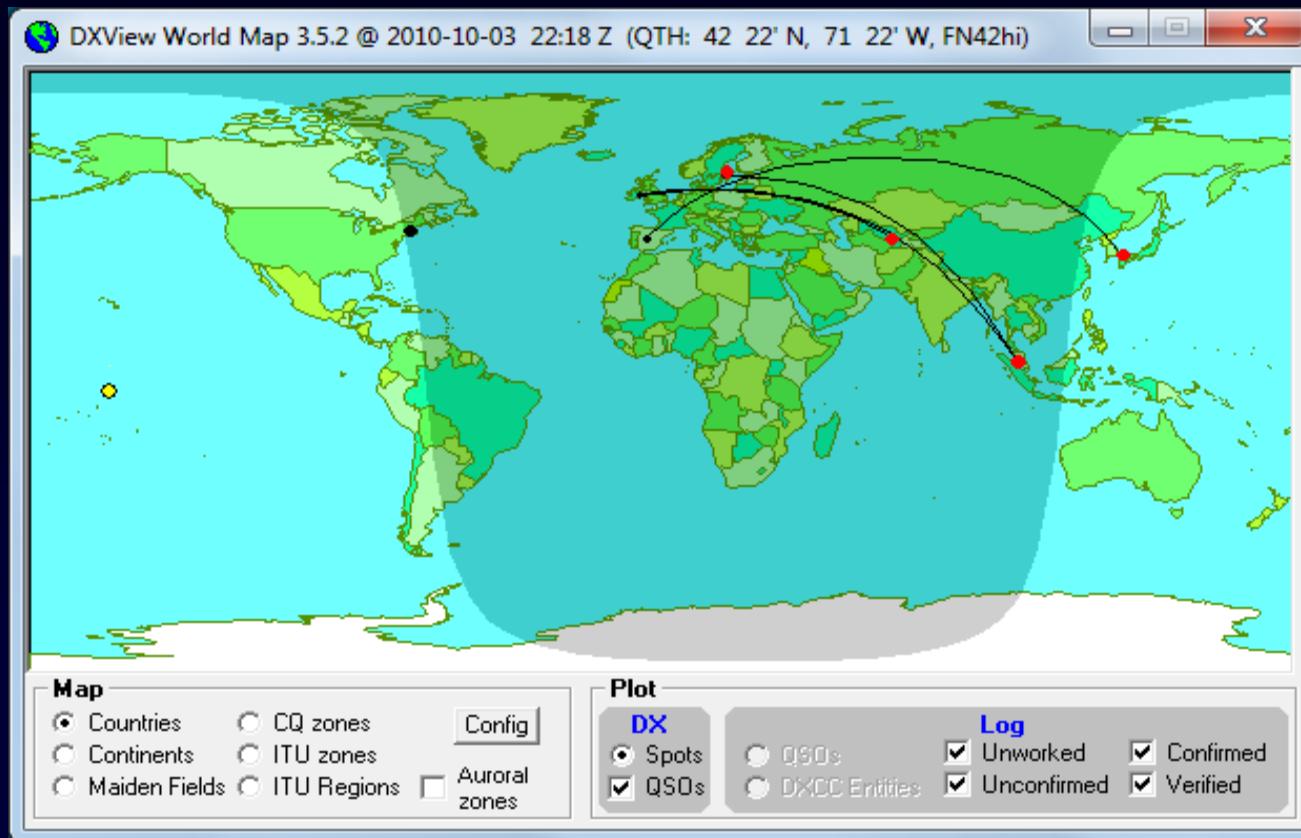
# World Map View of Active DX

## Controlling the Map View



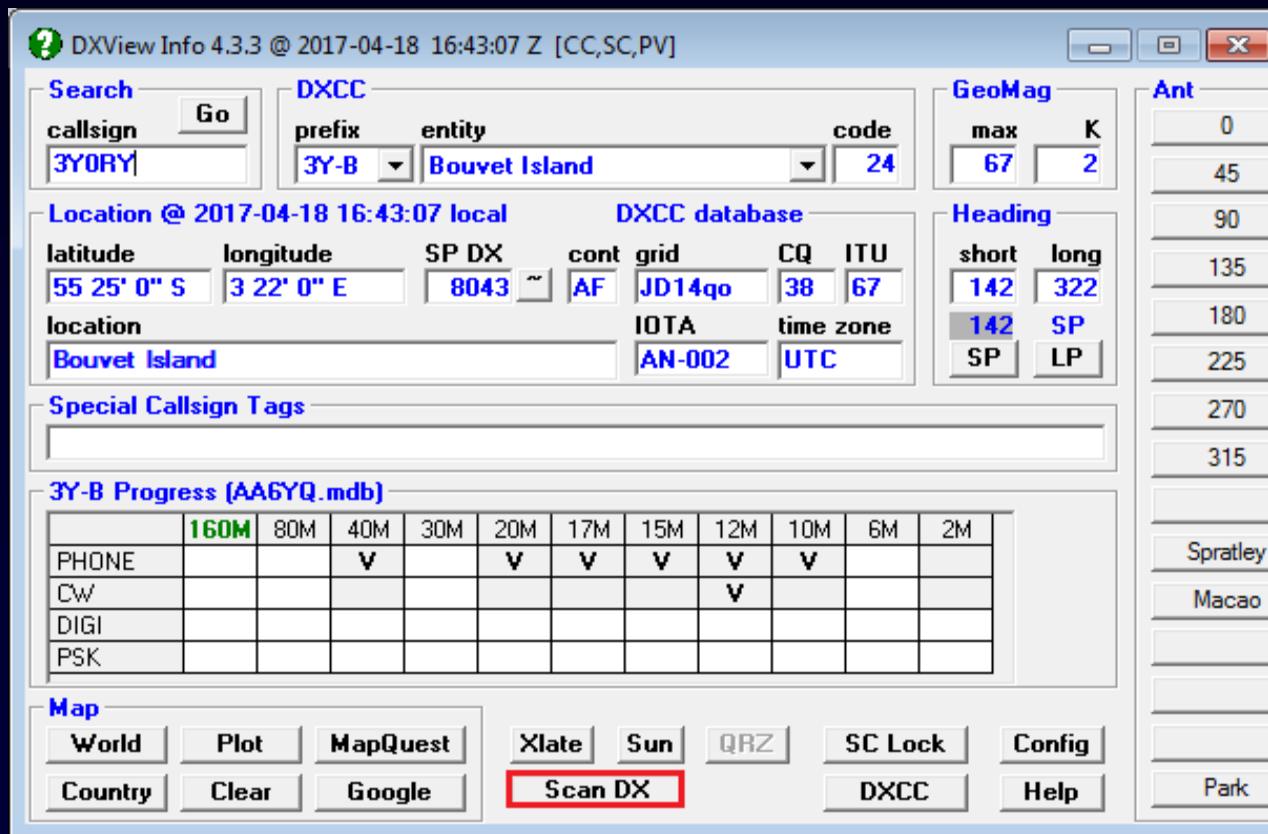
# World Map View of Active DX

“160m”



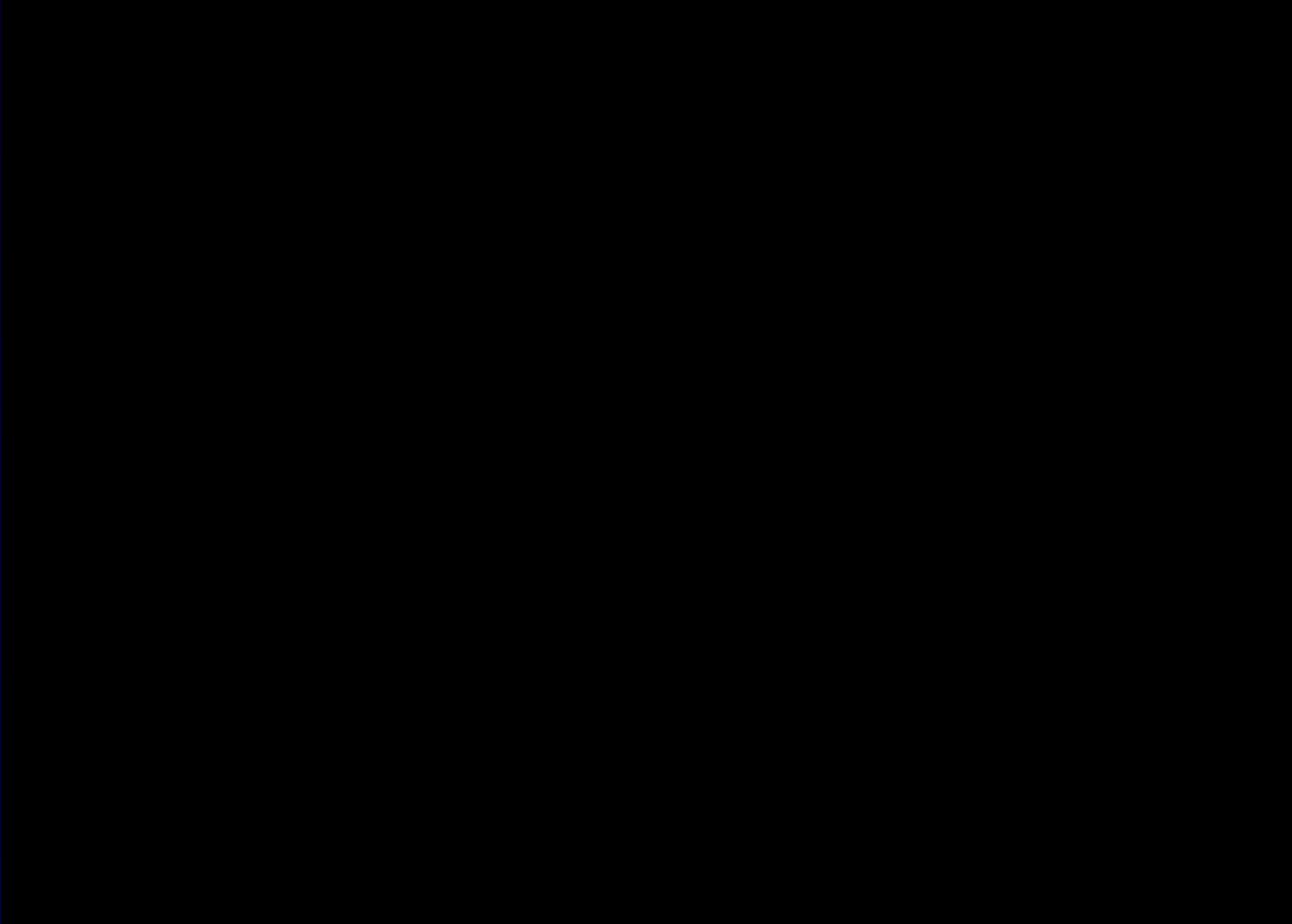
# World Map View of Active DX

## ScanDX



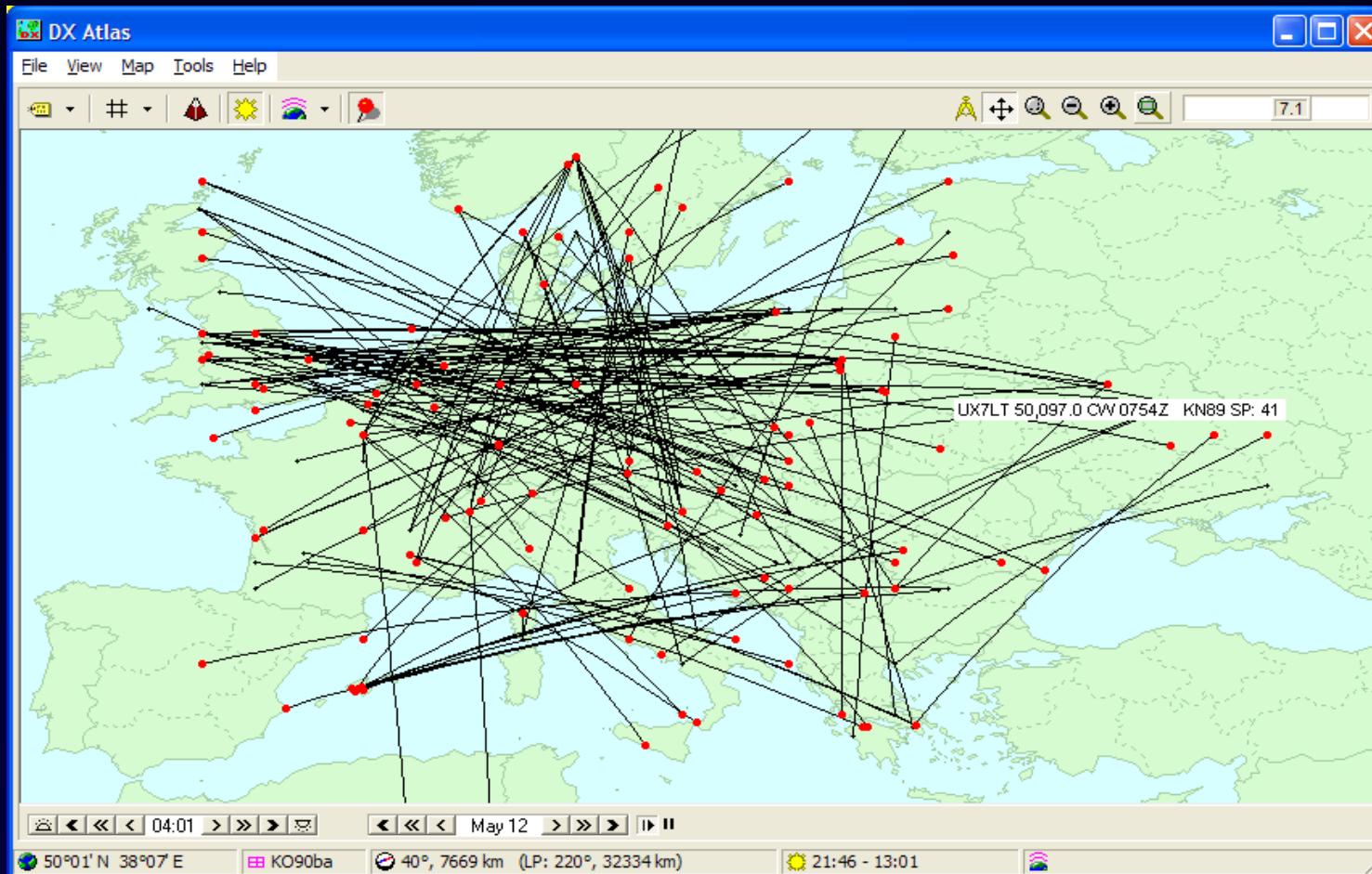
# World Map View of Active DX

ScanDX



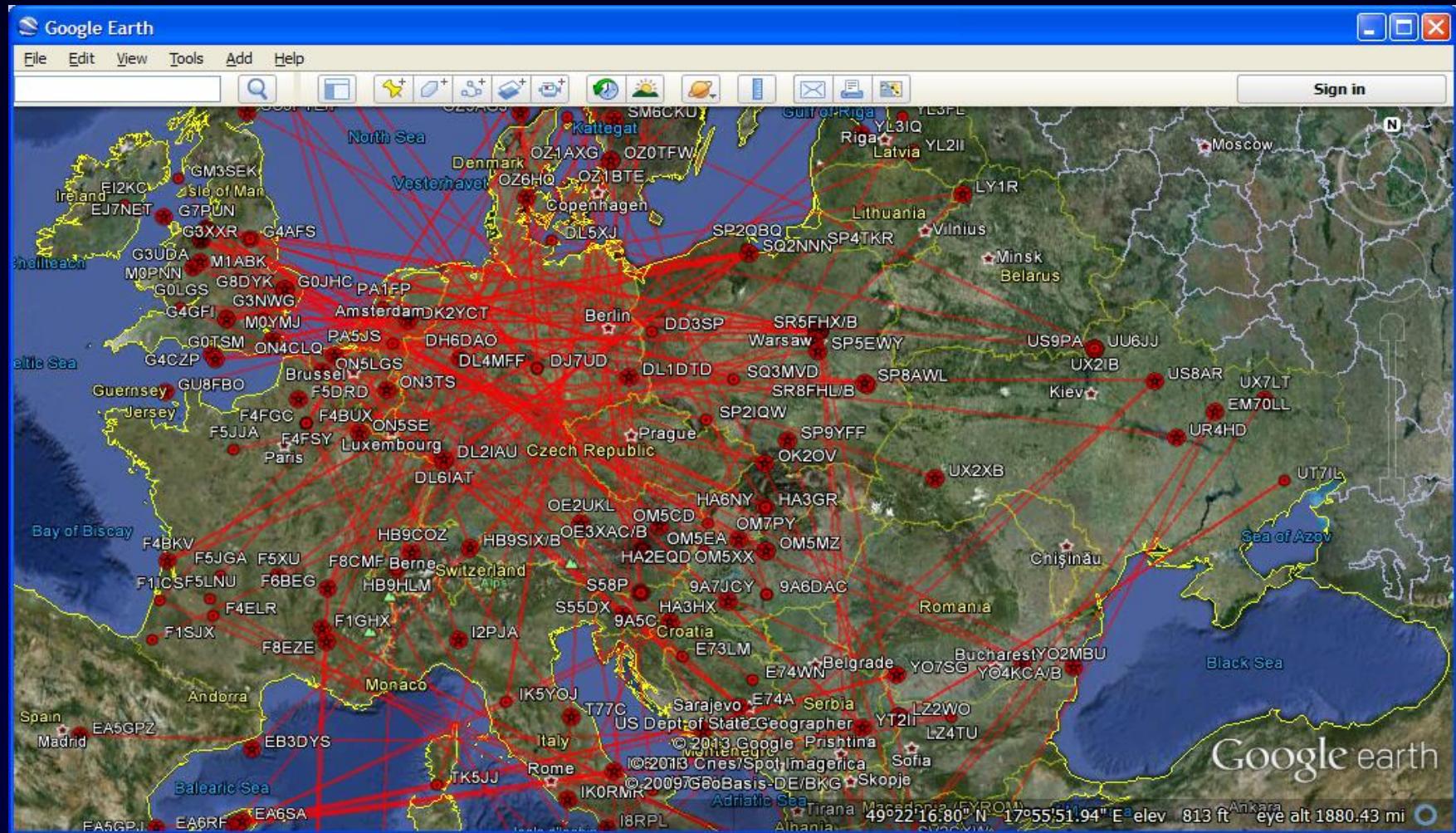
# World Map View of Active DX

“6m” on DX Atlas



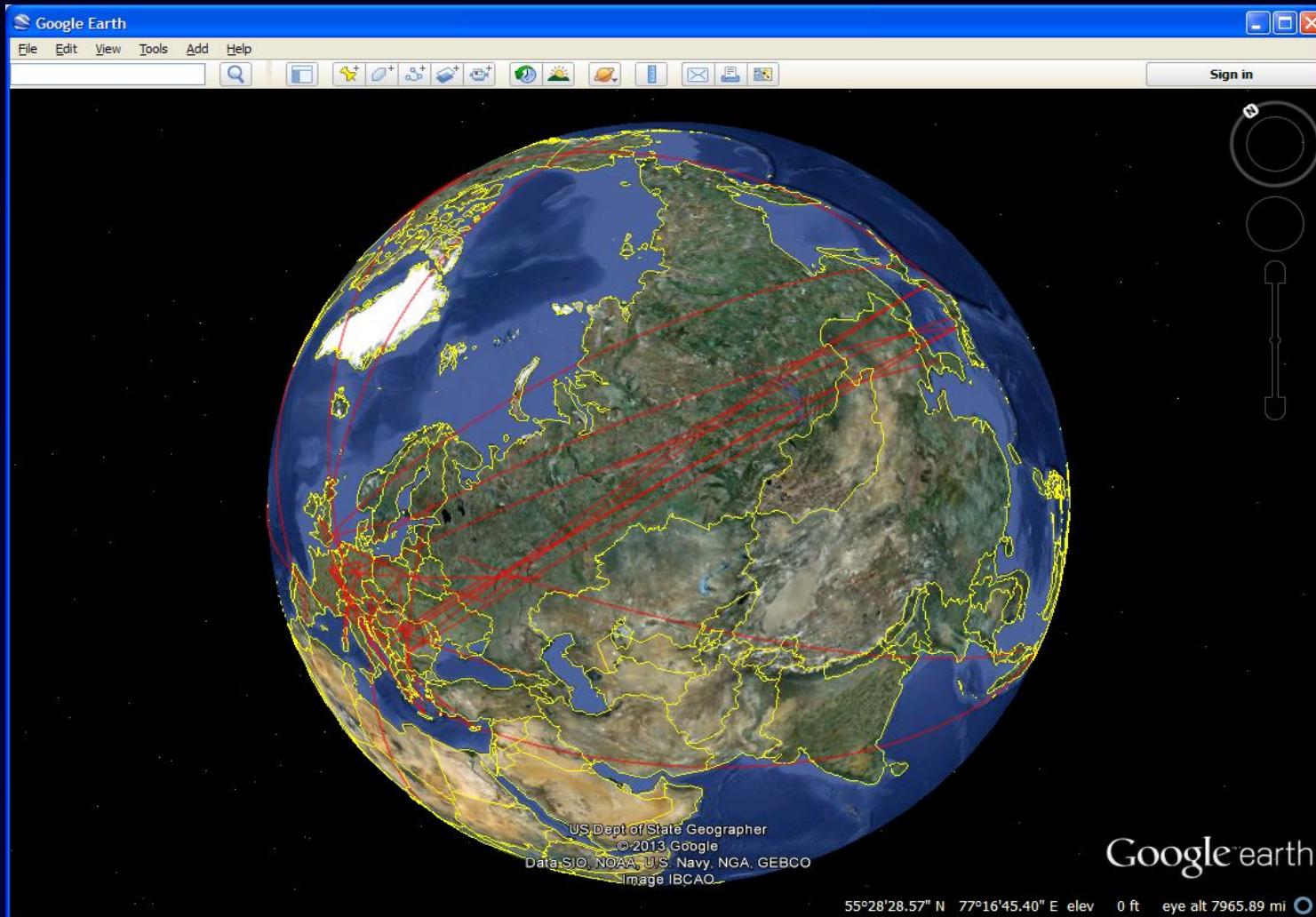
# World Map View of Active DX

# “6m” on Google Earth

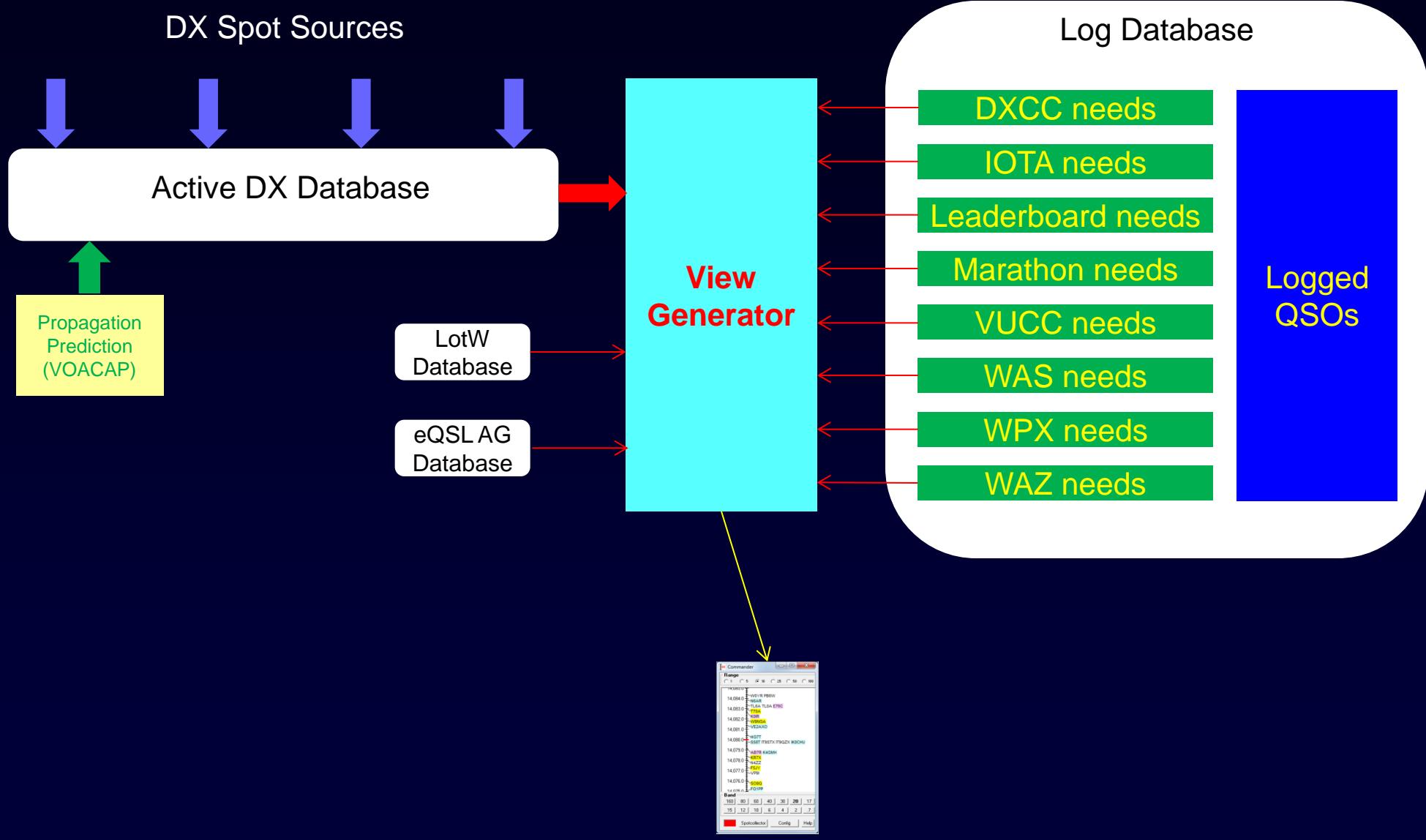


# World Map View of Active DX

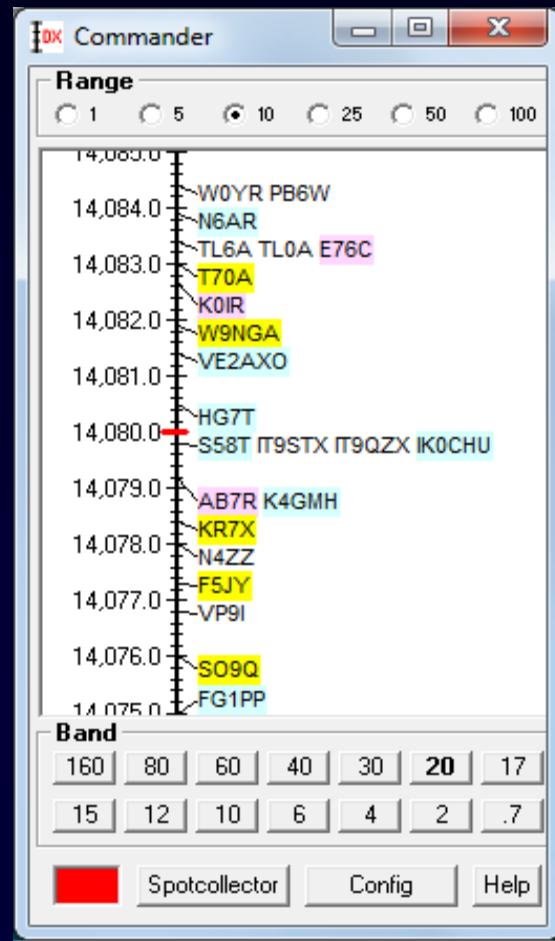
“12m” on Google Earth



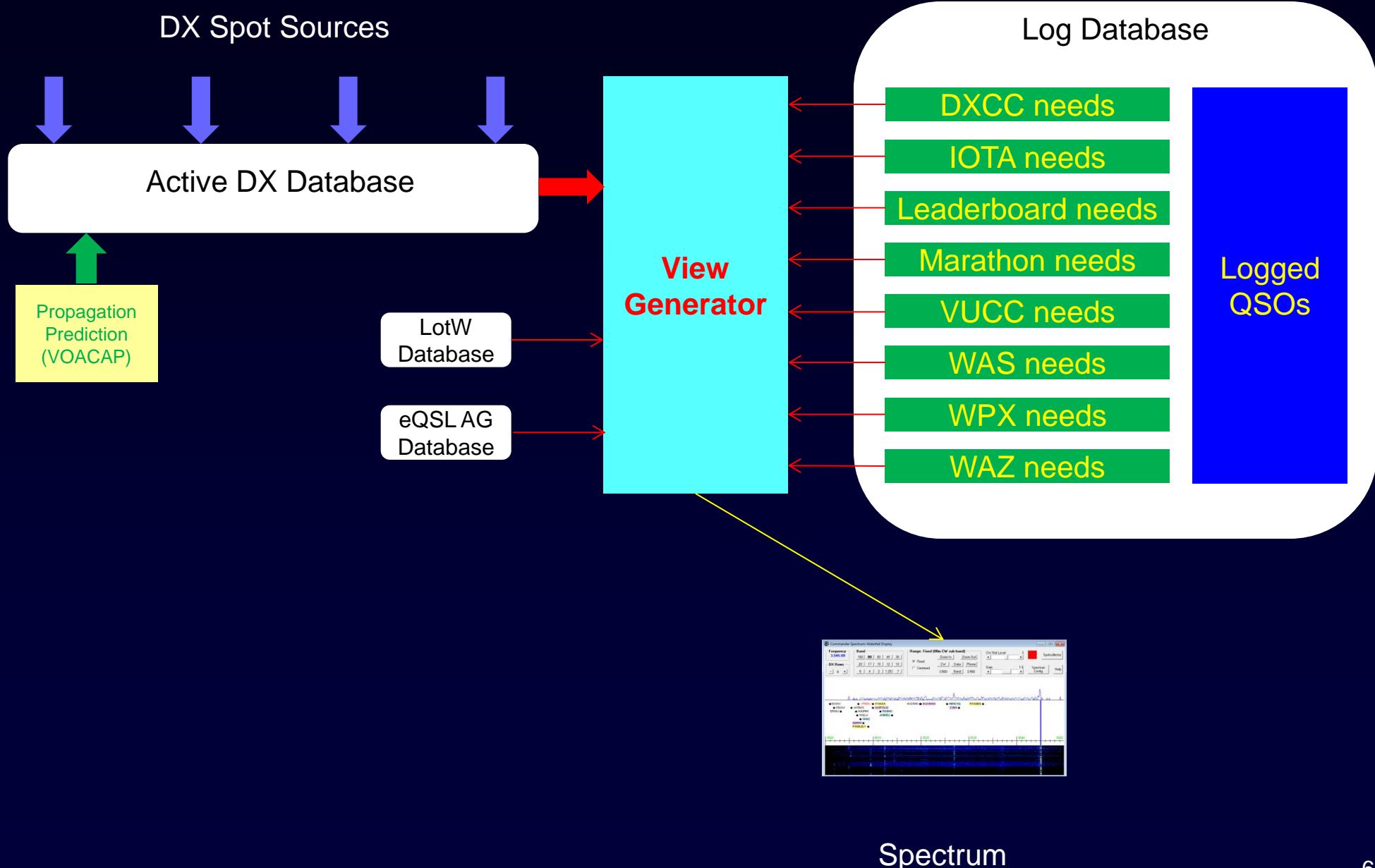
# Bandspread View of Active DX



# Bandspread View of Active DX

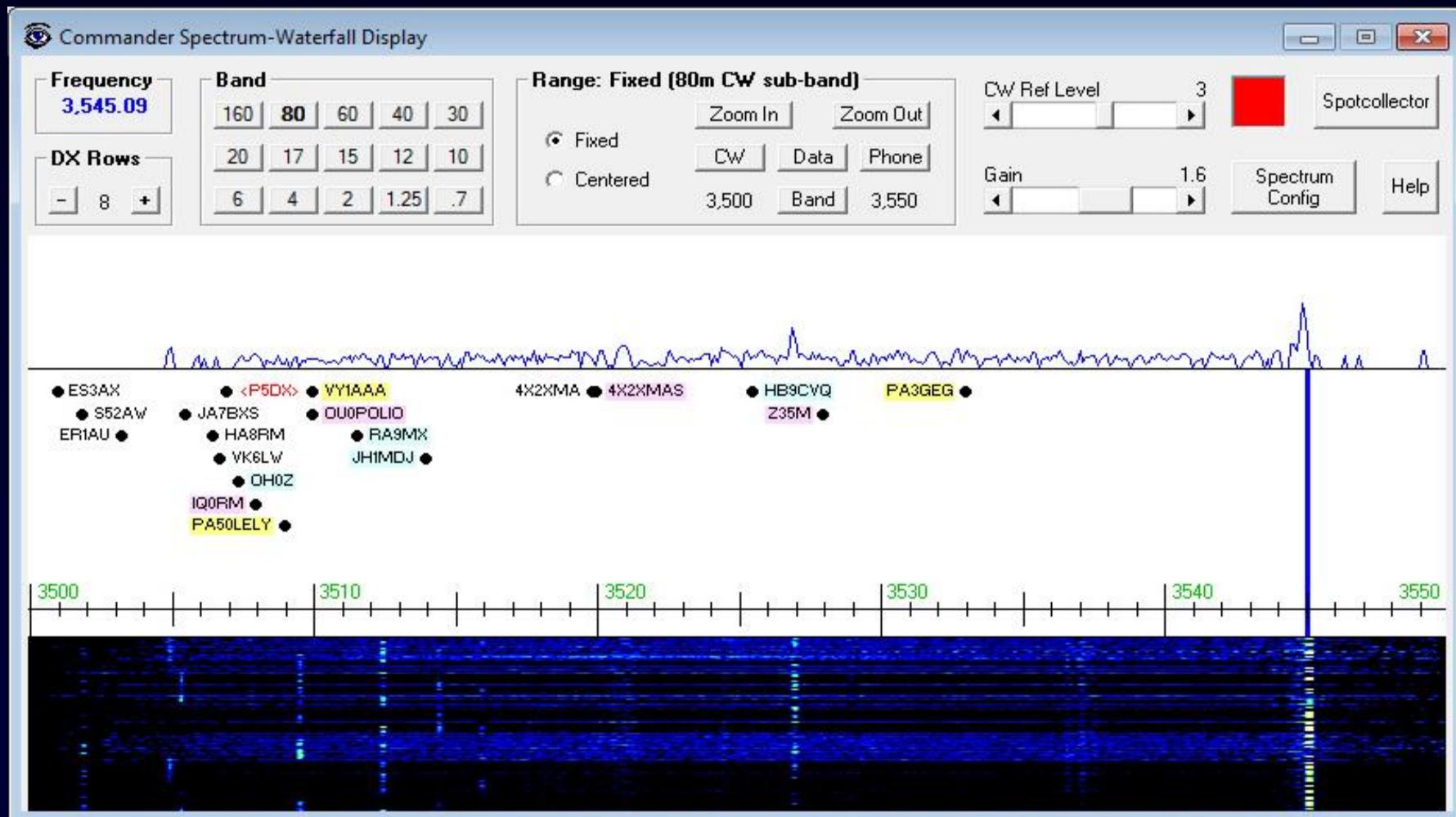


# Spectrum-Waterfall View of Active DX



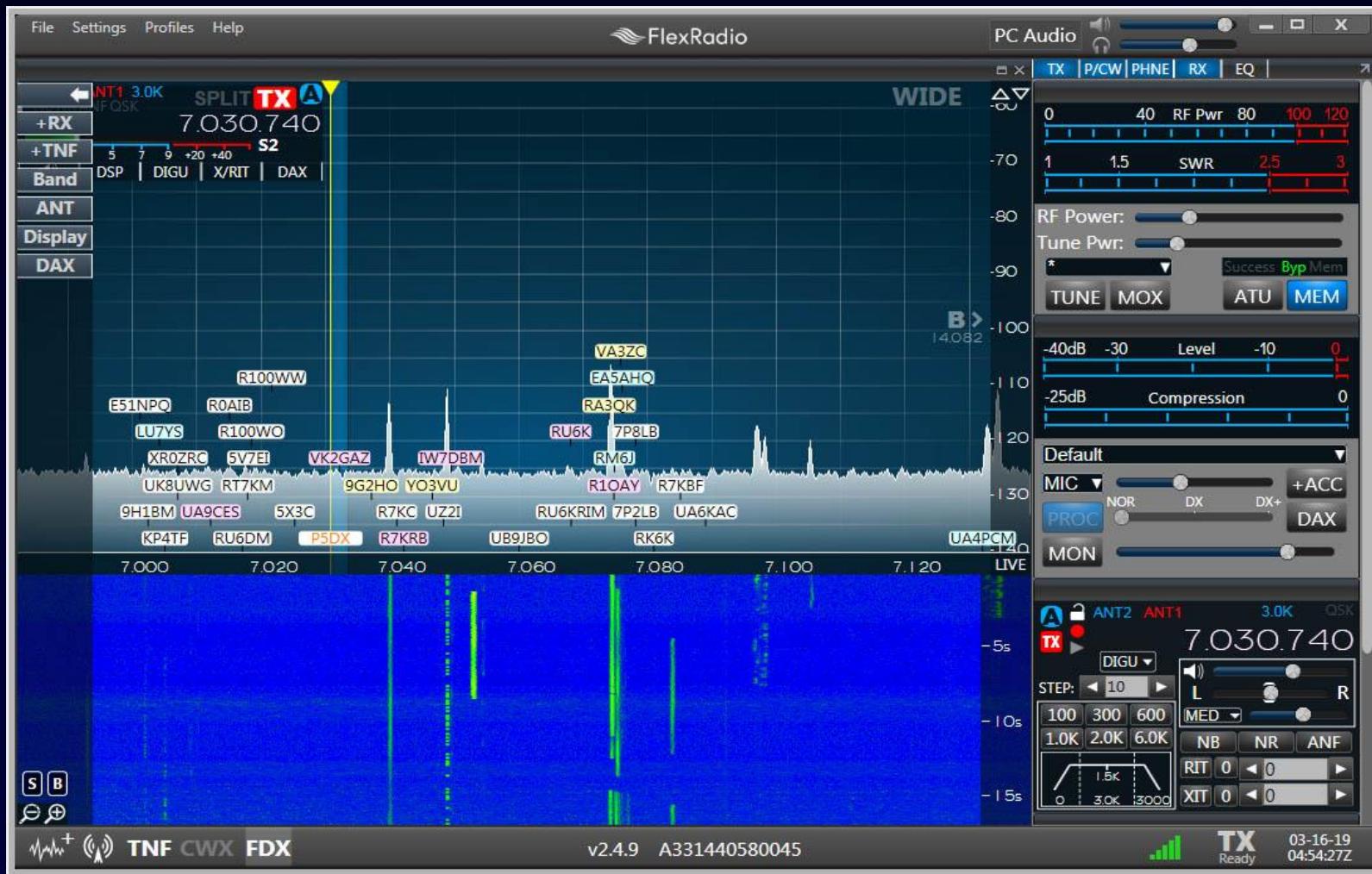
# Spectrum-Waterfall View of Active DX

Icom 705, 7300, 7610, 7850, 7851, 9700



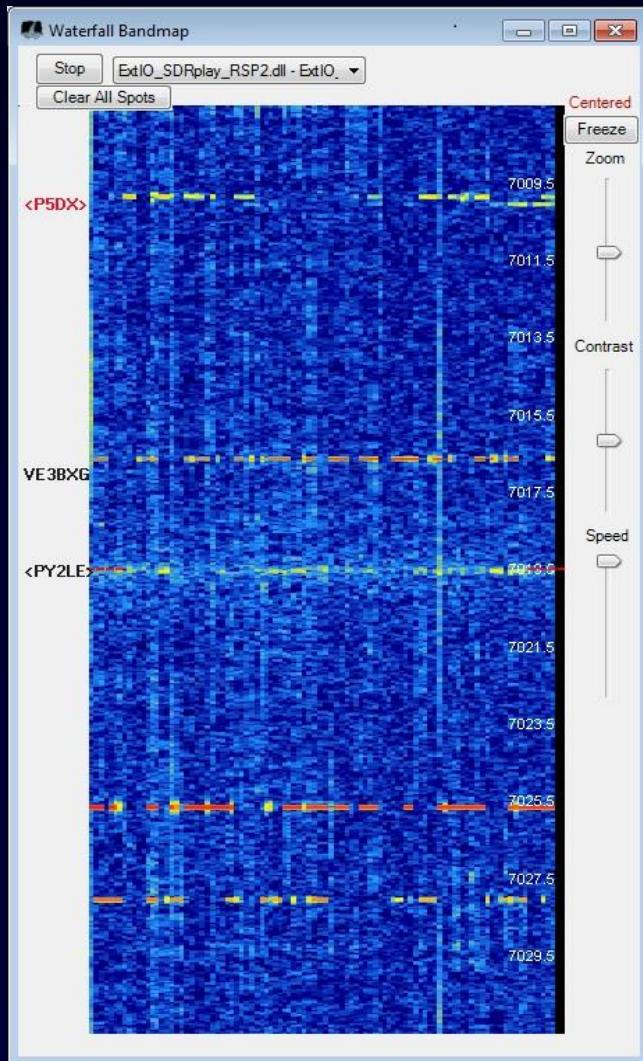
# Spectrum-Waterfall View of Active DX

## Flex Signature Radios



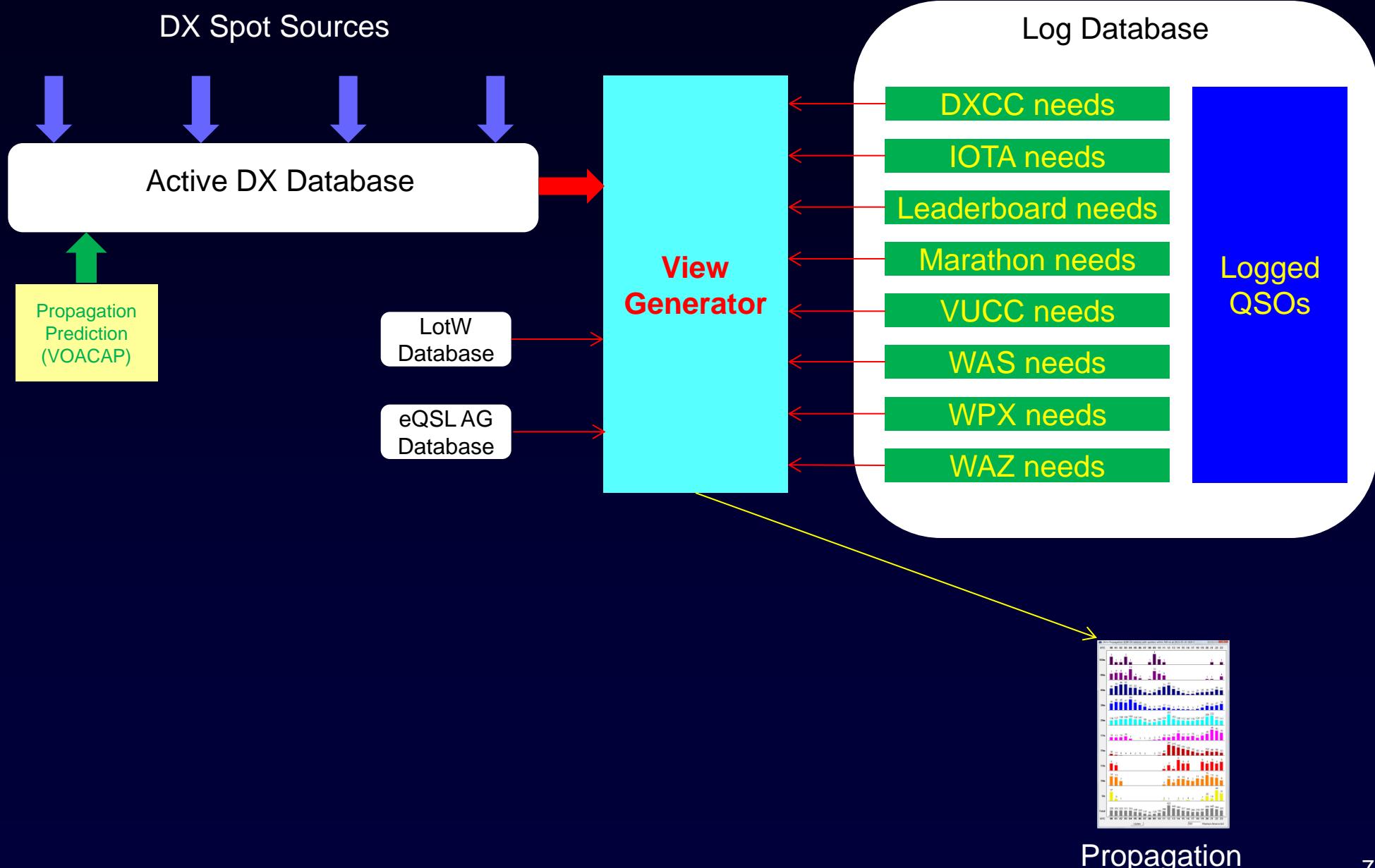
# Spectrum-Waterfall View of Active DX

Just Released: Interoperation with N2IC's Waterfall Bandmap

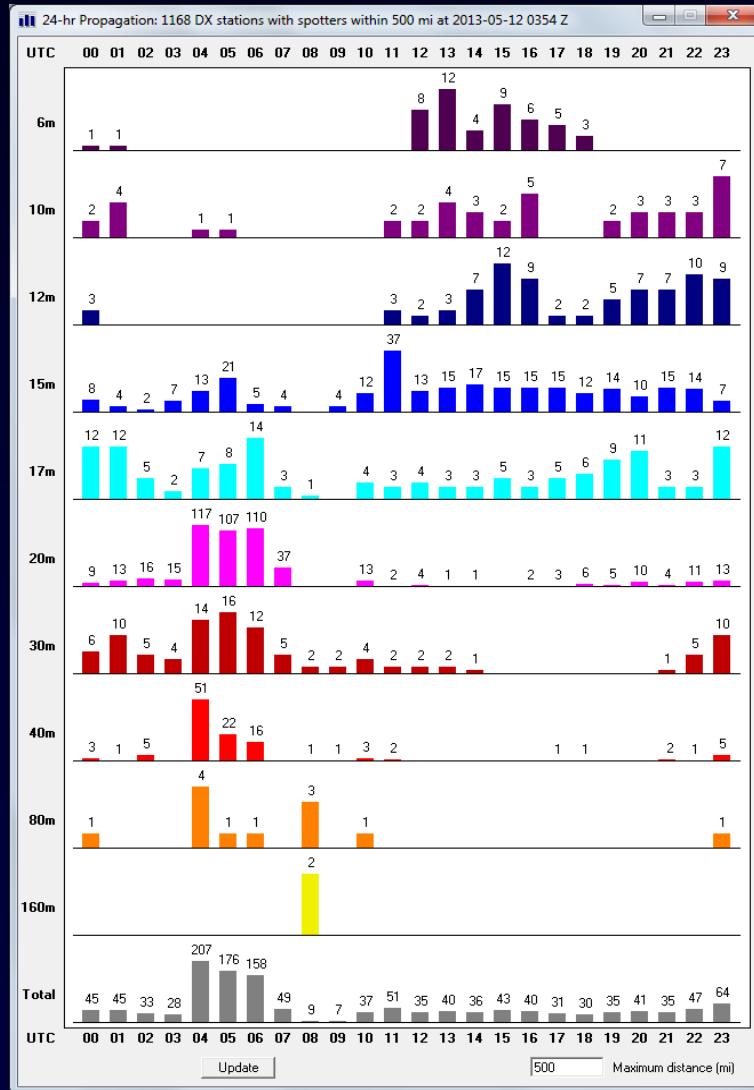


- Supports most SDRs
- RF or IF input

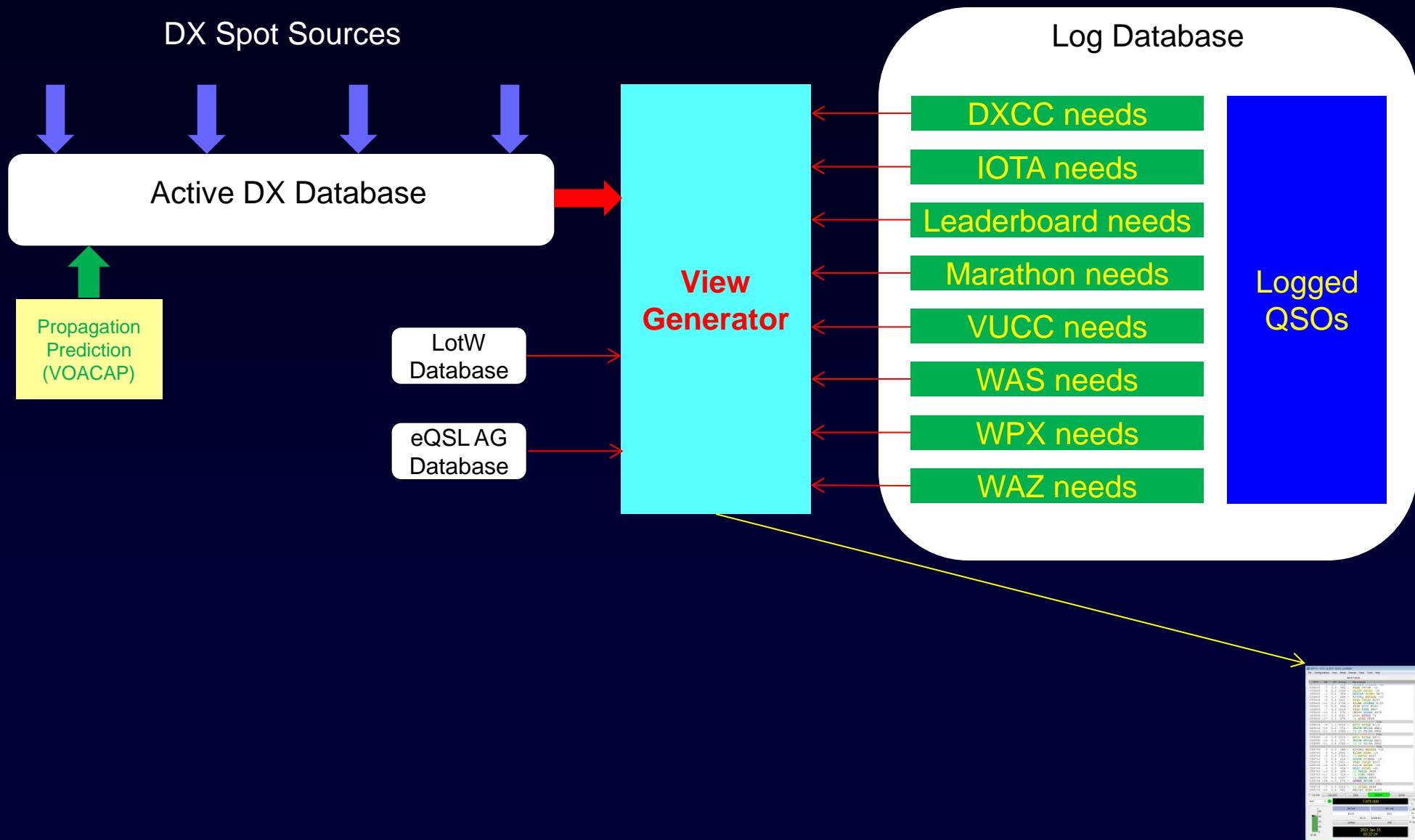
# Propagation View of Active DX



# Propagation View of Active DX



# WSJT-X View of Active DX



# WSJT-X View of Active DX

## Log Database

WSJT-X v2.0.0 by K1JT

File Configurations View Mode Decode Save Tools Help

Band Activity Rx Frequency

UTC	dB	DT	Freq	Message	UTC	dB	DT	Freq	Message
013930	-7	0.7	1877	~ CQ YV5ZV FK60	013930	-22	-0.1	2072	~ K4ZD LY3BG KO24
013930	-11	0.0	1930	~ CQ EA1CDV IN80	014018	Tx		715	~ LY3BG AA6YQ -22
013930	0	0.2	2003	~ VU3NEW HK3EU R-19					
013930	-22	-0.1	2072	~ R4ZD LY3BG KO24					
013930	-20	0.1	2315	~ CQ CM2RSV EL83					
013930	7	-0.7	2315	~ KR7DX W3KX FM19					
013930	-20	0.1	2496	~ CQ NSSDR EM10					
013930	-10	0.4	2572	~ CQ AD6FR KOGDI 73					
013930	12	0.2	2695	~ VU3ESV L2Z2FP R-22					
013930	-14	0.0	2806	~ VU3ESV L2Z2FP R-22					
				40m					
013945	-2	0.1	200	~ CQ NU1T FN42	013945	-22	-0.1	2072	~ K4ZD LY3BG KO24
013945	-11	-1.0	542	~ CQ HK6JCF FJ25	014018	Tx		715	~ LY3BG AA6YQ -22
013945	-11	1.8	720	~ CQ IU6GUC JM99					
013945	-5	0.2	951	~ CQ W1FDR FN42					
013945	2	-0.8	1106	~ W4JBG WP4AZT RRR					
013945	2	0.3	1182	~ CANNON VET 73					
013945	-11	0.2	1319	~ AA95J WB9VVGJ DM34					
013945	-16	1.5	1395	~ L2Z2FU YY5KG -15					
013945	-15	-0.3	1551	~ M6JWJ OE1MKA -20					
013945	-7	0.3	1653	~ CQ IZ6JFA JM99					
013945	-6	-0.3	1744	~ EA4GA AF5VR R-22					
013945	-8	-0.0	1813	~ UN7DBA WA5VGI R-24					
013945	2	0.1	1863	~ KC6HBB KB1EFS RRR					
013945	1	0.0	2196	~ 3B9FR NO8D EN91					
013945	-4	-0.6	2272	~ EA5HRV CO8OB +00					
013945	-21	0.1	2556	~ CM2RSV OK4FX J070					
013945	7	0.1	2752	~ UT6UZ W1DNP EM90					
				40m					
014000	-6	0.1	201	~ NU1T IK1GEY JN45	014000	-6	0.1	201	~ NU1T IK1GEY JN45
014000	8	0.4	501	~ VE3SSV W7YA -20	014000	8	0.4	501	~ VE3SSV W7YA -20
014000	-14	0.1	571	~ WD5JK KR7DX DM22	014000	-14	0.1	571	~ WD5JK KR7DX DM22
014000	-1	0.0	791	~ KA1GOO NSRB -06	014000	-1	0.0	791	~ KA1GOO NSRB -06
014000	2	-0.2	891	~ CO8OB EA9HRV IM99	014000	2	-0.2	891	~ CO8OB EA9HRV IM99
014000	-6	-0.6	1030	~ KB1HNZ IZ5MKA JN53	014000	-6	-0.6	1030	~ KB1HNZ IZ5MKA JN53
014000	-15	-0.0	1196	~ N7TWS 3B9FR -02	014000	-15	-0.0	1196	~ N7TWS 3B9FR -02
014000	-10	0.0	1233	~ VU3ESV L2Z2FP R-22	014000	-10	0.0	1233	~ VU3ESV L2Z2FP R-22
014000	-7	0.4	1395	~ KM4JNR L2Z2FU -22	014000	-7	0.4	1395	~ KM4JNR L2Z2FU -22
014000	10	0.0	1589	~ VE1GG WQ0Q 73	014000	10	0.0	1589	~ VE1GG WQ0Q 73
014000	-6	1.8	1655	~ W1FDR YY5AUW FK60	014000	-6	1.8	1655	~ W1FDR YY5AUW FK60
014000	-16	-0.5	1745	~ AF5VR EA4GA -10	014000	-16	-0.5	1745	~ AF5VR EA4GA -10
014000	-8	0.7	1877	~ AB9RP YY5ZV -14	014000	-8	0.7	1877	~ AB9RP YY5ZV -14
014000	-5	0.0	1930	~ CQ EA1CDV IN80	014000	-5	0.0	1930	~ CQ EA1CDV IN80
014000	4	0.2	2003	~ VU3NEW HK3EU R-19	014000	4	0.2	2003	~ VU3NEW HK3EU R-19
014000	7	-0.7	2315	~ CQ CM2RSV EL83	014000	7	-0.7	2315	~ CQ CM2RSV EL83
014000	-6	0.4	2572	~ K9DN NSSDR -10	014000	-6	0.4	2572	~ K9DN NSSDR -10
014000	-7	-0.0	2677	~ CQ OE6ATD JN76	014000	-7	-0.0	2677	~ CQ OE6ATD JN76
				40m					
<b>"Needed" callsigns</b>									

# Multiple Views of Active DX

DX Spot Sources



Active DX Database



**View  
Generator**

Propagation  
Prediction  
(VOACAP)

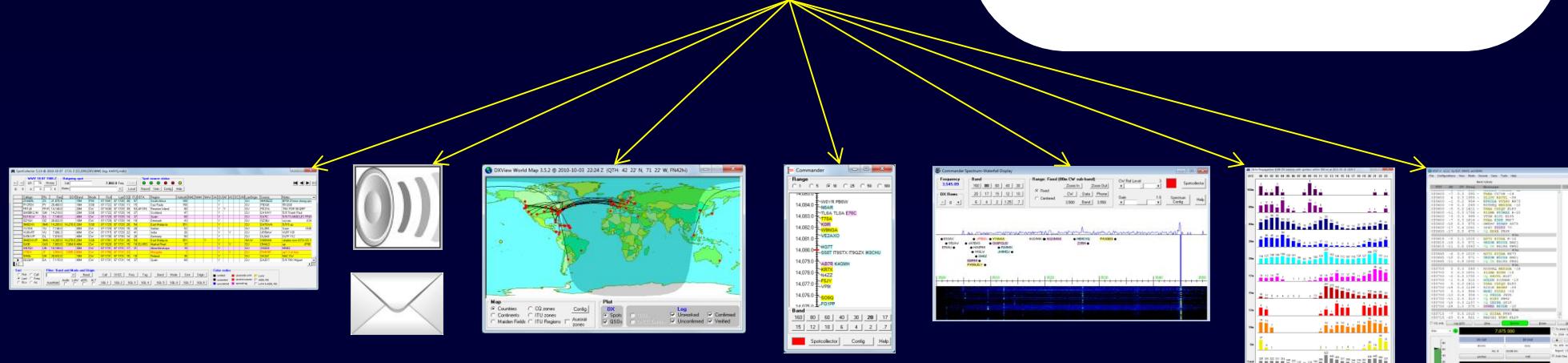
LotW  
Database

eQSL AG  
Database

DXCC needs  
IOTA needs  
Leaderboard needs  
Marathon needs  
VUCC needs  
WAS needs  
WPX needs  
WAZ needs

Log Database

Logged  
QSOs



Tabular

Audio/Email

World Map

Bandspread

Spectrum

Propagation

WSJT-X

# DXing With DXLab

- Introduction to the DXLab Suite
  - Architecture
  - Development Drivers
  - Multiple Views of Active DX
- Finding the DX You Need
- Working the DX You Need

# Finding and Working Needed DX

## What is QRV that I Need?

WVV 05-09 1000Z Outgoing spot 7.074.0 Freq																			
Spot source status: pre-filtered																			
Need	Call	Prefix	RegCode	First	Last	Mode	Band	Freq	GSX	CQ	Pr1	EU	AF	SA	NA-E	NA-N	NA-W	AS	OC
	DK08PAV	U3	05 05 0311	0311	FT8	20M	14,074.0								Y				
	DK08PAV	U3	05 05 0342	0342	FT8	20M	14,074.0								Y				
	D DT8A	VP8-H	05 05 0238	0344	FT8	40M	7,076.1								Y	Y	Y		393
	D EZ1HS	EZ	05 05 0423	0423	FT8	80M	3,588.0								Y				3913
	D 3A2DS	3A	05 05 0659	0651	FT8	15M	21,074.0								Y				5064
	D 321VU	S2	05 05 0655	0734	FT8	10M	28,074.0								Y				6113
	D B4CRA	BY	05 05 0917	0918	FT8	80M	3,573.0								Y				6947
	D VR2CH	VR	05 05 1014	1020	FT8	40M	7,074.0								Y	Y			0
	D EX8ABG	EX	05 05 1044	1044	FT8	10M	28,074.0								Y				6
	D 3U3B	3U	05 05 1033	1044	FT8	40M	7,074.0								Y	Y	Y		8
	D 9N1CA	9N	05 05 1042	1043	FT8	10M	28,074.0								Y				6931
	D BA4IZ	BY	05 05 1059	1059	FT8	80M	3,523.0								Y				7324
	D EP2LMA	EP	05 05 1100	1102	FT8	15M	21,076.0								Y				3744
	D DT8A	VP8-H	05 05 0850	1120	FT8	40M	7,074.0								Y	Y	Y		0
	D 9N8DEN	9N	05 05 1027	1130	FT8	40M	7,074.0								Y	Y	Y		0
	Z VK10BAF	VK	05 05 1124	1125	SSB	80M	3,678.0								Y				10074
	D 3Z2CH	VR	05 05 1206	1207	FT8	20M	14,076.5								Y				299
	D VR2XAZ	VR	05 05 1220	1220	FT8	10M	28,074.0								Y				299
	D VR2XYL	VR	05 05 1224	1247	FT8	15M	23,075.6								Y				4669
	D XV1X	3W	05 05 1254	1260	FT8	30M	14,123.0								Y				1712
	D VR2HKL	VR	05 05 1232	1323	FT8	40M	7,074.0								Y				0
	D EP2LMA	EP	05 05 1238	1350	FT8	15M	21,075.9								Y				3539
	D 9N8DEN	9N6	05 05 1253	1405	FT8	20M	14,074.4								Y				872
	D XV2A	3W	05 05 1503	1503	FT8	20M	14,074.0								Y				2613
	Z RA9UDD	UA0	05 05 1508	1508	SSB	80M	3,530.0								Y				5178
	Z UB0A2L	UA0	05 05 1514	1514	SSB	80M	3,679.0								Y				5178
	D XV1X	3W	05 05 1641	1641	FT8	30M	16,136.2								Y				3899
	D EP2LMA	EP	05 05 1651	1652	FT8	17M	18,074.0								Y				4105
	D UK7AL	U3	05 05 1750	1750	FT8	17M	18,100.0								Y				3357
	D EP2HAN	EP	05 05 1750	1810	FT8	15M	21,074.0								Y				3376
	D EP2HAN	EP	05 05 1818	1819	FT8	20M	14,074.0								Y				0
	D XV1X	3W	05 05 1858	1858	FT8	30M	16,136.0								Y				4141
	D KH30	KH3	05 05 2009	2010	FT8	10M	28,074.0								Y				3983
	D VR2VH9	VR	05 05 2218	2218	FT8	30M	16,136.0								Y				3206
	D XV1X	3W	05 05 2206	2206	FT8	30M	16,136.0								Y				3206
	D DT8A	VP8-H	05 05 2343	2343	FT8	40M	7,075.0								Y				4246
	D 9N8DEN	9A	05 05 2344	2344	FT8	40M	7,075.0								Y				0
	D 9N8DEN	9A	05 05 0236	0236	FT8	20M	14,074.0								Y				4071
	D 9F5WV7	ET	05 05 0236	0236	FT8	20M	14,074.0								Y				14
	D EX8ABG	EX	05 05 0319	0329	FT8	10M	28,074.0								Y				88
	D DT8A	VP8-H	05 05 0359	0423	FT8	40M	7,076.6								Y				41
	D VR2CO	VR	05 05 0748	0748	FT8	12M	24,915.0								Y				1046
	D SW1SA	SW1	05 06 1842	1842	FT8	160M	1,821.0								Y				180185
	D YB9KA	YB	05 06 1139	1139	FT8	160M	1,819.5								Y				189949
	D 3A2NM	3A	05 06 1138	1140	FT8	12M	24,916.6								Y				3444
	D 8Q7VW	BQ	05 06 1210	1210	FT8	160M	1,825.0								Y				4071
	D YB9KA	YB	05 06 1211	1211	FT8	160M	1,834.5								Y				189949
	D 3A2NM	3A	05 06 1224	1224	FT8	30M	16,136.0								Y				3849
	D DT8A	VP8-H	05 06 1207	1208	FT8	40M	7,074.0								Y				1269
	D XV1X	3W	05 06 1207	1234	FT8	40M	7,074.3								Y				1905
	D XV2A	3W	05 06 1410	1411	FT8	20M	14,074.0								Y				2613
	D DT8A	VP8-H	05 06 1502	1503	FT8	17M	18,100.0								Y				355
	D EP2LMA	EP	05 06 1535	1535	FT8	10M	28,074.8								Y				5009
	D DT8A	VP8-H	05 06 1752	1753	FT8	17M	18,100.0								Y				1269
	D EP2LMA	EP	05 06 1808	1808	FT8	15M	21,074.0								Y				4329
	D 3Z2CH	VR	05 06 1812	1812	FT8	30M	16,136.0								Y				3849
	D DT8A	VP8-H	05 06 2215	2215	FT8	40M	7,075.0								Y				1046
	D ZC40R	ZC4	05 06 2200	2201	FT8	30M	16,136.0								Y				6539
	D ZC40R	ZC4	05 06 2243	2227	FT8	40M	7,074.0								Y				3709
	D VR2XRT	VR	05 06 2212	2213	FT8	30M	16,136.0								Y				5
	D XH0LP	XW	05 06 2316	2316	FT8	40M	7,074.0								Y				4871
	D 9N8DEN	9N6	05 06 2305	2321	FT8	40M	7,074.0								Y				1
	D DT8A	VP8-H	05 06 2305	0619	FT8	20M	14,074.0								Y				68
	D DT8A	VP8-H	05 07 0155	0226	FT8	40M	7,076.7								Y				6519
	D 3U3B	3W	05 07 0437	0437	FT8	10M	28,074.0								Y				6723
	D XV1X	3W	05 07 0642	0642	FT8	20M	14,074.0								Y				2569
	D ZC40R	ZC4	05 07 0533	0573	FT8	15M	21,075.7								Y				4462
	D ZC40R	ZC4	05 07 0757	0757	FT8	12M	24,915.0								Y				6803
	D ZC40R	ZC4	05 08 1917	1939	FT8	15M	21,074.0								Y				3206
	D XV1X	3W	05 08 2009	2009	FT8	30M	16,136.0								Y				4694
	D EP2LH9	EP	05 08 2016	2016	FT8	20M	14,074.0								Y				6723

Filter: Band and Mode and Cont and Origin and [Un]conded DXCC, VUCC, WAS, WA2

Color codes

verified

unverified

verified master

unverified master

edit

edit master

verified diag

unverified diag

verified diag master

unverified diag master

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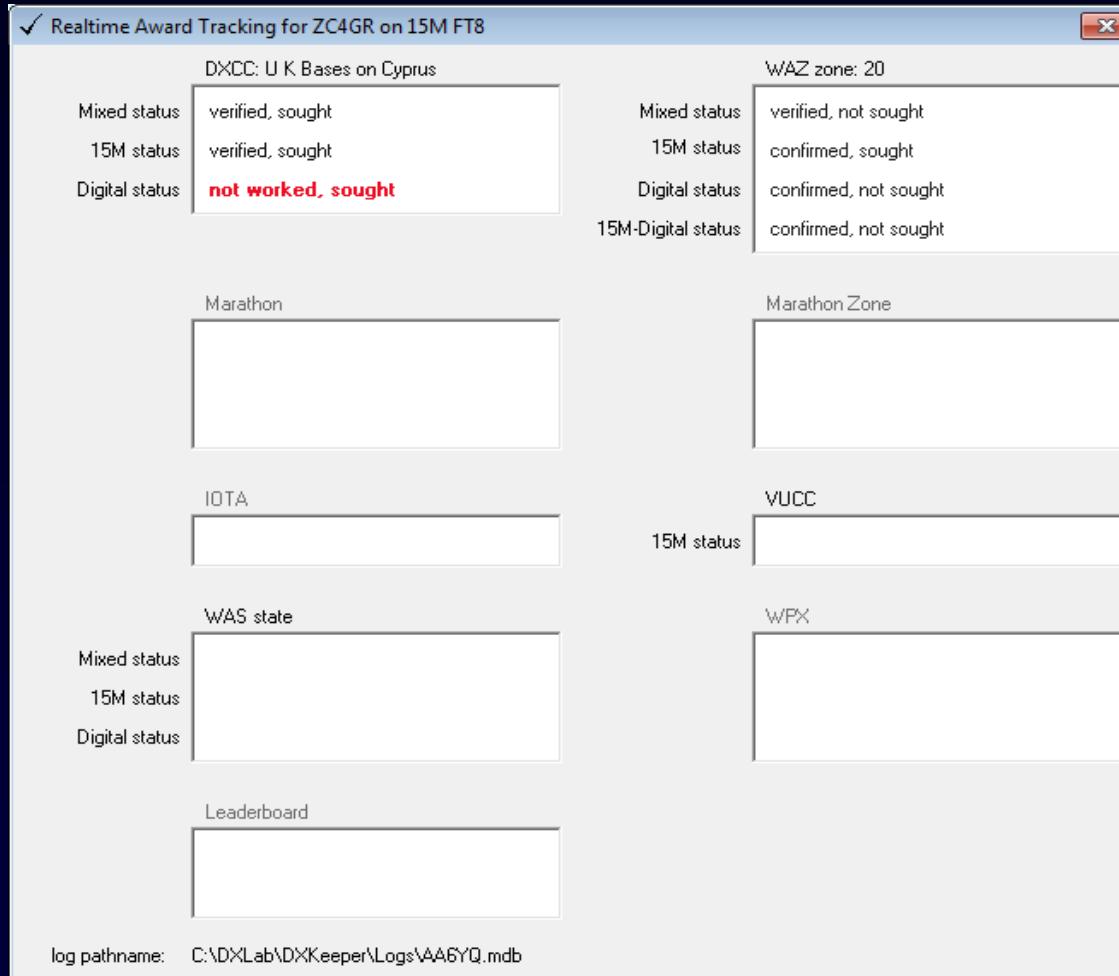
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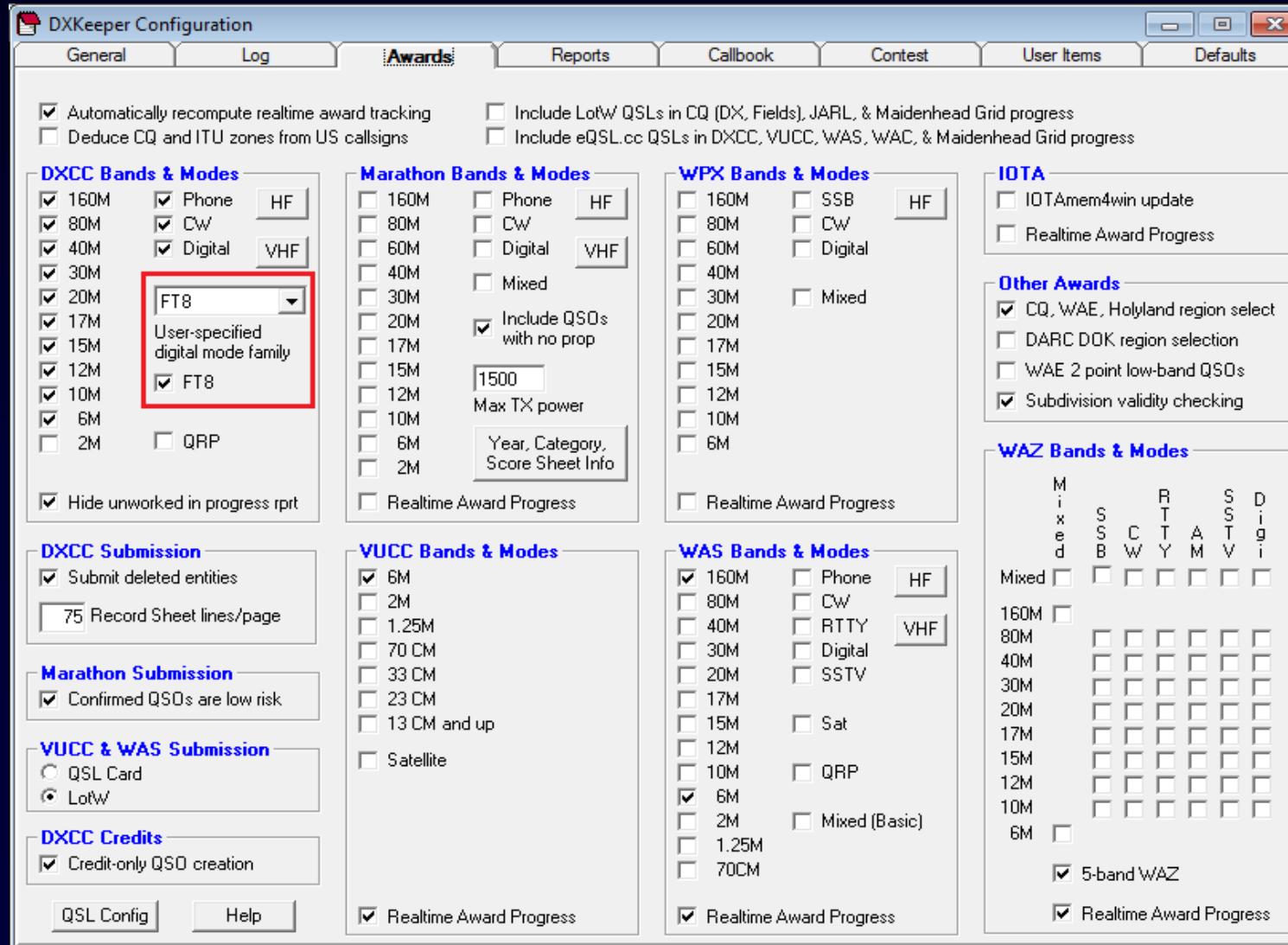
verified

# Award Tracking for ZC4GR on 15m FT8



# Finding and Working Needed DX

Because I'm Pursuing all DXCC Entities in FT8!



# DXCC Award Tracking for ZC4GR

**DXKeeper Realtime Award Tracking**

**Award Progress: 340 current DXCC entities [Filter: by progress]**

	Prefix	Entity	Phone	CW	DIGI	FT8	160M	80M	40M	30M	20M	17M	15M	12M	10M	6M	2M
	YN		V	V	V	V	W	V	V	V	V	V	V	V	V	V	V
	YO		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	YS		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	YU		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	YW		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	YV0		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	Z2		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	Z3		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	Z6		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	Z8		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	ZA		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	ZB2		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
►	ZC4		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	ZD7		V	V	V	V	W	V	V	V	V	V	V	V	V	V	V
	ZD8		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	ZD9		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	ZF		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	ZK3		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	ZL		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	ZL7		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	ZL8		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	ZL9		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	ZP		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	ZS		V	V	V	V	C	V	V	V	V	V	V	V	V	V	V
	ZS8		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

**Award Progress Filter**

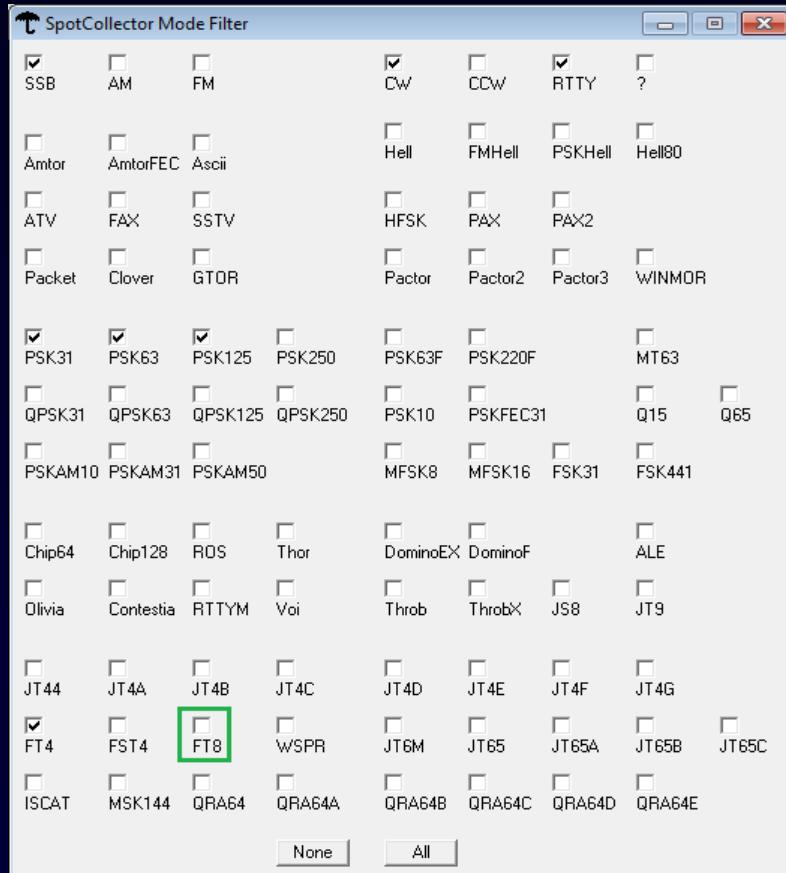
Band: ANY  Mode: MIXED   Unworked  Worked  Requested  Confirmed  Verified  Include deleted DXCC entities

**ZC4 (U K Bases on Cyprus) Progress Details**

	160M	80M	40M	30M	20M	17M	15M	12M	10M	6M	2M
PHONE				V		V	V	C			
CW	V	V	V	V	V	V	C	V	V		
DIGI		C				V		V			
FT8											

# Finding and Working Needed DX

What is QRV in other than FT8 that I Need?



SpotCollector 8.8.7 © 2021-05-08 20:54 Z [CC,DXK,PF,DXV,PV] 10 entries (log: AAGYQ.mdb)														
WV 05-08 1800Z			Outgoing spot			Spot source status: pre-filtered								
Q:	SR	75	History	Call	7.074.0 Freq	Cluster	Notes	X	Local	Report	Stats	Prop	Config	Help
2	A	3	0 K											

# ZC4GR on FT8 Looks Challenging

Pathfinder 5.2.7 {Script error notifications are hidden}: results from QRZ for ZC4GR

2020 X HC ZC4GR Buck QRZ Google K2DSL 425DXN IK3QAR Config  
RAC Club Log QRZ RU HamQTH DB0SDX JJ1WTL hamdb Help

 **QRZ.COM**

18 new alerts 21:46:25 UTC 8 May 2021

by Callsign Search Database News Forums Store Swapmeet Resources Contact AA6YQ

**ZC4GR**  Cyprus SBA

**Garry Russell**  
ESBA Cyprus  
U K BASES ON CYPRUS  
Cyprus SBA

**QSL:** QSL via EB7DX

**Email:** [zc4gr@outlook.com](mailto:zc4gr@outlook.com)

Ham Member Lookups: 43262 Label

Biography Detail Logbook 14941 Log a NEW contact with ZC4GR...

Hi and thanks for looking at my QRZ page, I am currently back on operating from ESBA Cyprus locator KM65WC. My main interest is operating voice SSB and Digi modes, I mainly operate FT8, other modes I operate are SSTV, PSK31, JS8 call and WSPR. my station includes an **FT450** which is my main HF radio, my other radio for VHF UHF is an FT847, which is a lovely radio for the higher bands. and as you can imagine with this hobby I have accumulated many other radios over the years. I have now improved my antenna and PC situation. I am now operating using a **Vine City Windom antenna** from Lamco [www.hamradio-shop.co.uk](http://www.hamradio-shop.co.uk) Bands I operate on **40, 20, 30, 17, 15, 10, 12**.



# ZC4GR on FT8 Looks Challenging

## Check for Recent Activity

SpotCollector 8.8.7 @ 2021-05-08 21:27 Z [CC,DXK,PF,DXV,PV] 43 entries (log: AA6YQ.mdb)

Outgoing spot Call TA2EE 7,074.0 Freq Cluster Notes Local Report Stats Prop Config Help

Spot source status: pre-filtered

Need	Call	Prefix	RegCode	First	Last	Mode	Band	Freq	QSO	CQ	Pri	EU	AF	SA	NA-E	NA-M	NA-W	AS	OC	ODX	S Min	S Max	S Last	SP	SP	P	LP	S	LP	P
D	ZC4GR	ZC4		04 16 1519	1538	FT8	15M	21,076.0	20	Y									3602				-32	13	-35	11				
D	ZC4GR	ZC4		04 16 1943	1943	FT8	30M	10,137.5	20	Y									3444				5	81	-148					
D	ZC4GR	ZC4		04 18 1628	1628	FT8	15M	21,075.0	20	Y									4067				10	84	-51	2				
D	ZC4GR	ZC4		04 18 1741	1825	FT8	10M	28,075.1	20	Y	Y								4246				-46	4	-148					
D	ZC4GR	ZC4		04 18 1914	1915	FT8	30M	10,136.0	20								Y	6931				12	91	-121						
D	ZC4GR	ZC4		04 18 2031	2031	FT8	30M	10,138.5	20								Y	6905				12	91	-121						
D	ZC4GR	ZC4		04 19 1420	1421	FT8	10M	28,076.3	20	Y								4462				-135		-71						
D	ZC4GR	ZC4		04 19 1622	1638	FT8	30M	10,136.7	20	Y								4266				-6	61	-161						
D	ZC4GR	ZC4		04 19 1826	1834	FT8	30M	10,136.0	20	Y							Y	3615				0	77	-159						
D	ZC4GR	ZC4		04 19 1936	2023	FT8	40M	7,074.0	20	Y								4694				-18	11	-252						
D	ZC4GR	ZC4		04 20 1424	1425	FT8	15M	21,074.0	20	Y								4985				-25	23	-38	16					
D	ZC4GR	ZC4		04 20 1806	1806	FT8	40M	7,076.3	20	Y								3766				-31		-270						
D	ZC4GR	ZC4		04 20 1803	1911	FT8	30M	10,136.0	20	Y							Y	3127				5	81	-148						
D	ZC4GR	ZC4		04 22 1409	1409	FT8	20M	14,074.0	20	Y								3444				23	94	-60						
D	ZC4GR	ZC4		04 22 1640	1646	FT8	20M	14,074.0	20	Y								3930				25	96	-64						
D	ZC4GR	ZC4		04 22 1821	1924	FT8	20M	14,074.0	20	Y								4087				28	97	-49	1					
D	ZC4GR	ZC4		04 23 1830	1830	FT8	15M	21,074.0	20	Y								3881				-26	21	-27	19					
D	ZC4GR	ZC4		04 23 1229	2136	FT8	20M	14,074.0	20	Y	Y							0	-24	-11	-13	26	96	-68						
D	ZC4GR	ZC4		04 23 2326	2331	FT8	20M	14,074.0	20	Y								4332				7	79	-41	6					
D	ZC4GR	ZC4		04 25 1239	1248	FT8	20M	14,074.0	20									6770				19	92	-47	3					
D	ZC4GR	ZC4		04 25 1446	1446	FT8	20M	14,076.0	20									5250				23	95	-59						
D	ZC4GR	ZC4		04 25 1533	1558	FT8	30M	10,136.0	20	Y								4728				-20	5	-147						
D	ZC4GR	ZC4		04 25 1741	1818	FT8	30M	10,136.0	20	Y							Y	4266				-7	60	-179						
D	ZC4GR	ZC4		04 25 2045	2184	FT8	40M	7,074.0	20	Y								4462				-1	77	-231						
D	ZC4GR	ZC4		04 26 1531	1536	FT8	30M	10,136.0	20	Y							Y	4694				-20	5	-147						
D	ZC4GR	ZC4		04 26 1649	1788	FT8	30M	10,136.0	20	Y							Y	3459				-6	61	-161						
D	ZC4GR	ZC4		04 27 0742	0742	FT8	40M	7,075.4	20	Y								3615				-8	55	-240						
D	ZC4GR	ZC4		04 27 1654	1654	FT8	40M	7,074.0	20	Y								3569				-70		-293						
D	ZC4GR	ZC4		04 27 1803	1809	FT8	40M	7,074.0	20	Y								4462				-31		-271						
D	ZC4GR	ZC4		04 27 2004	2004	FT8	40M	7,074.0	20	Y								4649				-1	76	-231						
D	ZC4GR	ZC4		04 30 2027	2342	FT8	20M	14,074.0	20	Y	Y	Y						86				29	97	-49	3					
D	ZC4GR	ZC4		05 03 1148	1225	FT8	15M	21,074.0	20	Y							Y	3104				-25	23	-121						
D	ZC4GR	ZC4		05 03 1352	1419	FT8	15M	21,075.7	20	Y							Y	1043				-41	6	-37	9					
D	ZC4GR	ZC4		05 03 1609	1643	FT8	15M	21,075.7	20	Y								3311				-61	1	-37	9					
D	ZC4GR	ZC4		05 03 1757	1838	FT8	15M	21,074.0	20	Y								3693				-59	1	-21	29					
D	ZC4GR	ZC4		05 04 1553	1553	FT8	20M	14,085.0	20									5250				26	96	-62						
D	ZC4GR	ZC4		05 04 1559	1559	FT8	20M	14,075.0	20									5250				26	96	-62						
D	ZC4GR	ZC4		05 06 2200	2281	FT8	30M	10,136.0	20									6839				13	88	-84						
D	ZC4GR	ZC4		05 06 2143	2227	FT8	40M	7,074.0	20	Y							Y	3700				5	86	-176						
D	ZC4GR	ZC4		05 07 0753	0753	FT8	15M	21,075.7	20	Y								4462				-143		-137						
D	ZC4GR	ZC4		05 07 0757	0757	FT8	12M	24,915.0	20									6803				-119		-167						
D	ZC4GR	ZC4		05 08 1917	1939	FT8	15M	21,074.0	20	Y								3206				-2	64	-31	15					

Sort: First Call Freq Band Mode Cont Origin

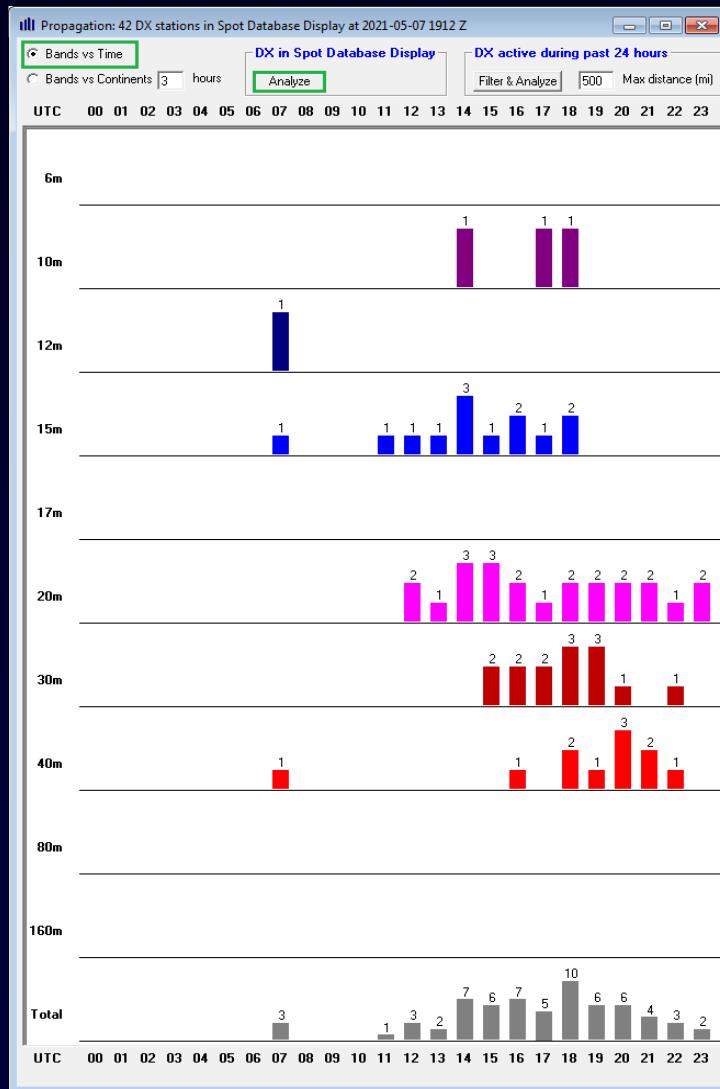
Filter: Band and Mode and Cont and Origin and [DXCC=ZC4]

Color codes:

- verified
- unverified
- unconfirmed
- unneeded
- unneeded counter
- special tag
- world B or M
- world counter
- eQSL AG
- LotW & eQSL AG

# Working ZC4GR on FT8

## Band vs. Time-of-Day Analysis of Recent Activity



### When QRV?

- 15m: 11Z to 18Z
- 20m: 12Z to 23Z
- 30m: 15Z to 20Z
- 40m: 16Z to 21Z

# Working ZC4GR on FT8

- No “Fox/Hound” frequencies
- Spotted from NA-E on 4/23 and 4/30
- Copied on 4/23

SpotCollector 8.8.7 @ 2021-05-08 21:27 Z [CC,DXK,PF,DXV,PV] 43 entries (log: AA6YQ.mdb)

Outgoing spot Call TA2EE 7,074.0 Freq Cluster Notes Local Report Stats Prop Config Help

Closest Spotter Spotted from Regions Actual SNR

Need	Call	Prefix	RegCode	First	Last	Mode	Band	Freq	QSO	CQ	Pri	EU	AF	SA	NA-E	NA-M	NA-W	AS	OC	ODX	S Min	S Max	S Last	SP S	SP P	LP S	LP P
	D ZC4GR	ZC4		04 16 1519	1538	FT8	15M	21,076.0	20	Y										3602				-32	13	-35	11
	D ZC4GR	ZC4		04 16 1943	1943	FT8	30M	10,137.5	20	Y										3444				5	81	-148	
	D ZC4GR	ZC4		04 18 1628	1628	FT8	15M	21,075.0	20	Y										4067				10	84	-51	2
	D ZC4GR	ZC4		04 18 1741	1825	FT8	10M	28,075.1	20	Y	Y									4246				-46	4	-148	
	D ZC4GR	ZC4		04 18 1914	1915	FT8	30M	10,136.0	20	Y								Y	6931				12	91	-121		
	D ZC4GR	ZC4		04 18 2031	2031	FT8	30M	10,138.5	20	Y								Y	6905				12	91	-121		
	D ZC4GR	ZC4		04 19 1420	1421	FT8	10M	28,076.3	20	Y									4462				-135		-71		
	D ZC4GR	ZC4		04 19 1622	1638	FT8	30M	10,136.7	20	Y									4266				-6	61	-161		
	D ZC4GR	ZC4		04 19 1826	1834	FT8	30M	10,136.0	20	Y								Y	3615				0	77	-159		
	D ZC4GR	ZC4		04 19 1936	2023	FT8	40M	7,074.0	20	Y									4694				-18	11	-252		
	D ZC4GR	ZC4		04 20 1424	1425	FT8	15M	21,074.0	20	Y									4985				-25	23	-38	16	
	D ZC4GR	ZC4		04 20 1806	1806	FT8	40M	7,076.3	20	Y									3766				-31		-270		
	D ZC4GR	ZC4		04 20 1803	1911	FT8	30M	10,136.0	20	Y								Y	3127				5	81	-148		
	D ZC4GR	ZC4		04 22 1409	1409	FT8	20M	14,074.0	20	Y									3444				23	94	-60		
	D ZC4GR	ZC4		04 22 1640	1646	FT8	20M	14,074.0	20	Y									3930				25	96	-64		
	D ZC4GR	ZC4		04 22 1821	1924	FT8	20M	14,074.0	20	Y									4087				28	97	-49	1	
	D ZC4GR	ZC4		04 23 1830	1830	FT8	15M	21,074.0	20	Y									3881				-26	21	-27	19	
	D ZC4GR	ZC4		04 23 1229	2136	FT8	20M	14,074.0	20	Y							Y	0	-24	-11	-13	26	96	-68			
	D ZC4GR	ZC4		04 23 2326	2331	FT8	20M	14,074.0	20	Y								4332				7	79	-41	6		
	D ZC4GR	ZC4		04 25 1239	1248	FT8	20M	14,074.0	20	Y									6770				19	92	-47	3	
	D ZC4GR	ZC4		04 25 1446	1446	FT8	20M	14,076.0	20	Y									5250				23	95	-59		
	D ZC4GR	ZC4		04 25 1533	1558	FT8	30M	10,136.0	20	Y									4728				-20	5	-147		
	D ZC4GR	ZC4		04 25 1741	1818	FT8	30M	10,136.0	20	Y								Y	4266				-7	60	-179		
	D ZC4GR	ZC4		04 25 2045	2184	FT8	40M	7,074.0	20	Y									4462				-1	77	-231		
	D ZC4GR	ZC4		04 26 1531	1536	FT8	30M	10,136.0	20	Y								Y	4694				-20	5	-147		
	D ZC4GR	ZC4		04 26 1649	1788	FT8	30M	10,136.0	20	Y								Y	3459				-6	61	-161		
	D ZC4GR	ZC4		04 27 0742	0742	FT8	40M	7,075.4	20	Y									3615				-8	55	-240		
	D ZC4GR	ZC4		04 27 1654	1654	FT8	40M	7,074.0	20	Y									3569				-70		-293		
	D ZC4GR	ZC4		04 27 1803	1809	FT8	40M	7,074.0	20	Y									4462				-31		-271		
	D ZC4GR	ZC4		04 27 2004	2004	FT8	40M	7,074.0	20	Y									4649				-1	76	-231		
	D ZC4GR	ZC4		04 30 2827	2342	FT8	20M	14,074.0	20	Y							Y	86				29	97	-49	3		
	D ZC4GR	ZC4		05 03 1148	1225	FT8	15M	21,074.0	20	Y								Y	3104				-25	23	-121		
	D ZC4GR	ZC4		05 03 1352	1419	FT8	15M	21,075.7	20	Y							Y	1043				-41	6	-37	9		
	D ZC4GR	ZC4		05 03 1609	1643	FT8	15M	21,075.7	20	Y									3311				-61	1	-37	9	
	D ZC4GR	ZC4		05 03 1757	1838	FT8	15M	21,074.0	20	Y									3693				-59	1	-21	29	
	D ZC4GR	ZC4		05 04 1553	1553	FT8	20M	14,085.0	20	Y									5250				26	96	-62		
	D ZC4GR	ZC4		05 04 1559	1559	FT8	20M	14,075.0	20	Y									5250				26	96	-62		
	D ZC4GR	ZC4		05 06 2200	2201	FT8	30M	10,136.0	20	Y									6839				13	88	-84		
	D ZC4GR	ZC4		05 06 2143	2227	FT8	40M	7,074.0	20	Y									3700				5	86	-176		
	D ZC4GR	ZC4		05 07 0753	0753	FT8	15M	21,075.7	20	Y									4462				-143		-137		
	D ZC4GR	ZC4		05 07 0757	0757	FT8	12M	24,915.0	20	Y									6803				-119		-167		
	D ZC4GR	ZC4		05 08 1917	1939	FT8	15M	21,074.0	20	Y									3206				-2	64	-31	15	

Sort: First Call Prefix RegCode First Last Mode Band Freq Tag Band Mode Cont Origin

Filter: Band and Mode and Cont and Origin and [DXCC-ZC4]

Color codes

- verified
- unverified B or M
- LotW
- unneeded
- unverified counter
- eQSL AG
- unconfirmed
- special tag
- LotW & eQSL AG

# 20m ZC4GR Spots on 4/23 @ 1229Z

Spots of ZC4GR near 14074.0 in FT8			
2021-04-23 12:29 de SS3EO	(EU)	on	14074.0 : SNR = -03
.	.	.	.
2021-04-23 16:37 de SV2CSR	(EU)	on	14074.0 : SNR = -10
2021-04-23 17:30 de AA6YQ	(NA-E)	on	14076.6 : CQ from KM65
2021-04-23 17:35 de AA6YQ	(NA-E)	on	14076.6 : calling EA3HYN with SNR = -05
2021-04-23 17:45 de UR5QRB	(EU)	on	14074.0 : SNR = -12
2021-04-23 17:48 de AA6YQ	(NA-E)	on	14076.6 : calling UR5QBB with RR73
2021-04-23 17:48 de AA6YQ	(NA-E)	on	14076.6 : calling M10ZZ with SNR = -15
2021-04-23 17:49 de M10JZZ	(EU)	on	14074.0 : SNR = -24
2021-04-23 17:49 de M10JZZ	(EU)	on	14074.0 : SNR = -20
2021-04-23 17:50 de AA6YQ	(NA-E)	on	14076.6 : calling LB2EG with SNR = -11
2021-04-23 17:51 de AA6YQ	(NA-E)	on	14076.6 : calling DL5RMM with RR73
2021-04-23 17:56 de M10JZZ	(EU)	on	14074.0 : SNR = -20
2021-04-23 17:59 de M10JZZ	(EU)	on	14074.0 : SNR = -14
2021-04-23 18:01 de M10JZZ	(EU)	on	14074.0 : SNR = -12
2021-04-23 18:04 de F6BHK	(EU)	on	14074.0 : SNR = -19
2021-04-23 18:09 de DC0KK	(EU)	on	14074.0 : SNR = -11
2021-04-23 18:09 de M10JZZ	(EU)	on	14074.0 : SNR = -12
2021-04-23 18:13 de KX4WQ	(NA-E)	on	14074.0 : SNR = -24
2021-04-23 18:16 de AA6YQ	(NA-E)	on	14076.6 : calling OZ1BWR with RR73
2021-04-23 18:23 de AA6YQ	(NA-E)	on	14076.6 : calling EA5IZJ with SNR = -06
2021-04-23 18:27 de AA6YQ	(NA-E)	on	14076.6 : calling LA6NNA with SNR = -10
2021-04-23 18:29 de G8KVM	(EU)	on	14074.0 : SNR = -12
2021-04-23 18:30 de AA6YQ	(NA-E)	on	14076.6 : calling SS6KFG with SNR = -14
2021-04-23 18:35 de AA6YQ	(NA-E)	on	14076.6 : calling DJ2VA with SNR = -01
2021-04-23 18:35 de AA6YQ	(NA-E)	on	14076.6 : calling L23CB with SNR = +11
2021-04-23 18:35 de LZ3CB	(EU)	on	14074.0 : SNR = +05
2021-04-23 18:36 de AA6YQ	(NA-E)	on	14076.6 : calling LZ3CB with RR73
2021-04-23 18:36 de DL3UB	(EU)	on	14074.0 : SNR = -11
2021-04-23 18:42 de G8KVM	(EU)	on	14074.0 : SNR = -15
2021-04-23 18:46 de 9A8DX	(EU)	on	14074.0 : SNR = -02
2021-04-23 19:03 de AA6YQ	(NA-E)	on	14076.6 : CQ from KM65
2021-04-23 19:04 de UR7UV	(EU)	on	14074.0 : SNR = -11
2021-04-23 19:07 de AA6YQ	(NA-E)	on	14076.6 : calling SS7ESG with SNR = +07
2021-04-23 19:09 de AA6YQ	(NA-E)	on	14076.6 : calling IU5KZL with RR73
2021-04-23 19:10 de AA6YQ	(NA-E)	on	14076.6 : calling LA3PU with SNR = +01
2021-04-23 19:10 de LA3PU	(EU)	on	14074.0 : SNR = -13
2021-04-23 19:11 de AA6YQ	(NA-E)	on	14076.6 : calling LA3PU with RR73
2021-04-23 19:16 de HA2ETP	(EU)	on	14,074.0 : thanks annnd 73 gl!
2021-04-23 19:21 de RZ3PP	(EU)	on	14074.0 : SNR = -10
2021-04-23 19:23 de RG4D	(EU)	on	14074.0 : SNR = -15
2021-04-23 19:24 de G3UHU	(EU)	on	14074.0 : SNR = -23
2021-04-23 19:31 de EA3AEY	(EU)	on	14074.0 : SNR = -17
2021-04-23 19:33 de AA6YQ	(NA-E)	on	14076.6 : calling EA3AEY with SNR = -07
2021-04-23 19:36 de SQ6ELV	(EU)	on	14074.0 : SNR = -07
2021-04-23 19:40 de IW8ELR	(EU)	on	14074.0 : SNR = -17
2021-04-23 19:44 de SX200PMQ	(EU)	on	14074.0 : SNR = -17
2021-04-23 19:49 de SV1PMQ	(EU)	on	14074.0 : SNR = -14
2021-04-23 19:52 de SV1DZB	(EU)	on	14074.0 : SNR = -12
2021-04-23 20:12 de I2QOX	(EU)	on	14074.0 : SNR = -24
2021-04-23 20:26 de WB2SNN	(NA-E)	on	14074.0 : SNR = -22
2021-04-23 20:27 de AA6YQ	(NA-E)	on	14076.6 : calling WB2SNN with RR73
2021-04-23 20:31 de WB2SNN	(NA-E)	on	14074.0 : SNR = -22
2021-04-23 20:31 de C02WP	(NA-E)	on	14074.0 : SNR = -24
2021-04-23 20:45 de DL1IAF	(EU)	on	14074.0 : SNR = -12
2021-04-23 20:49 de DG5YCG	(EU)	on	14074.0 : SNR = -15
2021-04-23 20:56 de DF3WI	(EU)	on	14074.0 : SNR = -12
2021-04-23 20:57 de AA6YQ	(NA-E)	on	14076.6 : calling DF3WI with RR73
2021-04-23 21:01 de AA6YQ	(NA-E)	on	14076.6 : CQ from KM65
2021-04-23 21:02 de I2ZKIE	(EU)	on	14074.0 : SNR = -19
2021-04-23 21:04 de AA6YQ	(NA-E)	on	14076.6 : calling VA3QB with SNR = -15
2021-04-23 21:08 de PA1H	(EU)	on	14074.0 : SNR = -14
2021-04-23 21:10 de EA3RT	(EU)	on	14074.0 : SNR = -18
2021-04-23 21:15 de G4FFY	(EU)	on	14074.0 : SNR = -19
2021-04-23 21:28 de AA6YQ	(NA-E)	on	14076.6 : calling TA2L with SNR = +00
2021-04-23 21:29 de TA2L	(AS)	on	14074.0 : SNR = -19
2021-04-23 21:29 de AA6YQ	(NA-E)	on	14076.6 : calling TA2L with RR73
2021-04-23 21:36 de G7VNC	(EU)	on	14074.0 : SNR = -17

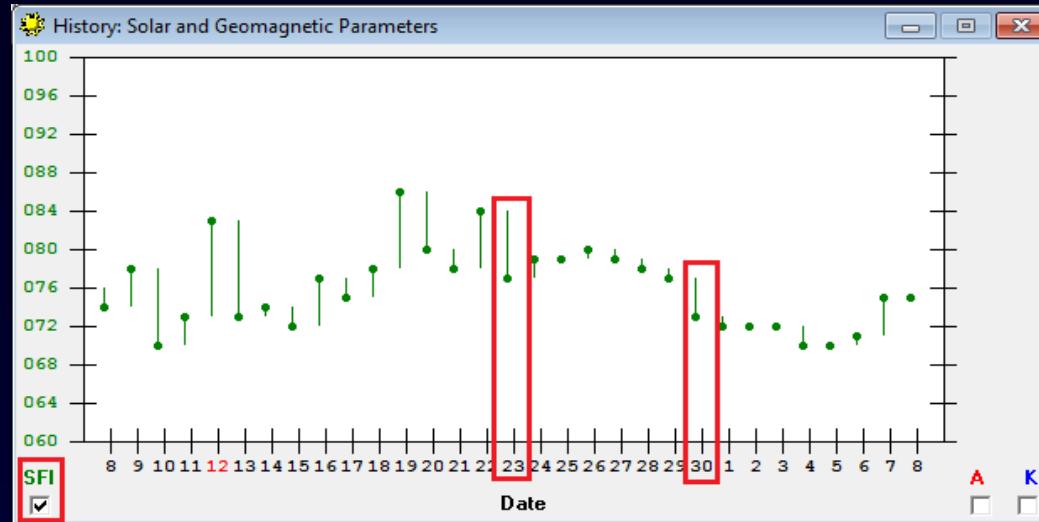
- QRV from 1229Z to 2136Z
- WSJT-X copied from 1730Z to 2129Z

# 20m ZC4GR Spots on 4/30 @ 2027Z

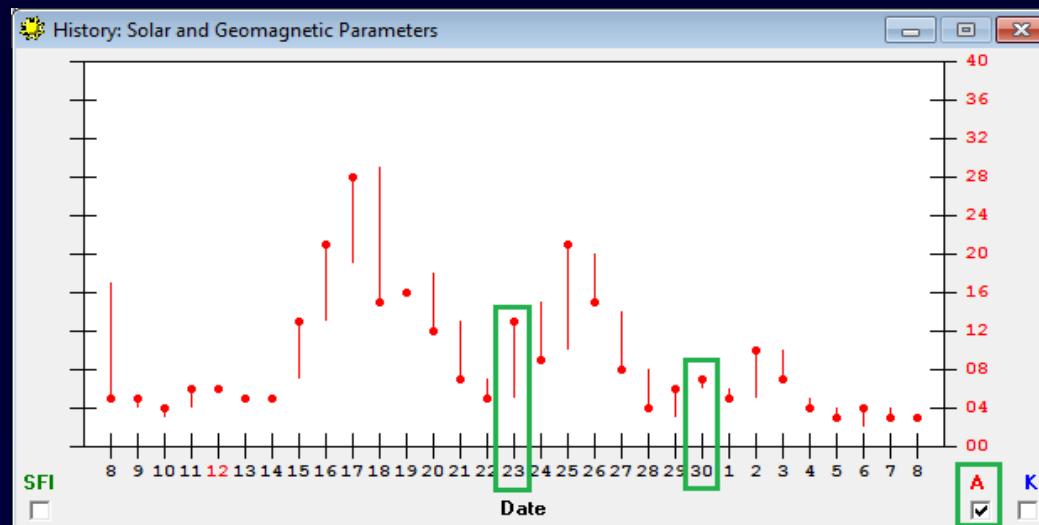
Spots of ZC4GR near 14074.0 in FT8					
2021-04-30 20:27	de DL4ZBY	(EU)	on	14074.0	: SNR = -16
2021-04-30 20:43	de PY4WL	(SA)	on	14074.0	: SNR = -20
2021-04-30 21:27	de DD5ZZ	(EU)	on	14074.0	: SNR = -10
2021-04-30 21:40	de ON4CJU	(EU)	on	14,074.0	: FT8 - TNX QSO...
2021-04-30 22:27	de SV9CVY	(EU)	on	14074.0	: SNR = -18
2021-04-30 22:39	de K1JX	(NA-E)	on	14074.0	: SNR = -21
2021-04-30 22:44	de K1JX	(NA-E)	on	14074.0	: SNR = -21
2021-04-30 22:48	de EA5HRW	(EU)	on	14074.0	: SNR = -17
2021-04-30 23:10	de W4IL	(NA-E)	on	14074.0	: SNR = -15
2021-04-30 23:14	de W4IL	(NA-E)	on	14074.0	: SNR = -10
2021-04-30 23:32	de W4IL	(NA-E)	on	14074.0	: SNR = -18
2021-04-30 23:40	de W4IL	(NA-E)	on	14074.0	: SNR = -13

# Propagation Conditions

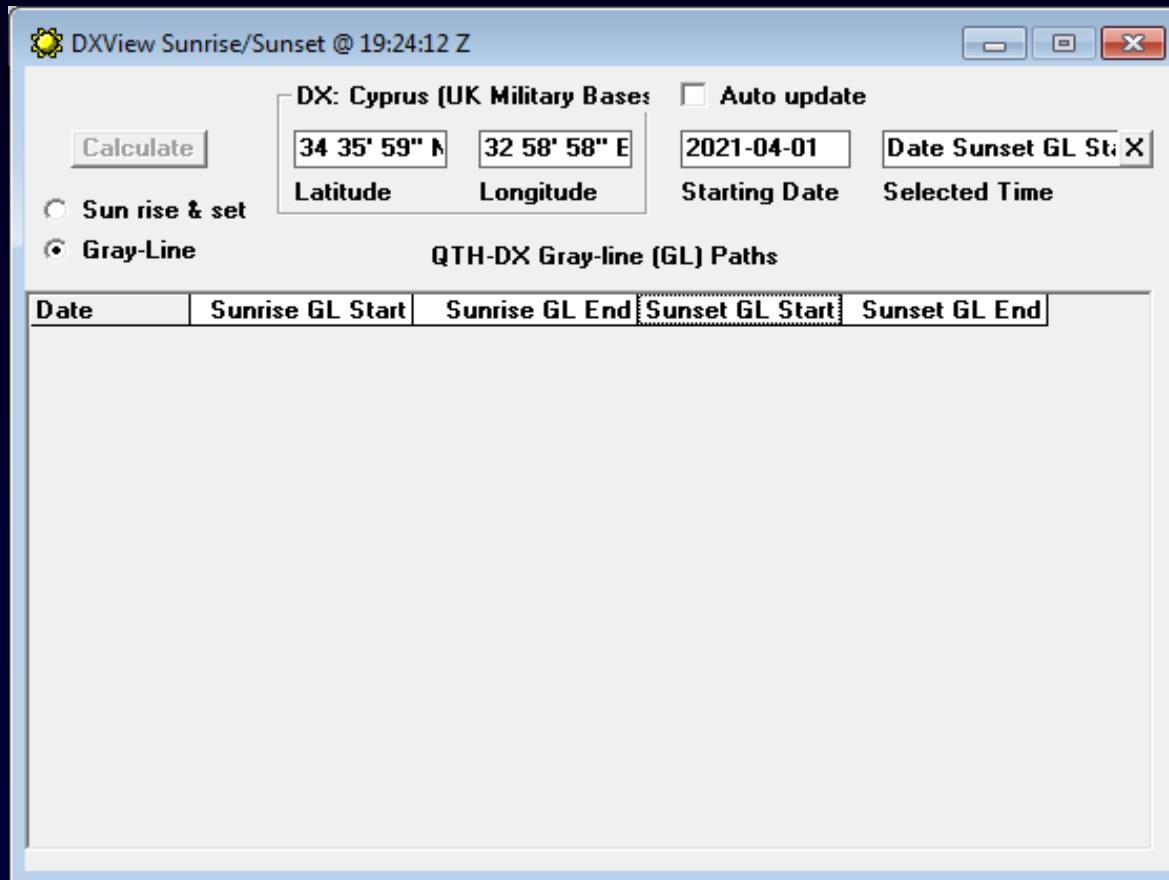
Solar Flux Index



Geomagnetic A Index



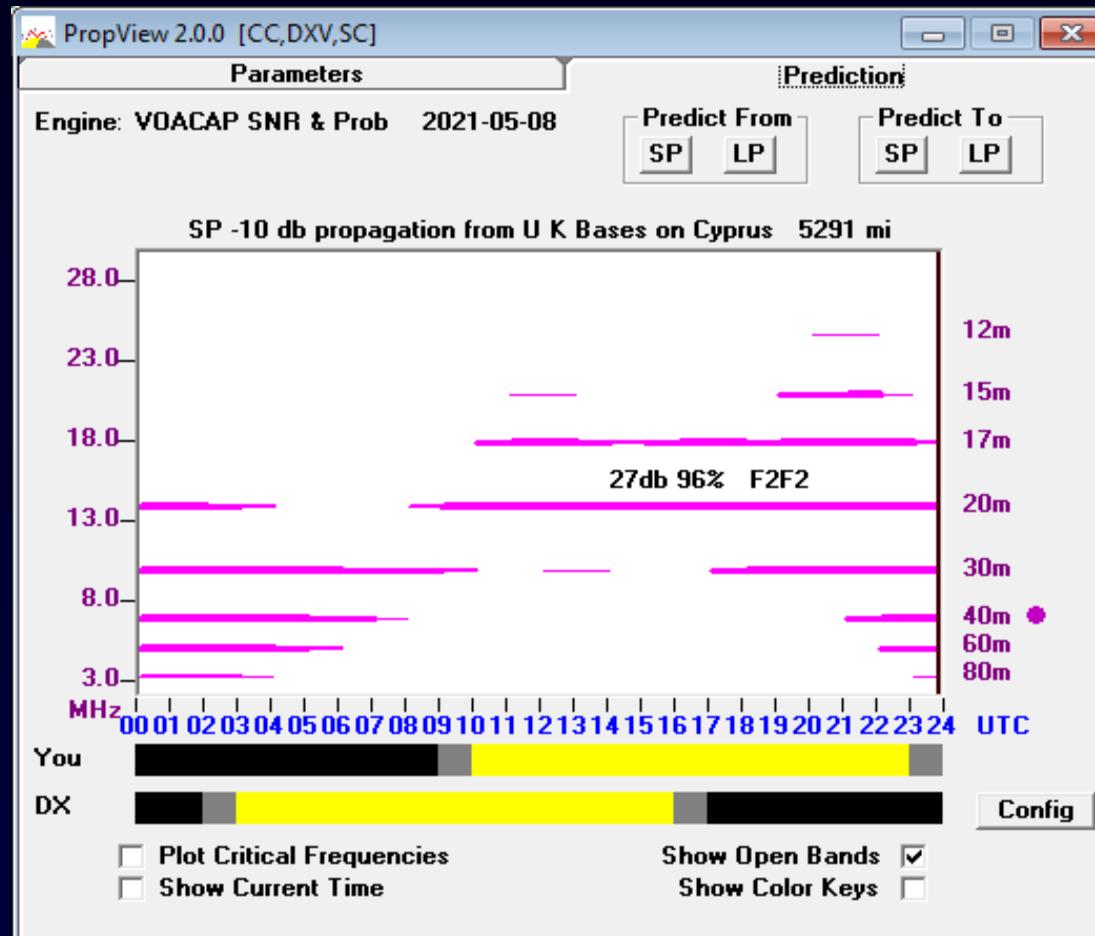
# Check for Gray-Line Enhancement



None!

# 20m Propagation Forecast to ZC4

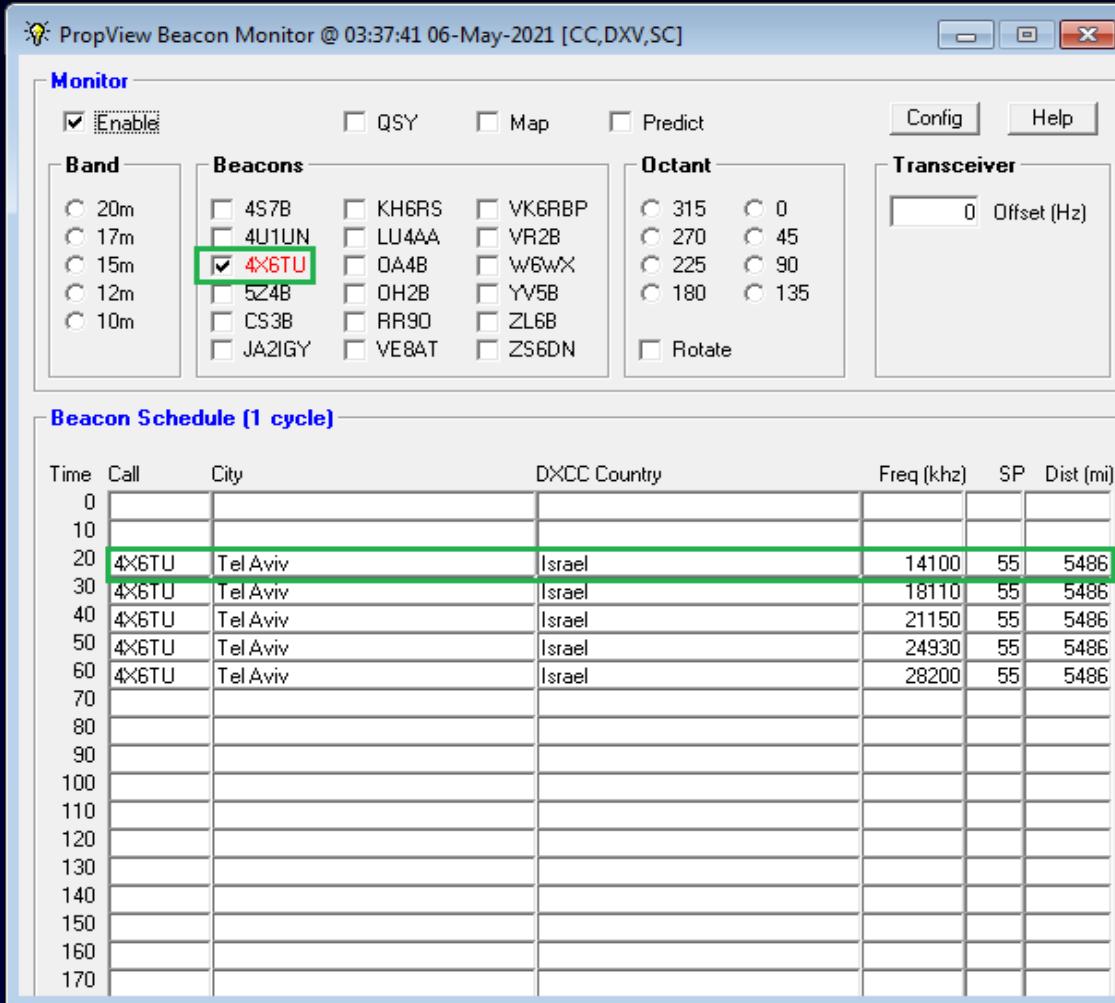
Solar Flux Index = 75, DX running 100 watts



17m, 20m, 30m, and 40m look feasible

# Check “Actual” Propagation

NCDXF 4X6TU Beacon is ~230 miles from ZC4



The screenshot shows the PropView Beacon Monitor application window. The title bar reads "PropView Beacon Monitor @ 03:37:41 06-May-2021 [CC,DXV,SC]". The "Monitor" tab is selected. In the "Beacons" section, the "4X6TU" checkbox is checked and highlighted with a green border. The "Beacon Schedule (1 cycle)" table lists beacon transmissions for 4X6TU from Tel Aviv, Israel, at various frequencies and times. The table has columns for Time, Call, City, DXCC, Country, Freq (kHz), SP, and Dist (mi). The first five rows are highlighted with a green border.

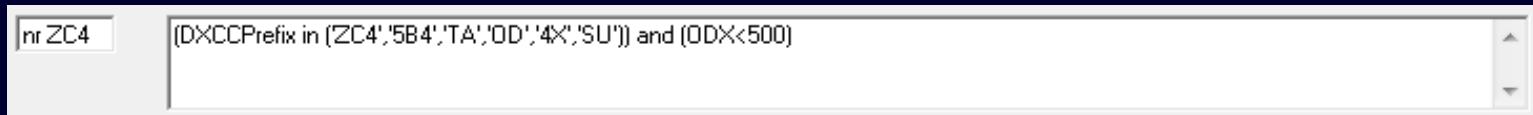
Time	Call	City	DXCC	Country	Freq (kHz)	SP	Dist (mi)
0							
10							
20	4X6TU	Tel Aviv		Israel	14100	55	5486
30	4X6TU	Tel Aviv		Israel	18110	55	5486
40	4X6TU	Tel Aviv		Israel	21150	55	5486
50	4X6TU	Tel Aviv		Israel	24930	55	5486
60	4X6TU	Tel Aviv		Israel	28200	55	5486
70							
80							
90							
100							
110							
120							
130							
140							
150							
160							
170							

# Check “Actual” Propagation

Who Near Me has been Spotting Stations Near ZC4?

Define a “near ZC4” filter to show stations

- In ZC4, 5B4, TA, OD, 4X, SU
- spotted by stations less than 500 miles from my QTH



# Propagation from “Near Me” to “Near ZC4”

Stations in ZC4, 5B4, TA, OD, 4X, SU  
spotted by stations within 500 miles of my QTH

SpotCollector 8.8.7 @ 2021-05-08 18:57 Z [CC,DXK,PF,DXV,PV] 38 Entries (log: AA6YQ.mdb)

Outgoing spot: Call [TA2EE] 7,074.0 Freq [Cluster] Spot source status: pre-filtered

Closest Spotter

Spotted from Regions      Actual SNR

Need	Call	Prefix	RegCode	First	Last	Mode	Band	Freq	QSO	CQ	Pri	EU	AF	SA	NA-E	NA-M	NA-W	AS	OC	ODX	S Min	S Max	S Last	SP S	SP P	LP S	LP P
	D ZC4GR	ZC4		04 23 1229	2136	FT8	20M	14,074.0	20		Y			Y				Y	0	-24	-11	-13	26	96	-68		
	D ZC4GR	ZC4		04 30 2027	2342	FT8	20M	14,074.0	20		Y		Y	Y					86				29	97	-49	3	
	D YM8DAG	TA		05 04 2226	2226	FT4	6M	50,318.0	20					Y					188								
	TA6B	TA		05 04 2230	2230	FT8	20M	14,075.3	20				Y					319					24	95	-30	15	
	4X5VA	4X		05 04 2238	2238	FT8	20M	14,076.4	20				Y					319					29	97	-30	16	
	TC568FA	TA		05 04 1329	2241	SSB	20M	14,257.0	20		Y		Y	Y				Y	40				27	63	-53		
	TA7I	TA		05 04 2125	2255	CW	20M	14,004.0	20		Y		Y	Y	Y				35				23	74	-37	1	
	TA2LG	TA		05 04 2115	2317	SSB	20M	14,232.0	20		Y		Y	Y					149				13	34	-27	1	
	SU1AS	SU		05 04 2339	2341	FT8	40M	7,074.0	34				Y					299					13	96	-172		
	4Z4KX	4X		05 05 0241	0242	CW	80M	3,504.0	20				Y					355					-12		-312		
	TA0S	TA		05 05 1823	2018	SSB	20M	14,286.0	20		Y	Y	Y	Y					66				28	65	-53		
	TA3DJ	TA		05 05 2015	2019	CW	30M	10,116.0	20				Y					355					8	36	-134		
	TA2ANK	TA		05 05 2039	2039	FT8	20M	14,074.2	20				Y					0	-20	-20	-20	27	96	-45	4		
	OD5ZZ	OD		05 05 1935	2041	FT8	20M	14,074.0	20		Y		Y	Y	Y			193					28	97	-41	6	
	4X6HU	4X		05 05 2005	2047	SSB	20M	14,307.0	20		Y		Y					64					31	70	-35		
	TA7OYG	TA		05 05 2222	2222	FT8	20M	14,074.0	20				Y					46					24	95	-31	14	
	TA2LG	TA		05 05 2212	2323	SSB	20M	14,242.0	20				Y		Y			193					23	57	-30	1	
	4Z5ML	4X		05 06 0214	0237	CW	40M	7,024.0	20				Y					58					10	48	-52		
	TA2ABX	TA		05 06 1459	1503	SSB	20M	14,217.0	20		Y		Y					186					26	61	-61		
	4Z5KU	4X		05 06 1906	1906	FT8	17M	18,102.4	20				Y					319					18	91	-33	13	
	TA7OYG	TA		05 06 2020	2021	FT8	40M	7,076.5	20				Y					474					-16	18	-229		
	TA1PB	TA	TA1	05 06 2103	2103	CW	30M	10,103.0	20				Y					355					13	58	-122		
	4X6HU	4X		05 06 2003	2057	SSB	20M	14,282.0	20		Y		Y					423					31	70	-35		
	TA3DJ	TA		05 06 2057	2105	CW	30M	10,117.0	20		Y		Y					355					8	36	-134		
	TA0S	TA		05 06 2128	2128	FT8	20M	14,076.6	20				Y					483					30	97	-35	10	
	TA6B	TA		05 06 2136	2136	FT8	20M	14,074.0	20				Y					400					25	95	-36	9	
	TA2NEH	TA		05 06 2125	2150	FT8	40M	7,074.0	20		Y		Y					0	-19	-19	-19	-1	74	-196			
	4X5KS	4X		05 06 2146	2155	FT8	40M	7,075.1	20		Y		Y					0	-15	-15	-15	-5	65	-197			
	TA7OYG	TA		05 06 2151	2158	FT8	40M	7,076.1	20		Y		Y					0	-16	-11	-15	-3	70	-193			
	TC568FA	TA		05 06 1736	2200	SSB	20M	14,257.0	20		Y		Y					185					27	62	-73		
	TA7I	TA		05 06 2106	2228	SSB	20M	14,348.0	20		Y		Y	Y	Y			267					25	60	-34		
	TA2LG	TA		05 06 2137	2220	SSB	20M	14,264.0	20		Y		Y	Y				267					25	60	-42		
	TA1PB	TA	TA1	05 06 2234	2235	CW	40M	7,003.0	20				Y					355					9	44	-175		
	4Z1KN	4X		05 07 0025	0026	FT8	40M	7,074.0	20				Y					143					10	92	-128		
	TA2SE	TA		05 07 0011	0012	CW	40M	7,030.0	20				Y					355					16	63	-127		
	TA2HC	TA		05 06 2343	0134	FT8	40M	7,074.0	20		Y		Y					0	-19	-11	-13	10	88	-160			
	TA2LG	TA		05 07 0152	0154	SSB	40M	7,128.0	20				Y					15					7	4	-170		
	4Z5ML	4X		05 07 0405	0407	FT8	40M	7,076.9	20				Y					0	-16	-12	-12	4	86	-179			

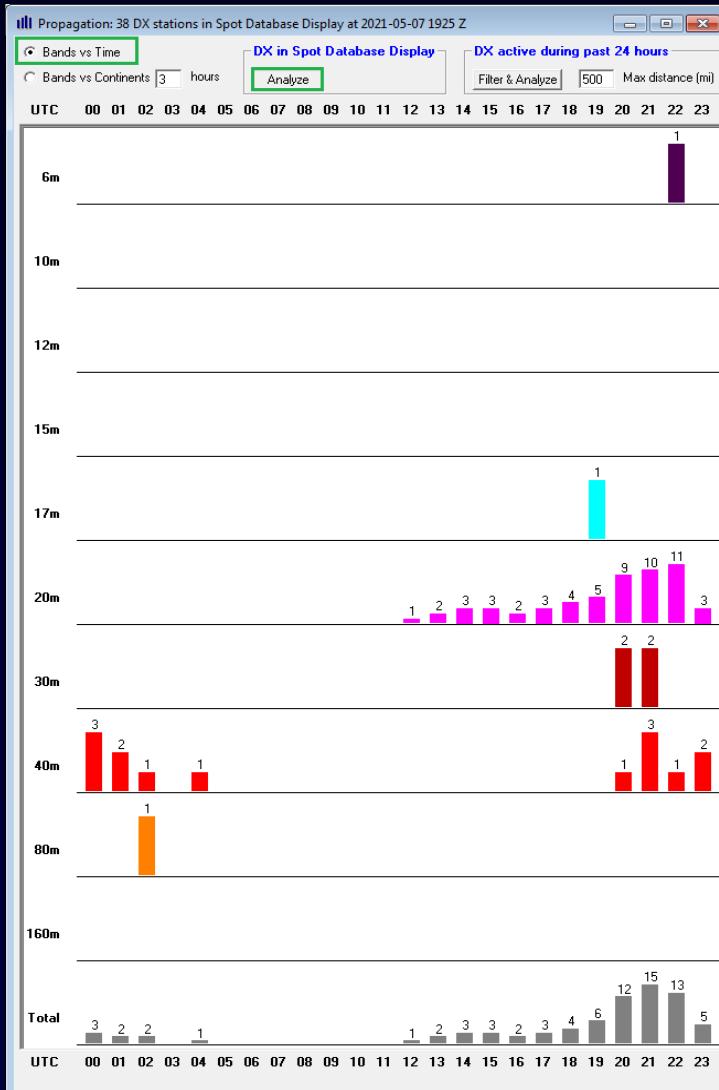
Sort: First Call 4x6b AutoHide Need Call DXCC Freq Tag Band Mode Cont Origin

Filter: SQL [In ZC4]

Color codes:

- verified
- unverified B or M
- LotW
- unverified counter
- eQSL AG
- special tag
- unconfirmed
- LotW & eQSL AG

# Propagation from “Near Me” to “Near ZC4”

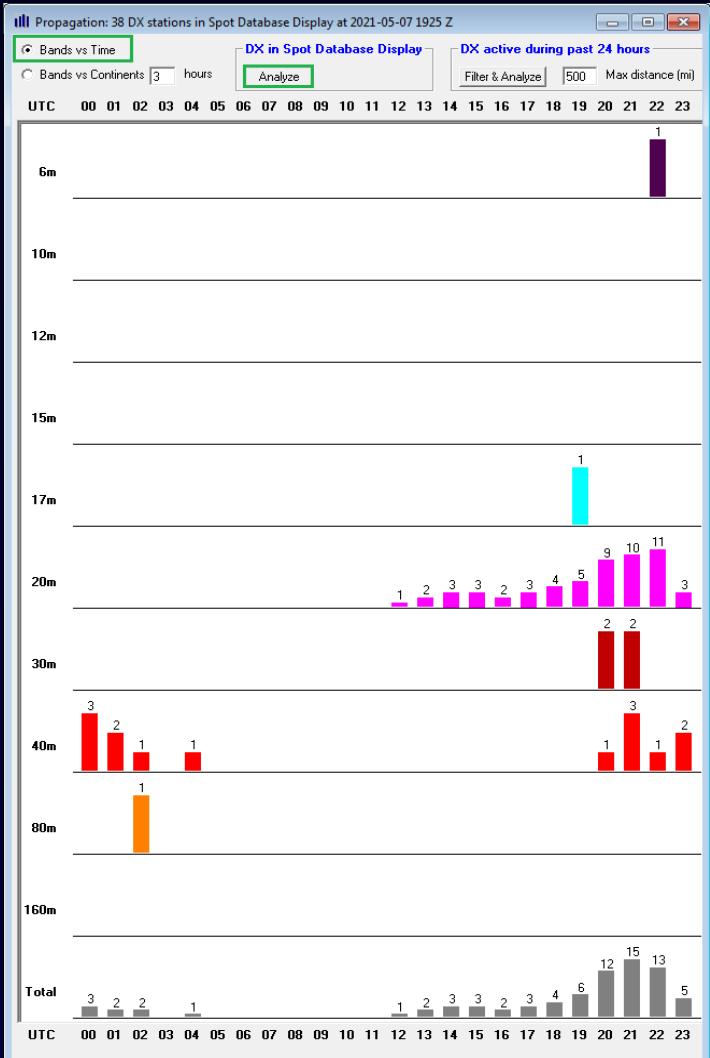
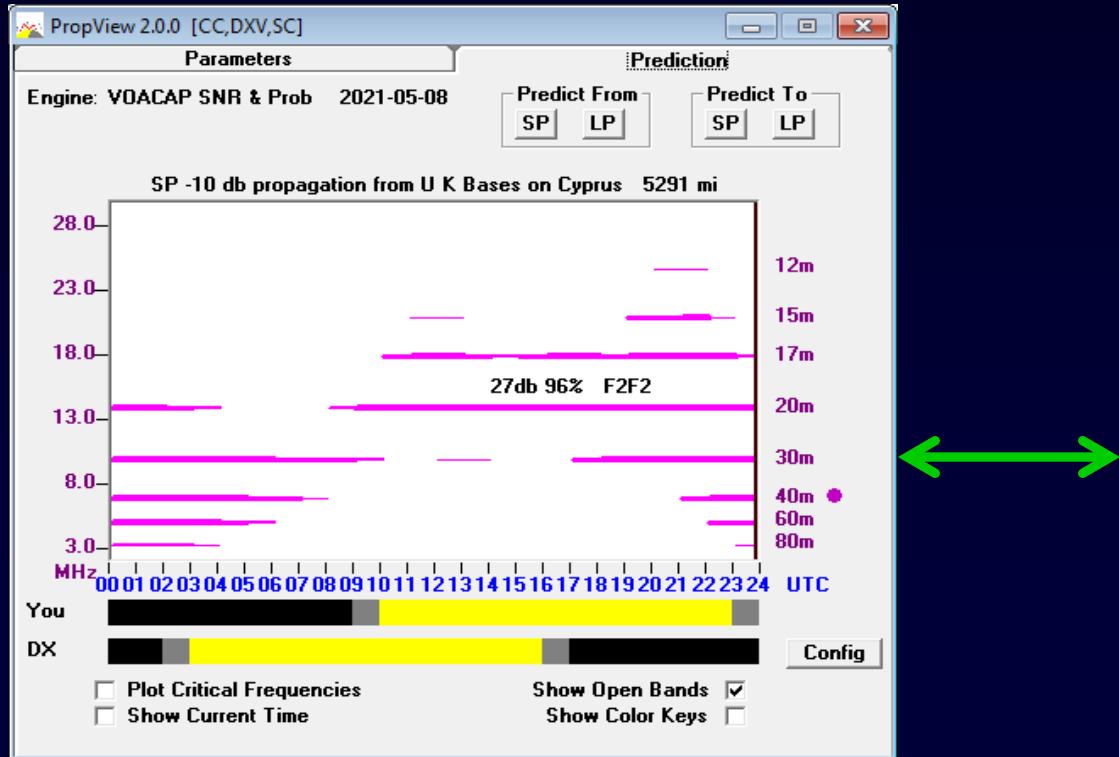


## Propagation Openings?

- 20m: 12Z to 23Z
- 30m: 20Z to 21Z
- 40m: 20Z to 23Z

# Compare Actual & Forecast Propagation

Solar Flux Index = 80, DX running 100 watts



# ZC4GR: The Plan

1. Monitor the 20m FT8 sub-band from 12Z to 23Z, especially
  - when the Solar Flux Index is 75 or above
  - when the NCDXF 4X Beacon can be copied

When QRV?

- 15m: 11Z to 18Z
- 20m: 12Z to 23Z
- 30m: 15Z to 20Z
- 40m: 16Z to 21Z

Propagation Openings?

- 20m: 12Z to 23Z
- 30m: 20Z to 21Z
- 40m: 20Z to 23Z

2. Employ a European DX Cluster as a Spot Source

3. Rapidly QSY if ZC4GR is spotted on another band

- Enable audio announcements
- Exploit Frequency-dependent Amplifier and Tuner settings

# ZC4GR: The Plan

1. Monitor the 20m FT8 sub-band from 12Z to 23Z, especially
  - when the Solar Flux Index is 75 or above
  - when the NCDXF 4X Beacon can be copied

When QRV?

- 15m: 11Z to 18Z
- 20m: 12Z to 23Z
- 30m: 15Z to 20Z
- 40m: 16Z to 21Z

Propagation Openings?

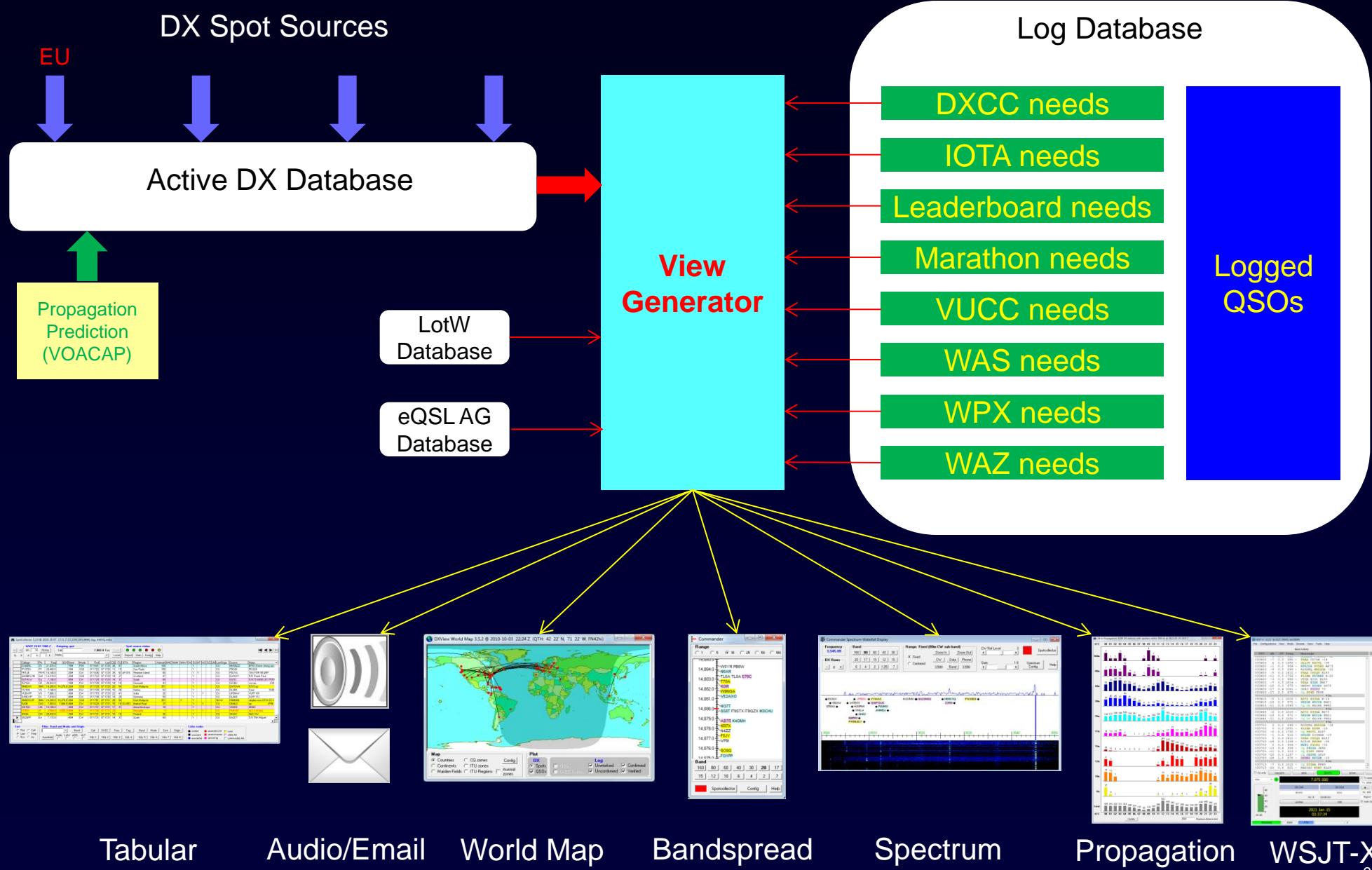
- 20m: 12Z to 23Z
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# Multiple Views of Active DX



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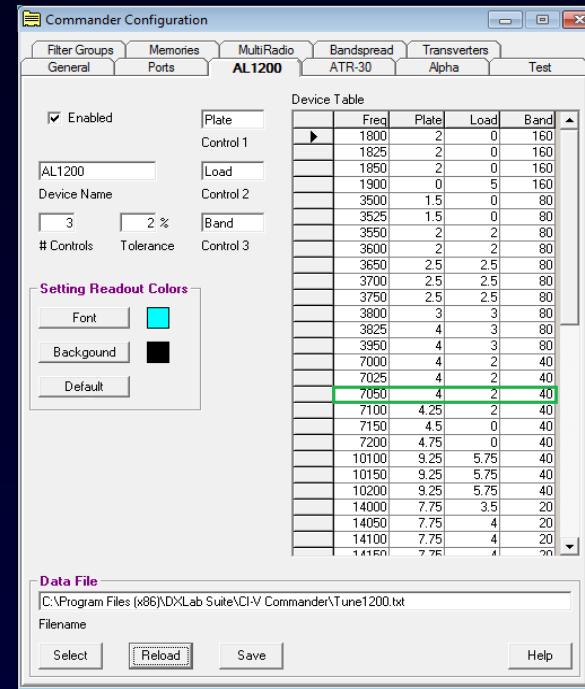
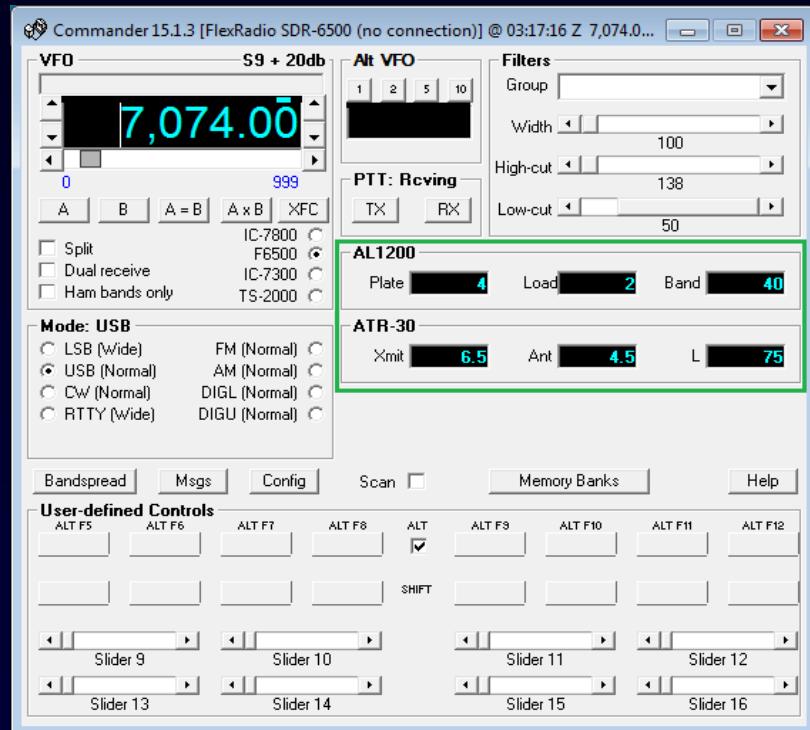
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# Rapidly Setup Amplifier After QSY



# ZC4GR: The Plan

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When QRV?

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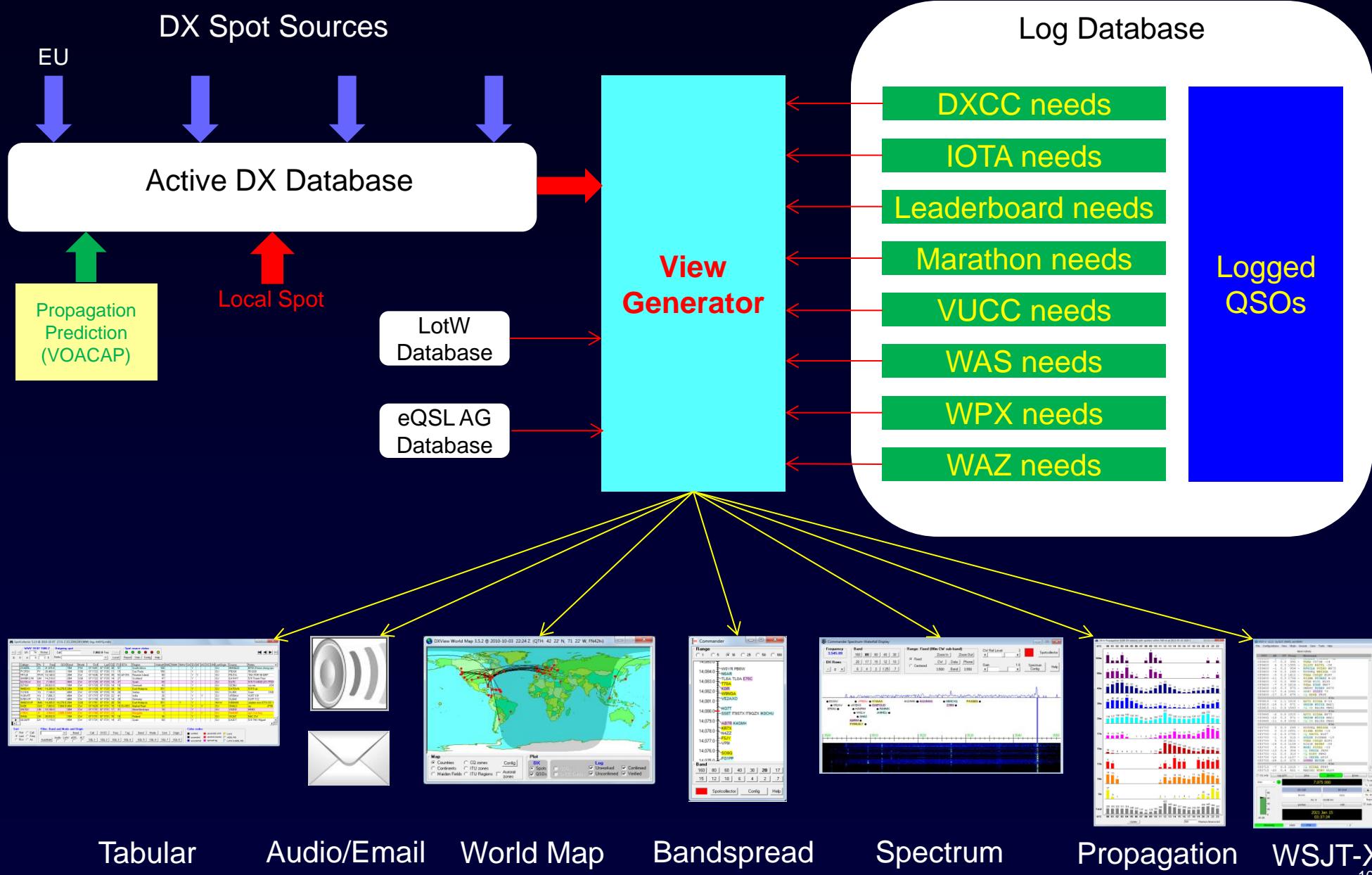
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# Working ZC4GR in CW, RTTY, or SSB

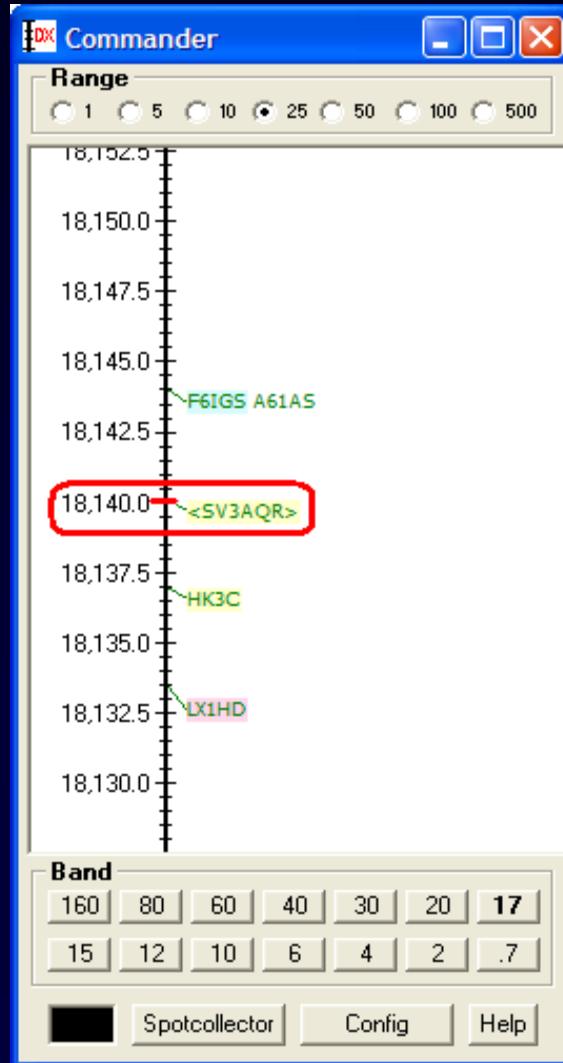
1. “Blueprint” the band with local spots
2. If ZC4GR is spotted, double-click to QSY and set split
3. Use dual receivers and a panadaptor to rapidly locate ZC4GR’s listening frequency

# Multiple Views of Active DX



# Blueprinting the Band

“Locally Spot” Every Station You Identify



# Working ZC4GR in CW, RTTY, or SSB

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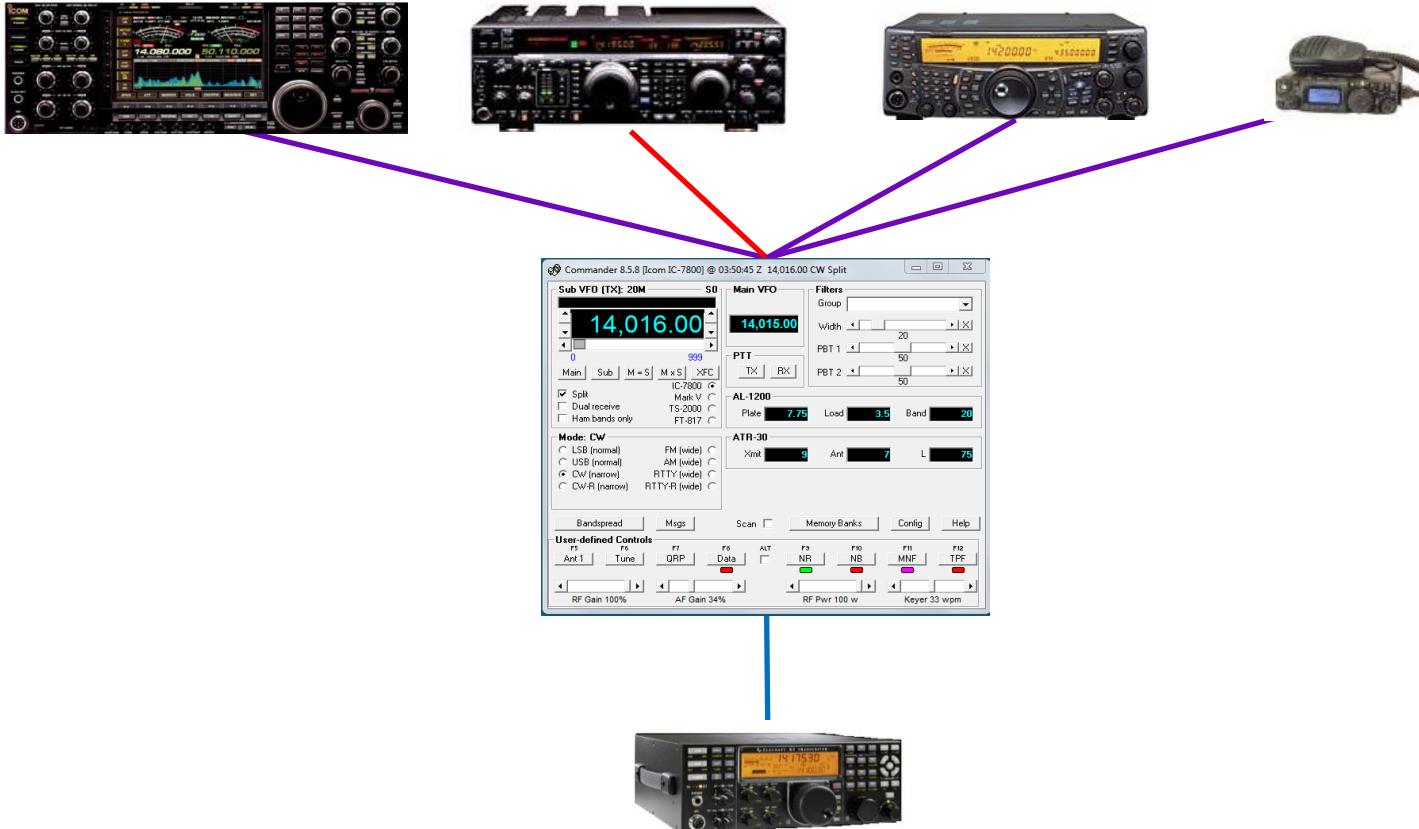
# Commander: Multiple Radio Support



Select one of four *primary* radios

- By button click
- Automatically as a function of frequency

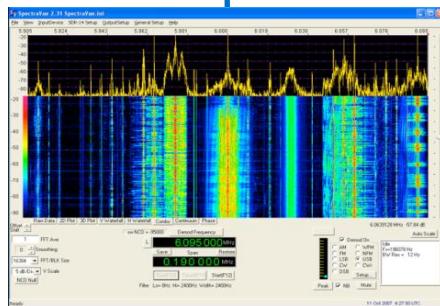
# Commander: Multiple Radio Support



The Secondary radio can

- Follow the active primary radio Main or Sub VFO
- Lead the active primary radio

# Commander: Multiple Radio Support



## The Secondary radio can

- Follow the active primary radio
- Lead the active primary radio

# DXing With DXLab

- Introduction to the DXLab Suite
  - Architecture
  - Development Drivers
  - Multiple Views of Active DX
- Finding the DX You Need
- Working the DX You Need

# DXLab Documentation

- Reference documentation
  - HTML: Online and local
  - PDF: Online
  - Updated with each version
- Task-oriented documentation
  - Step-by-step instructions for common actions
  - HTML: Online

DX LAB DXLab

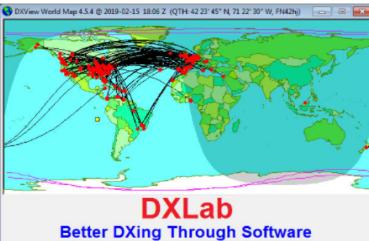
dxlabsuite.com

Commander DXView DXKeeper Launcher Pathfinder PropView SpotCollector WinWarbler

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## DXLab Overview

Getting Started with DXLab



DXView World Map 4.5.4 @ 2019-02-15 18:00 Z (QTH: 42° 45' N, 71° 22' 30" W, FH42hg)

DXLab  
Better DXing Through Software

Overview Xcvr\_Control DX\_Info Logging Digimodes QSL\_Info DX\_Spots Propagation Management Documentation Getting Started

DXLab is a **freeware** suite of eight interoperating applications that can be installed independently in any order. When multiple applications are running, they sense each other's presence and automatically interoperate to support your [Amateur Radio DXing](#) activities:

- [Transceiver control with bandspread](#) - controls up to 4 Alinco, DZKit, Elecraft, FlexRadio, Hilberling, Icom, JRC, Kachina, Kenwood, TenTec, Yaesu transceivers, with frequency and mode tracking by an independent transceiver, receiver, SDR-based panadaptor, or skimmer
- [Rotator control](#) - AlfaSpid, ARSWIN, Heath, Hygain, M2, N1MM Rotor, Prosistel, SARtek, TIC, Trackbox, Yaesu
- [Solar terminator display and prediction](#) - shows grey line at any specified date and time
- [Prefix, Region, IOTA, and Gridsquare lookup and display](#)
- [Language translation](#) - displays translations of amateur radio words and phrases for languages used in a station's location
- World map display - beam heading, terminator, DX spots, VHF openings, auroral oval
- [Callbook lookup](#) - Buckmaster, RAC, or QRZ CDROMs, Hamcall Online, or QRZ.com (both free and with data access subscription)
- [Logging](#) - supports both real-time logging, and recording completed QSOs from paper logs
- [QSL card and label generation](#)
- [Logbook of the World and eQSL.cc support](#) - automated bidirectional synchronization
- [Award tracking and submission](#) - AJA, Canadaward, Challenge, DDFM, DOK, DXCC, Holyland, IOTA, JCC, JCG, Maidenhead Fields & Squares, Marathon, RDA, SRR, TopList, VUCC, USA-CA, WAB, WAC, WAE, WAJA, WAIP, WAHUC, WAS, WAZ, WPX, WAJA, WITU
- [QSL route discovery](#) - provides access to more than 80 online sources
- [PSK31, PSK63, PSK125](#) - monitors an entire band and displays heard callsigns
- [RTTY](#) - via the included MMTTY and 2Tone engines, with optional dual receive using a TNC
- [CW](#) (generation only) and [Phone](#) voice keyer
- [DX and WWV spot collection](#) - up to 6 clusters including DX Summit and the [Reverse Beacon Network](#), filtering, direct QSY with QSX
- [Propagation prediction](#) - provides a graphical view of openings by frequency and time using your choice of the included VOACAP, ICEPAC, and IONCAP forecasting engines
- [Propagation monitoring](#) - auto-QSY to monitor the IARU HF beacon network
- supports [add-in applications](#)
- interoperates with MultiPSK, MMSSTV, MMVARI, DM780, Fldigi, HRD, MixW(\$), DX Atlas(\$)

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DXLab

dxlabsuite.com

Commander DXView DXKeeper Launcher Pathfinder PropView SpotCollector WinWarbler

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Web hosting donated by Jamie Punderson W2QO and Networks & More! Inc. (<http://www.k12usa.com> & <http://www.isboss.com>)

# Better DXing Through Software

**DXKeeper 8.9.4 [CC,DXV,SC,WW] - AA6YQ.mdb : 18487 QSOs**

**SpotCollector 5.3.9 @ 2010-10-04 19:59 Z [CC,DXK,DXV,WW] (log: AA6YQ.mdb)**

**DXView World Map 3.5.2 @ 2010-10-04 19:57 Z (QTH: 42° 22' N, 71° 22' W, FN42hi)**

**WinWarbler 6.8.5 for AA6YQ @ 2010-10-04 19:59 Z [CC,DXK,DXV,SC]**

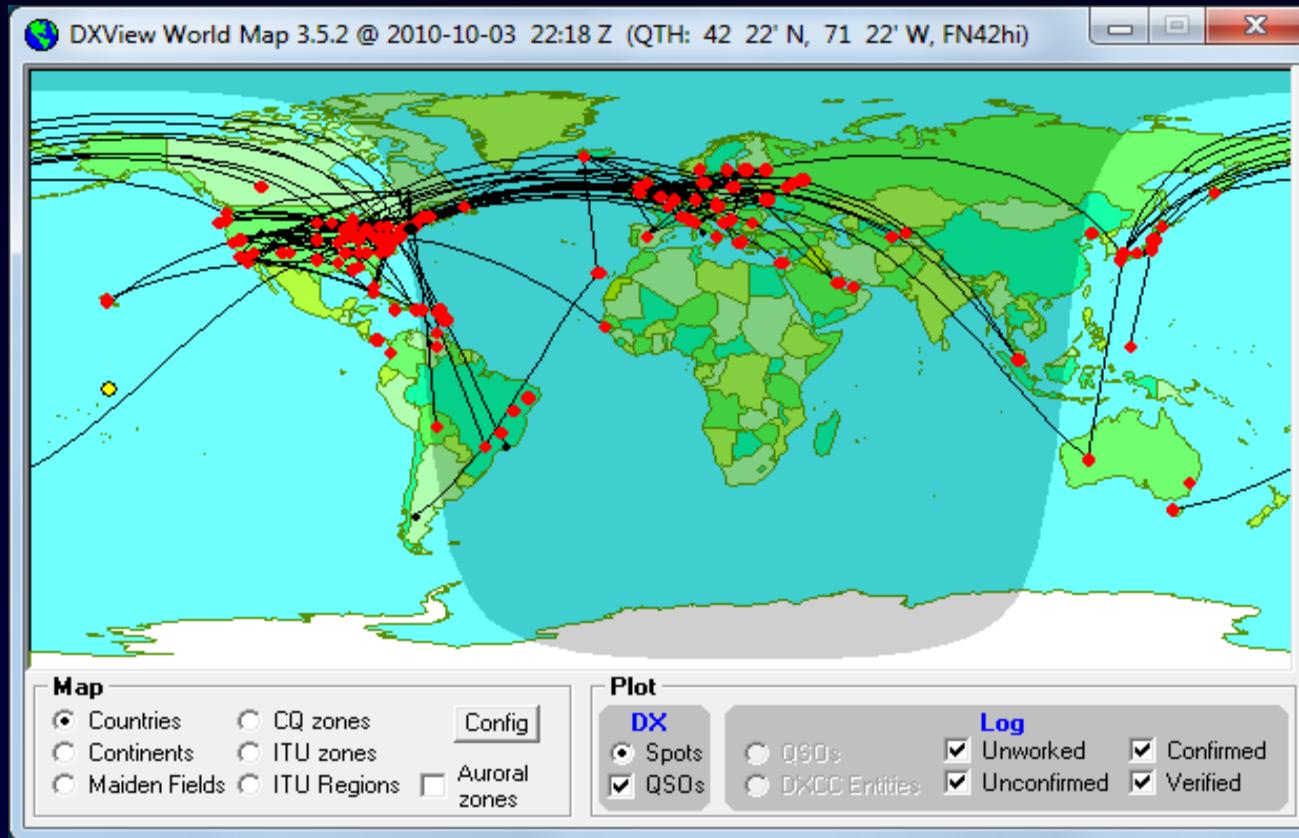
**Commander 8.5.8 [Icom IC-7200] @ 19:59:42 Z 14,086.19 LS8**

**RTTY Commander**

**Operating Mode**

**Tuning Display**

# DXing with DXLab



Better DXing Through Software