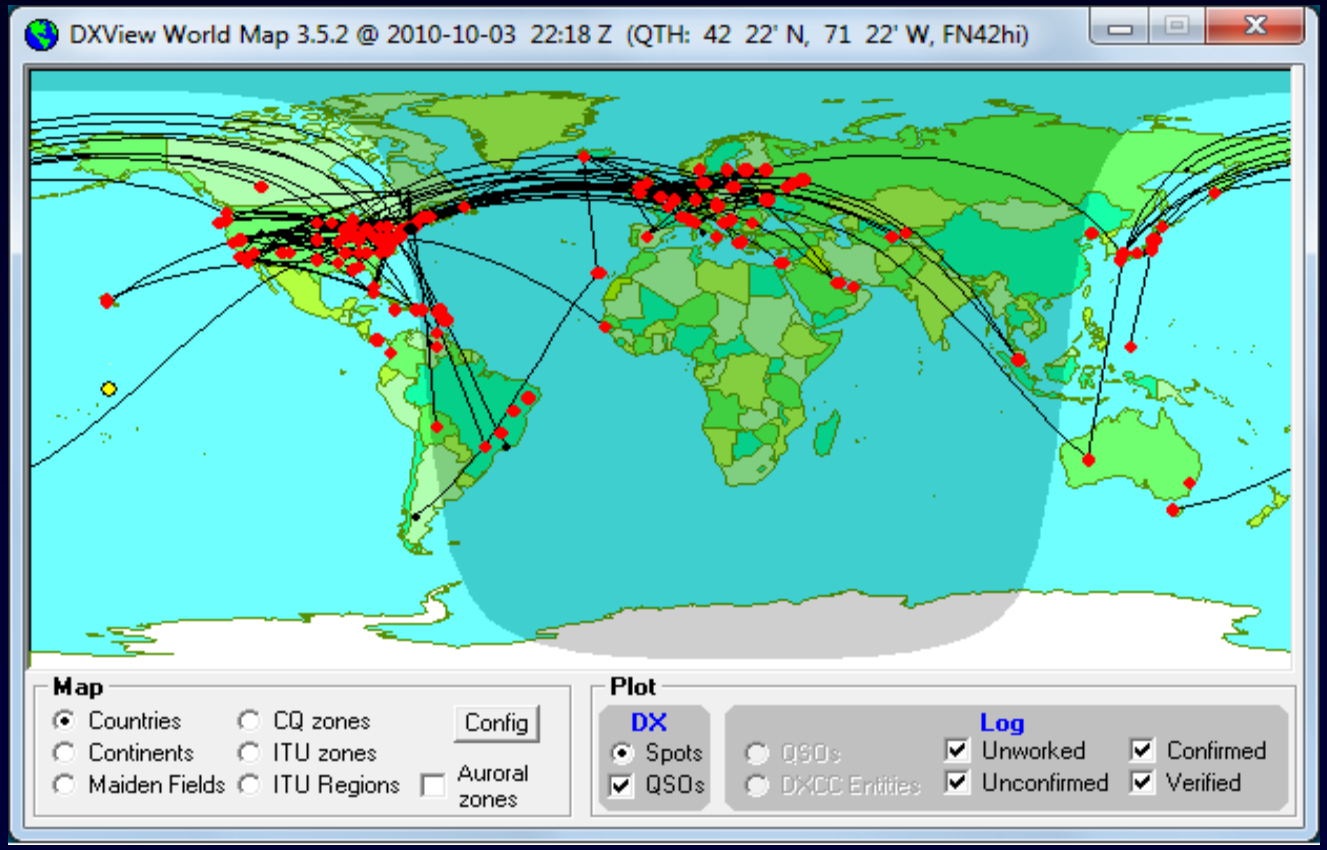
DXing with DXLab

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

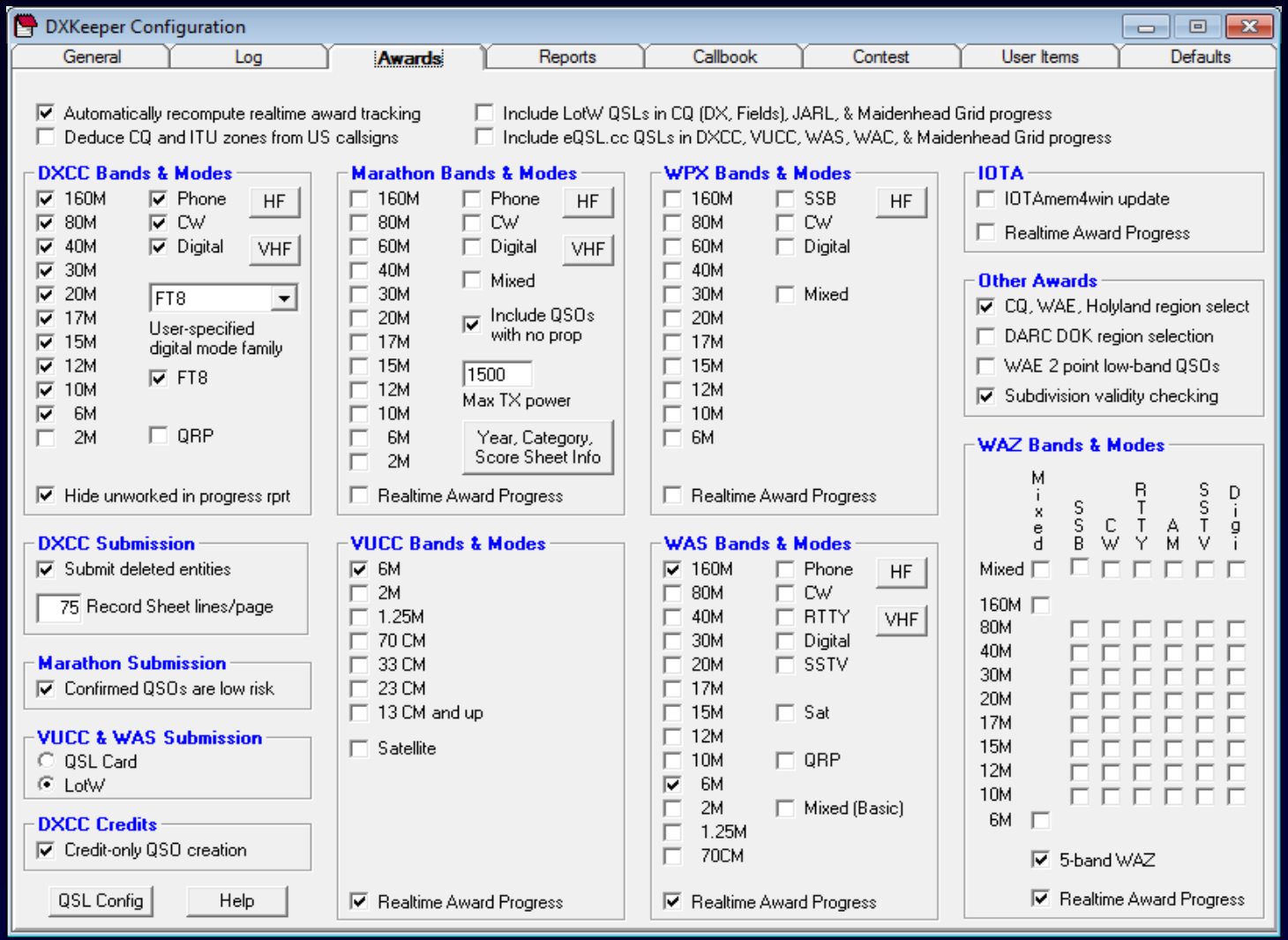
Hardcopy QSL Automation

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

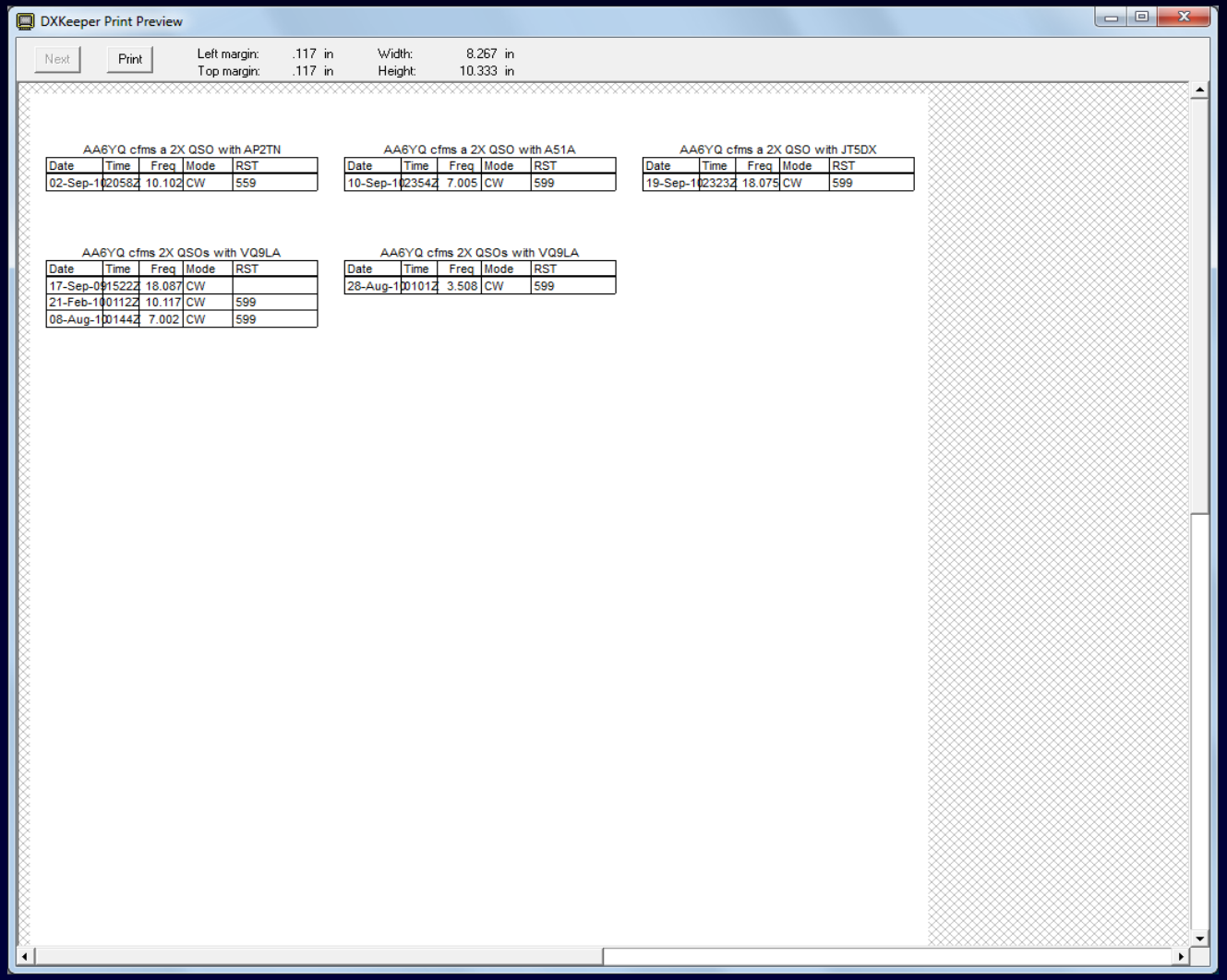
You can specify the bands and modes you are pursuing for each of DXCC, IOTA, Marathon, VUCC, WAS, WAZ, and WPX



QSL Card Printing

QSL Card Printing

QSL Label Printing



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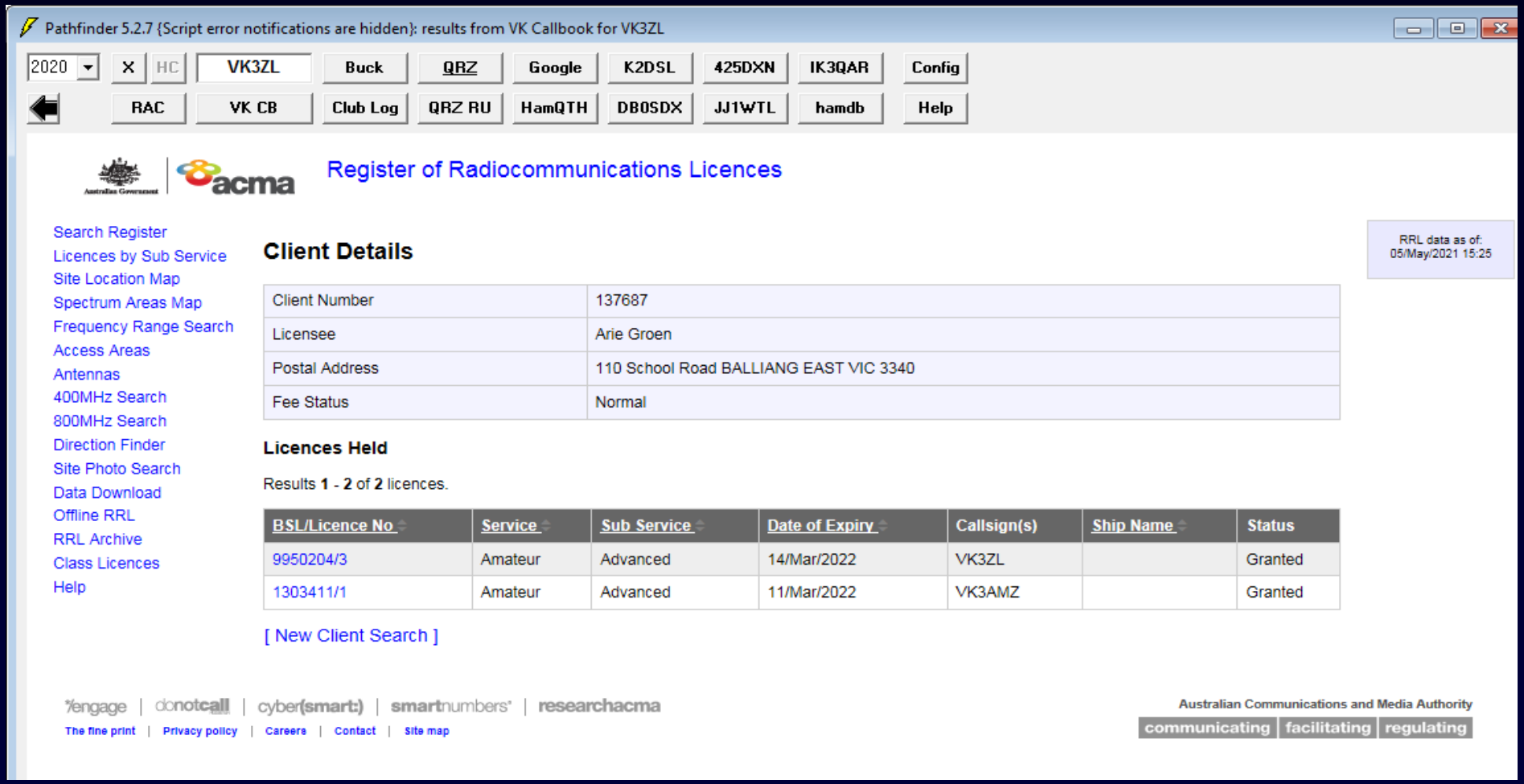
- Keep track of requested QSLs not yet received

QSL Route Discovery



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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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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	
Spratly Islands	1S		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	C	
Agalega & St Brandon Islands	3B6		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	C	
Rodriguez Island	3B9		V	V	V	V	C	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	
Annobon	3C0		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	
Fiji Islands	3D2-F		V	V	V	V	C	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	C	
Swaziland	3DA		V	V	V	V	C		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	C	
Viet Nam	3W		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	C	
Bouvet Island	3Y-B		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	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

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DXing With DXLab

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

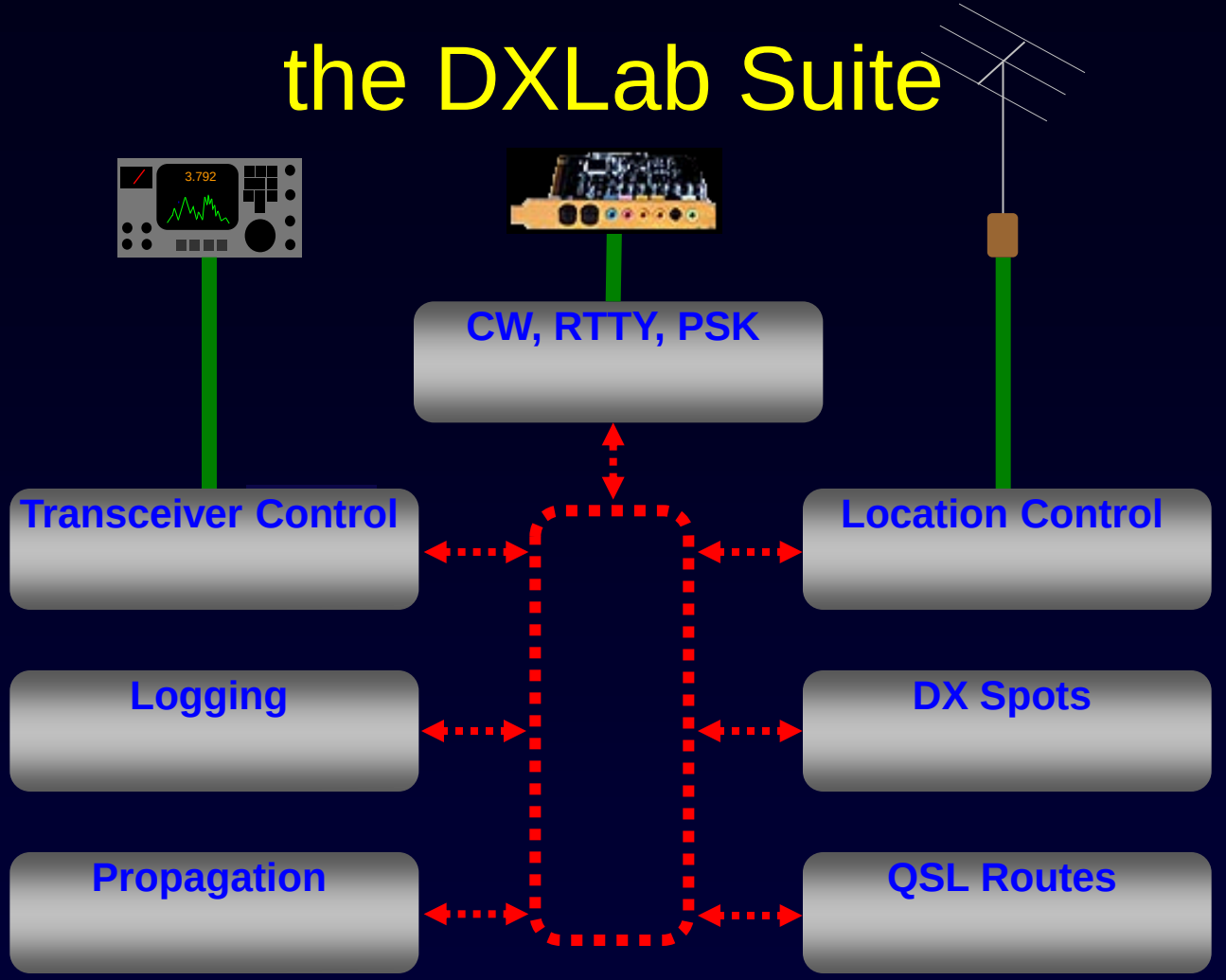
but

when run simultaneously sense each other's presence

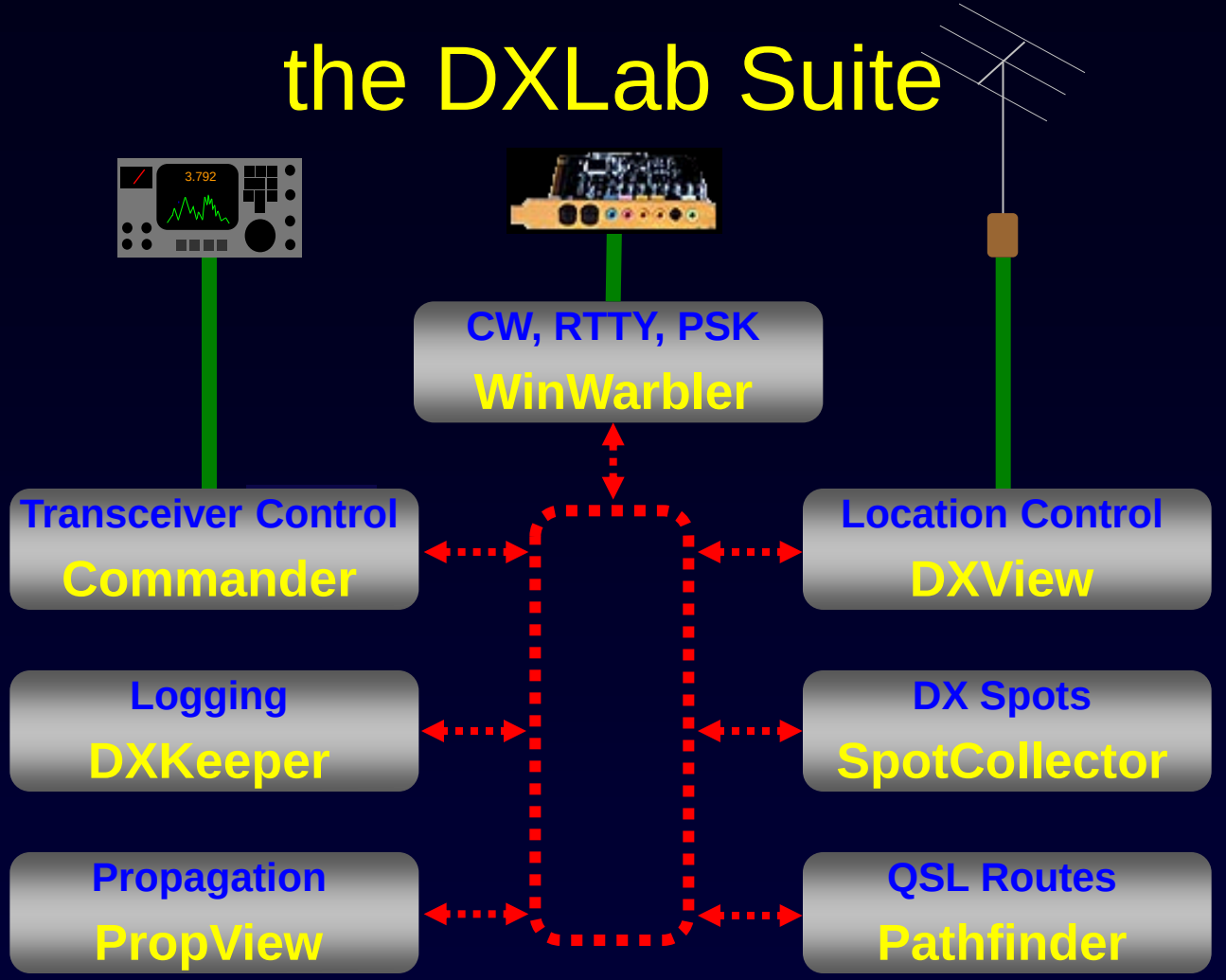
and

interoperate automatically

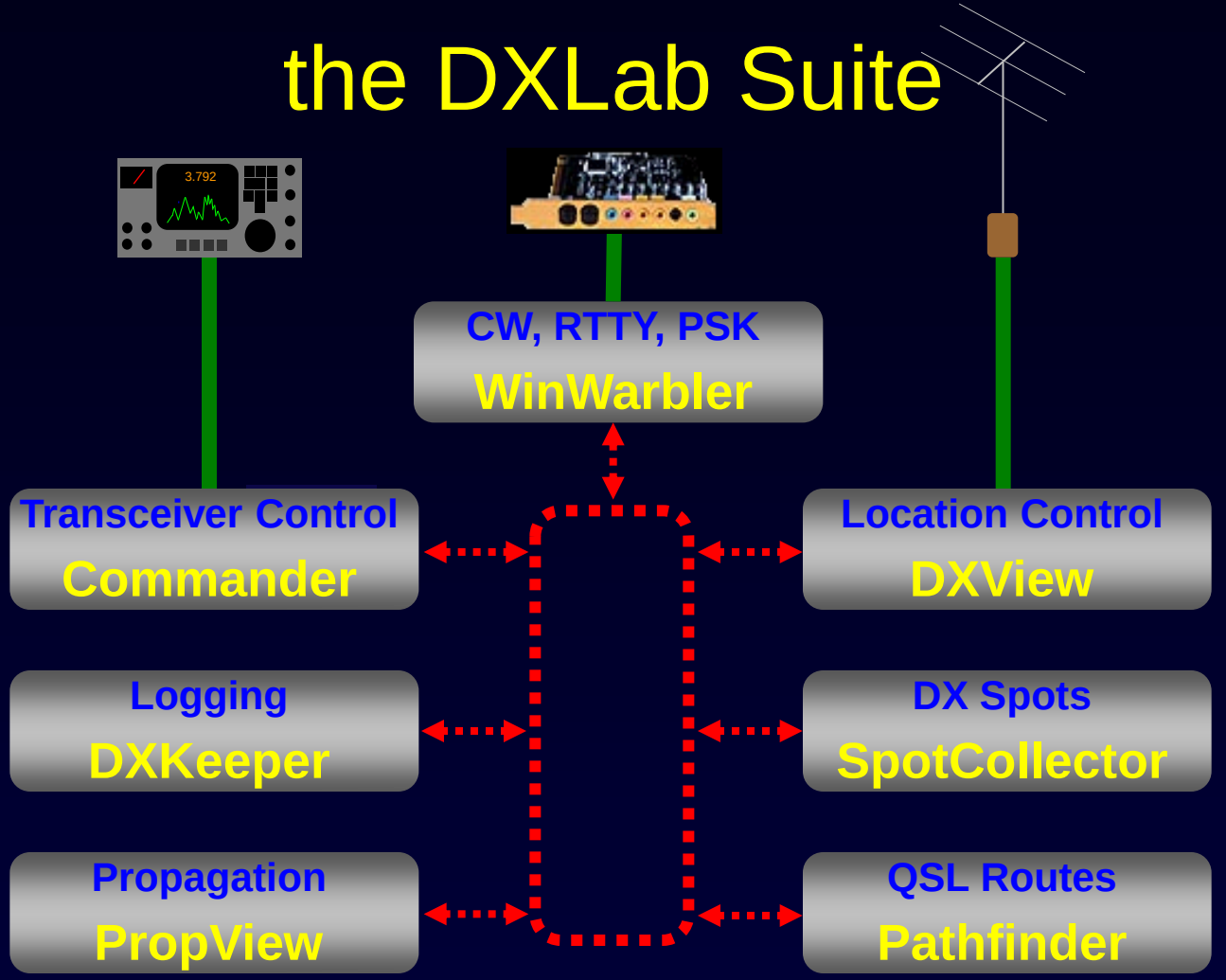
the DXLab Suite



the DXLab Suite

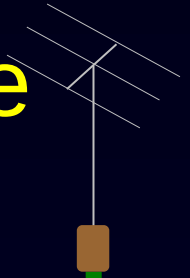


the DXLab Suite



- Modular
- Loosely-coupled

the DXLab Suite



MMTTY

CW, RTTY, PSK
WinWarbler

2Tone

SatPC32

Transceiver Control
Commander

Location Control
DXView

DX Atlas

Google Earth

LogPublisher

Logging
DXKeeper

DX Spot Analytics
SpotCollector

SpotSpy

VOACAP

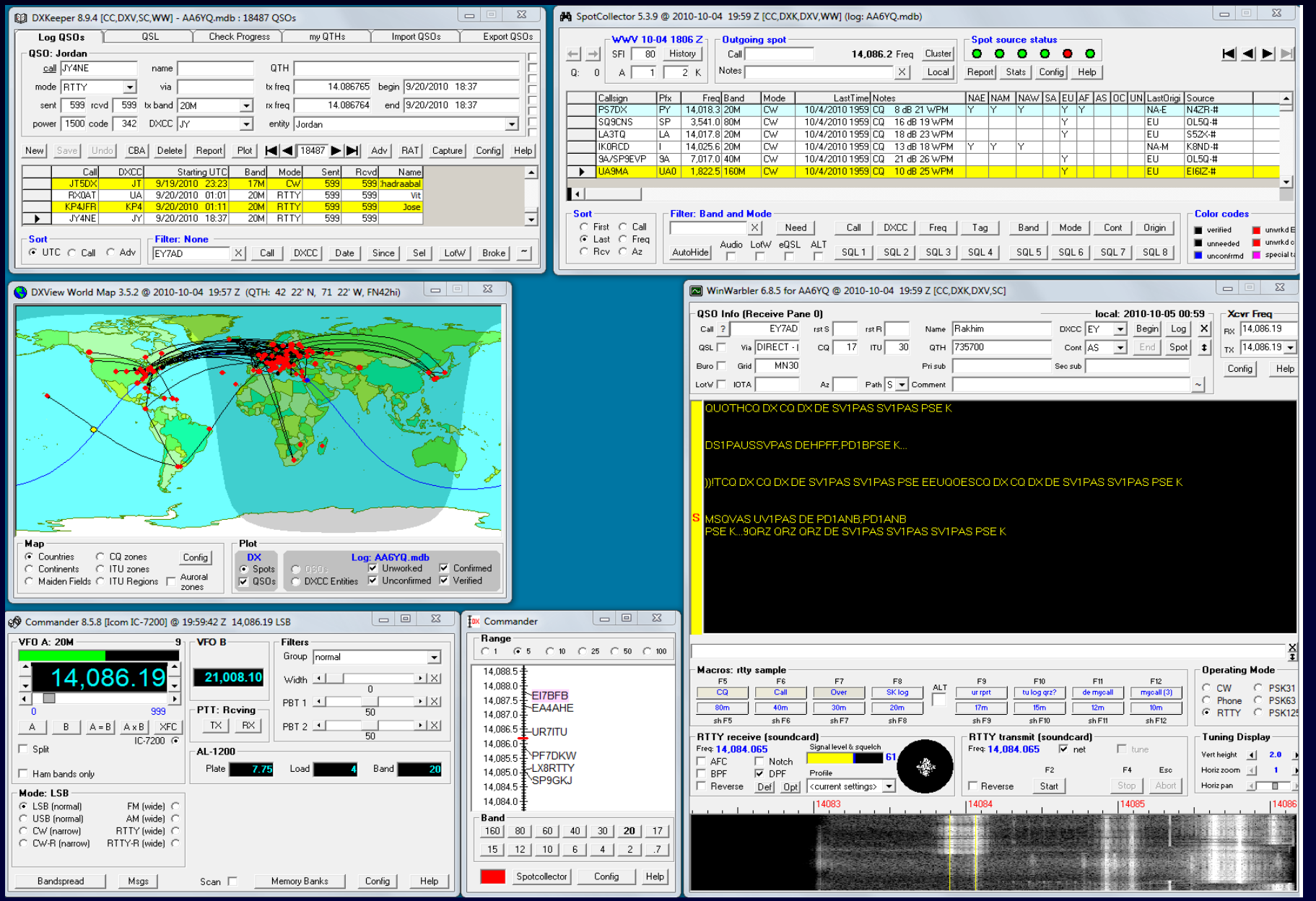
Propagation
PropView

QSL Routes
Pathfinder

CW Skimmer | CWGet | FLDigi | JT-Alert | MixW | MMSSTV | MultiPSK

Gritty | MRP40 | Sim_PSK | WSJT-X | N1MM+ | MMVARI | Win4*Suite

A Suite of DXing Applications



Single Point of Control: DXLab Launcher

- Installation
- Upgrade
- Startup
- Shutdown

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Active DX Database

Telnet Clusters

Reverse Beacon Network

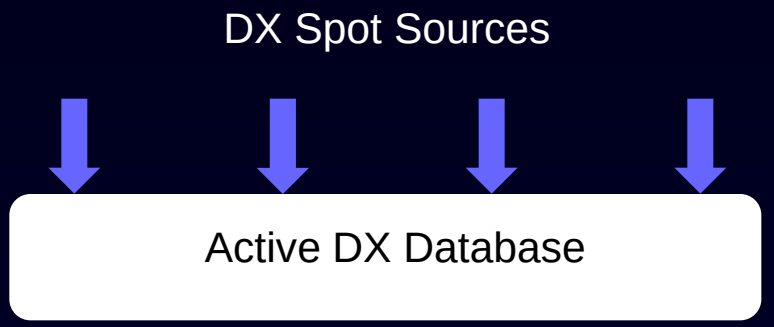
DX Summit

WSJT-X

Call	Freq	QSX	Mode	First	Last	EU	AF	SA	NA-E	NA-M	NA-W	OC	
P5DX	14.005	14.007	CW	0117Z	0341Z	Y					Y	Y	
KP1RY	21.080	21.085	RTTY	0245Z	0356Z	Y	Y	Y	Y	Y			

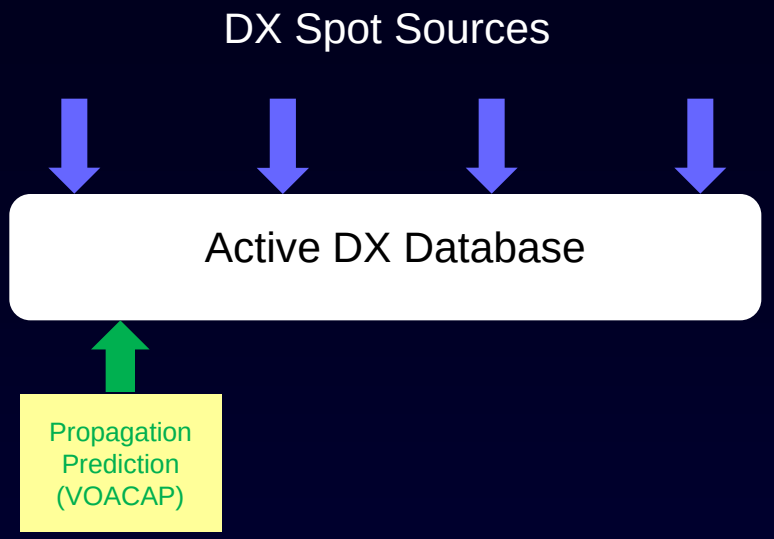
Active DX Database

Multiple Views of Active DX



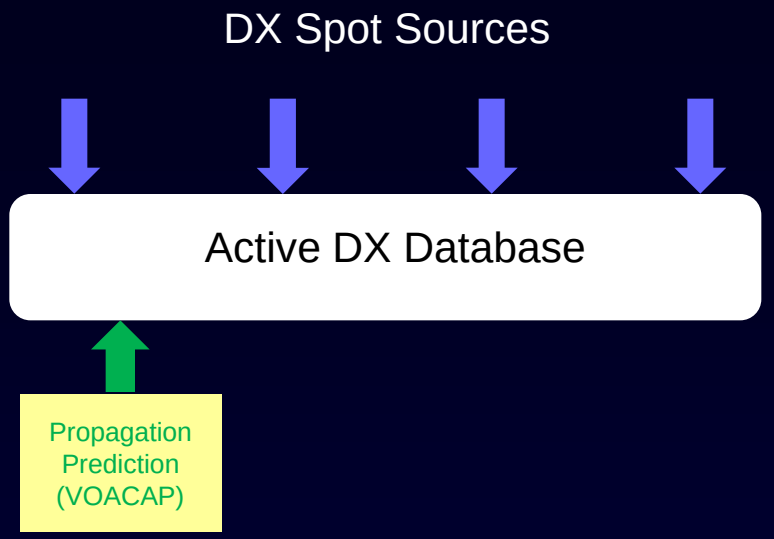
What DX stations are QRV ?

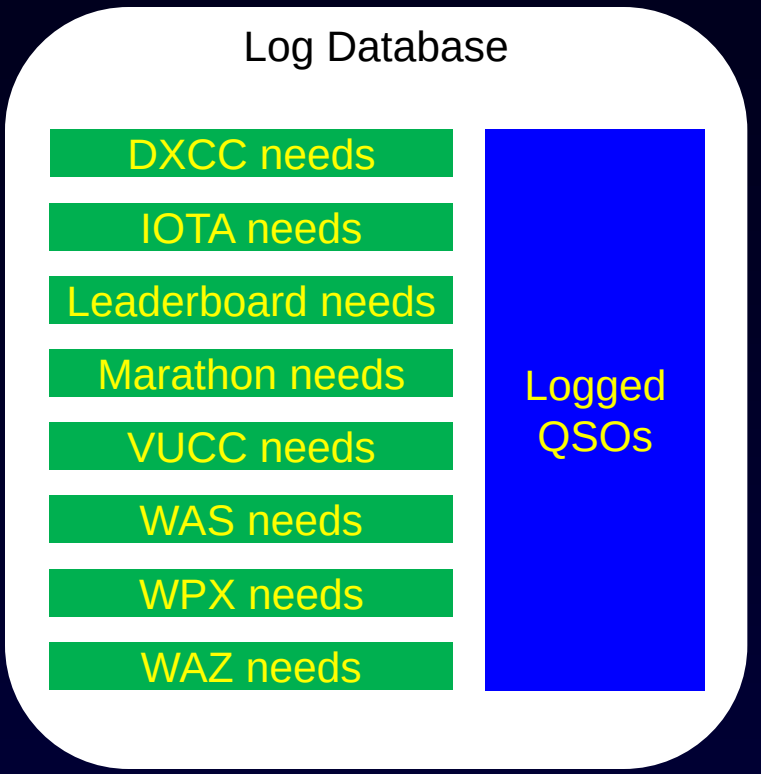
Multiple Views of Active DX



Which DX stations can I likely copy ?

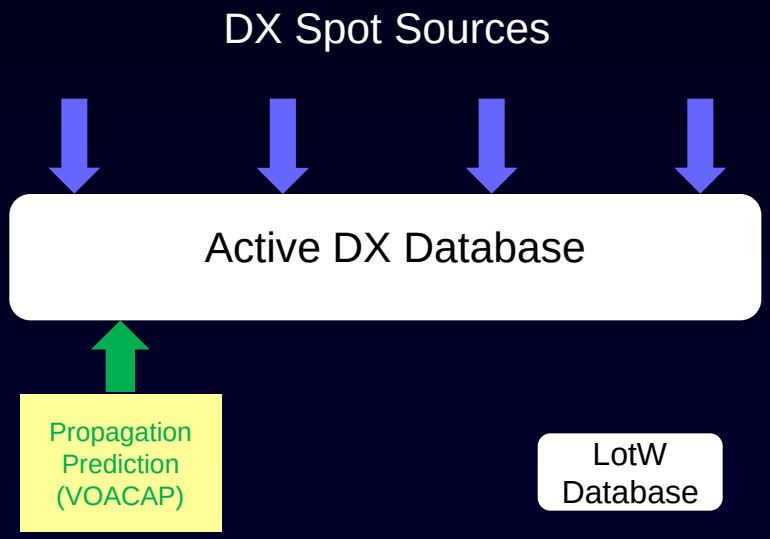
Multiple Views of Active DX



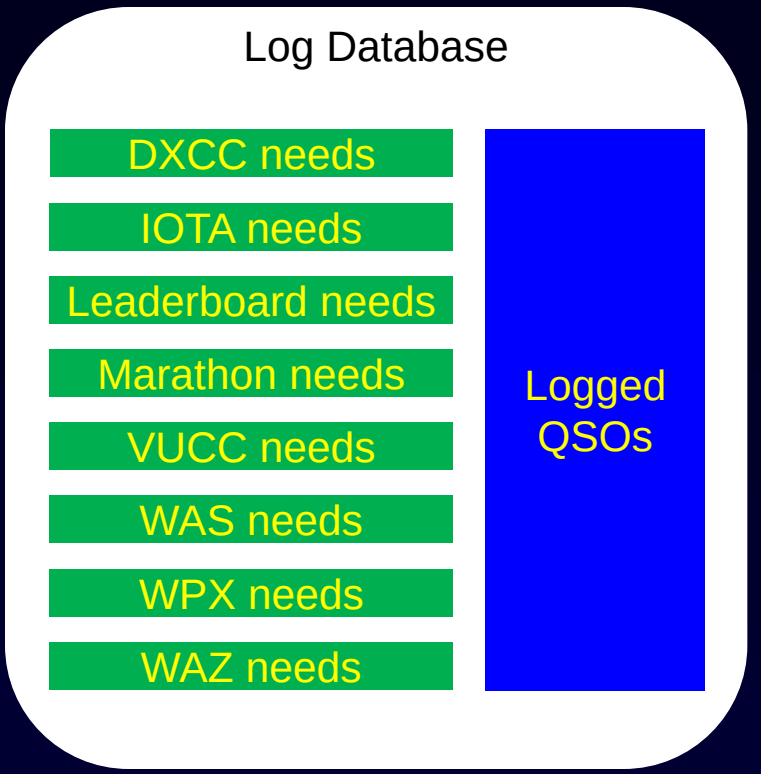


What QSOs and QSLs are “Needed” for the awards I’m pursuing on the bands and modes I’ve specified ?

Multiple Views of Active DX



What DX stations QSL via LotW and eQSL ?



Tabular View of Active DX

DX Spot Sources

Active DX Database

Propagation Prediction (VOACAP)

LotW Database

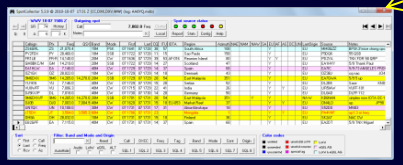
eQSL AG Database

View Generator

Log Database

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

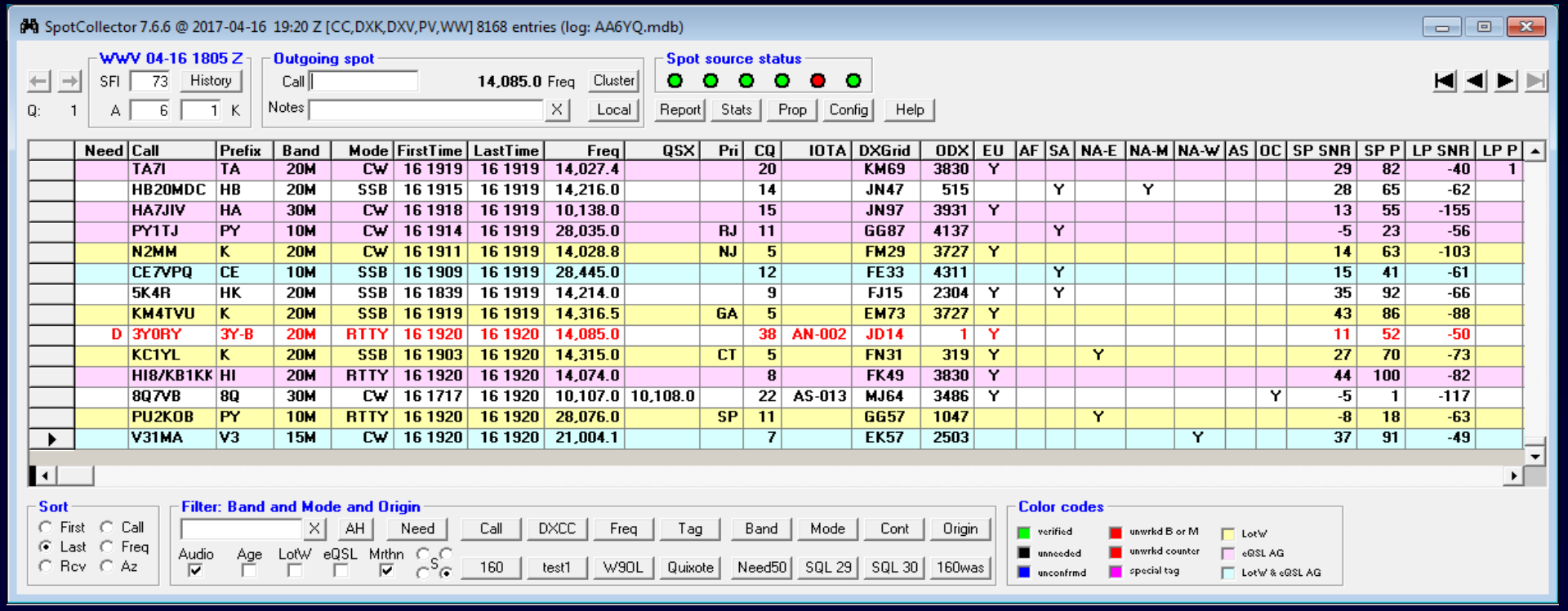
Logged QSOs



Tabular

Tabular View of Active DX

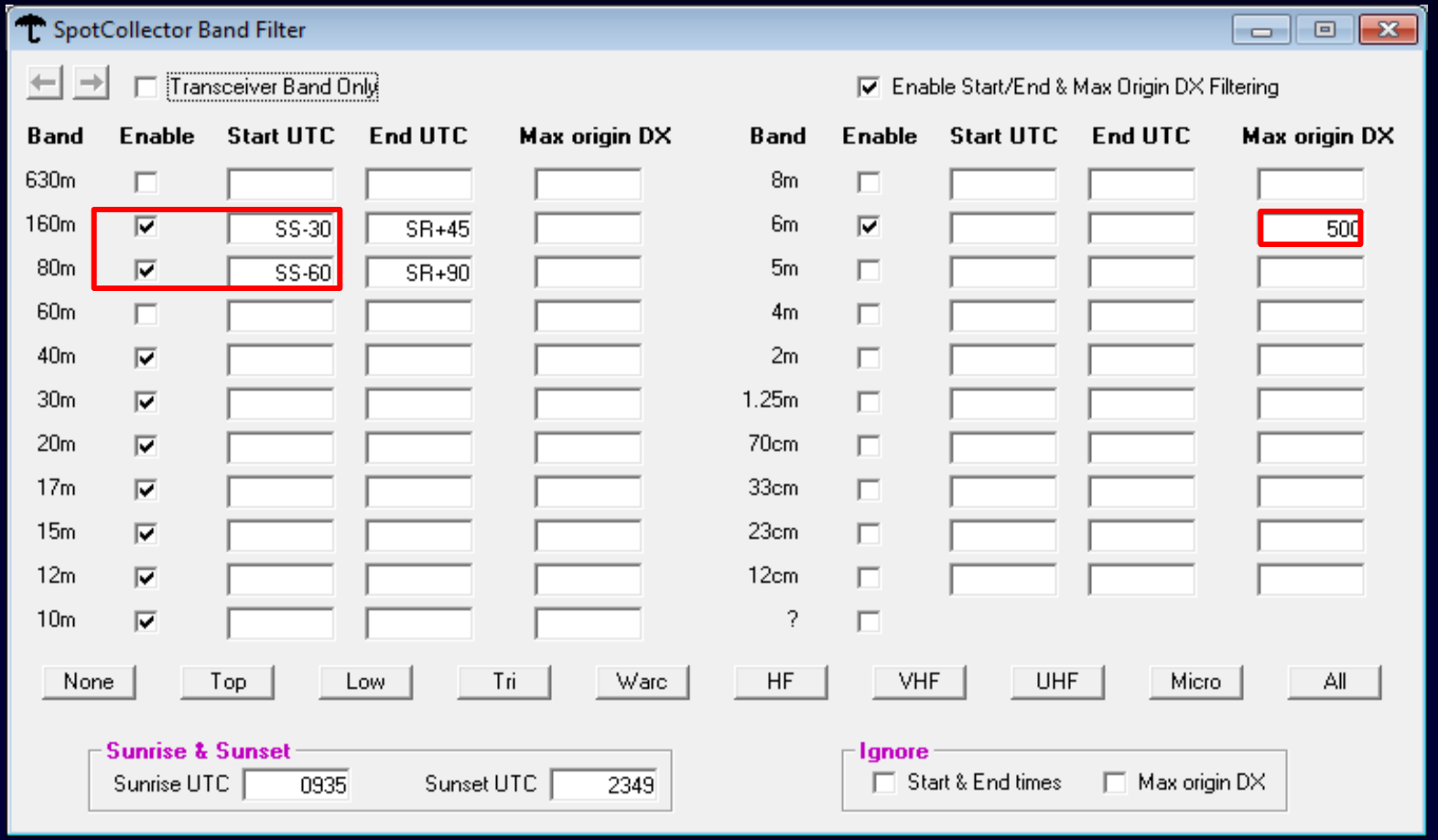
Selected Bands and Modes



Font color indicates “needed” DX stations

Background color indicates LotW and eQSL participation

Band Filter

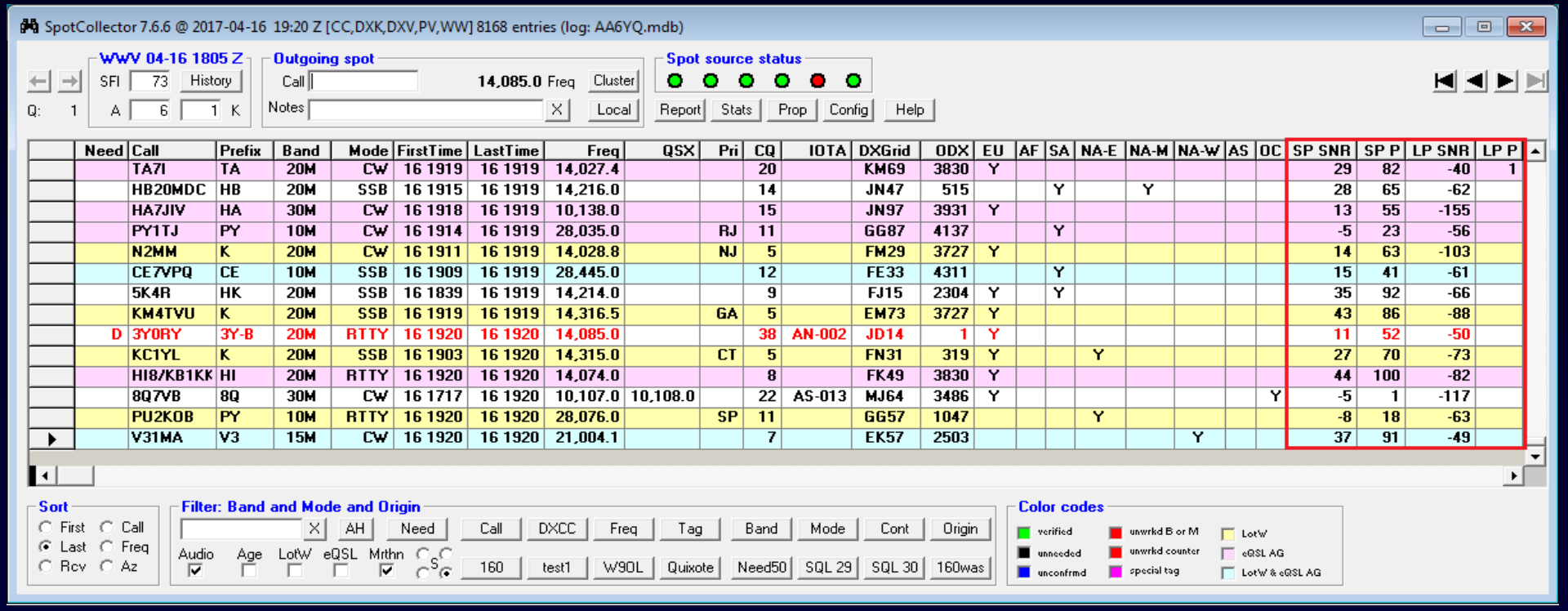

SpotCollector Band Filter
Transceiver Band Only
Enable Start/End & Max Origin DX Filtering
Band
Enable
Start UTC
End UTC
Max origin DX
630m
160m
SS-30
SR+45
80m
SS-60
SR+90
60m
40m
30m
20m
17m
15m
12m
10m
8m
6m
500
5m
4m
2m
1.25m
70cm
33cm
23cm
12cm
?
None
Top
Low
Tri
Warc
HF
VHF
UHF
Micro
All
Sunrise & Sunset
Sunrise UTC
0935
Sunset UTC
2349
Ignore
Start & End times
Max origin DX

Mode Filter


SpotCollector Mode Filter
SSB
AM
FM
CW
CCW
RTTY
?
Amtor
AmtorFEC
Ascii
Hell
FMHell
PSKHell
Hell80
ATV
FAX
SSTV
HFSK
PAX
PAX2
Packet
Clover
GTOR
Pactor
Pactor2
Pactor3
WINMOR
PSK31
PSK63
PSK125
PSK250
PSK63F
PSK220F
MT63
QPSK31
QPSK63
QPSK125
QPSK250
PSK10
PSKFEC31
Q15
Q65
PSKAM10
PSKAM31
PSKAM50
MFSK8
MFSK16
FSK31
FSK441
Chip64
Chip128
ROS
Thor
DominoEX
DominoF
ALE
Olivia
Contestia
RTTYM
Voi
Throb
ThrobX
JS8
JT9
JT44
JT4A
JT4B
JT4C
JT4D
JT4E
JT4F
JT4G
FT4
FST4
FT8
WSPR
JT6M
JT65
JT65A
JT65B
JT65C
ISCAT
MSK144
QRA64
QRA64A
QRA64B
QRA64C
QRA64D
QRA64E
None
All

Tabular View of Active DX

Propagation Forecasting

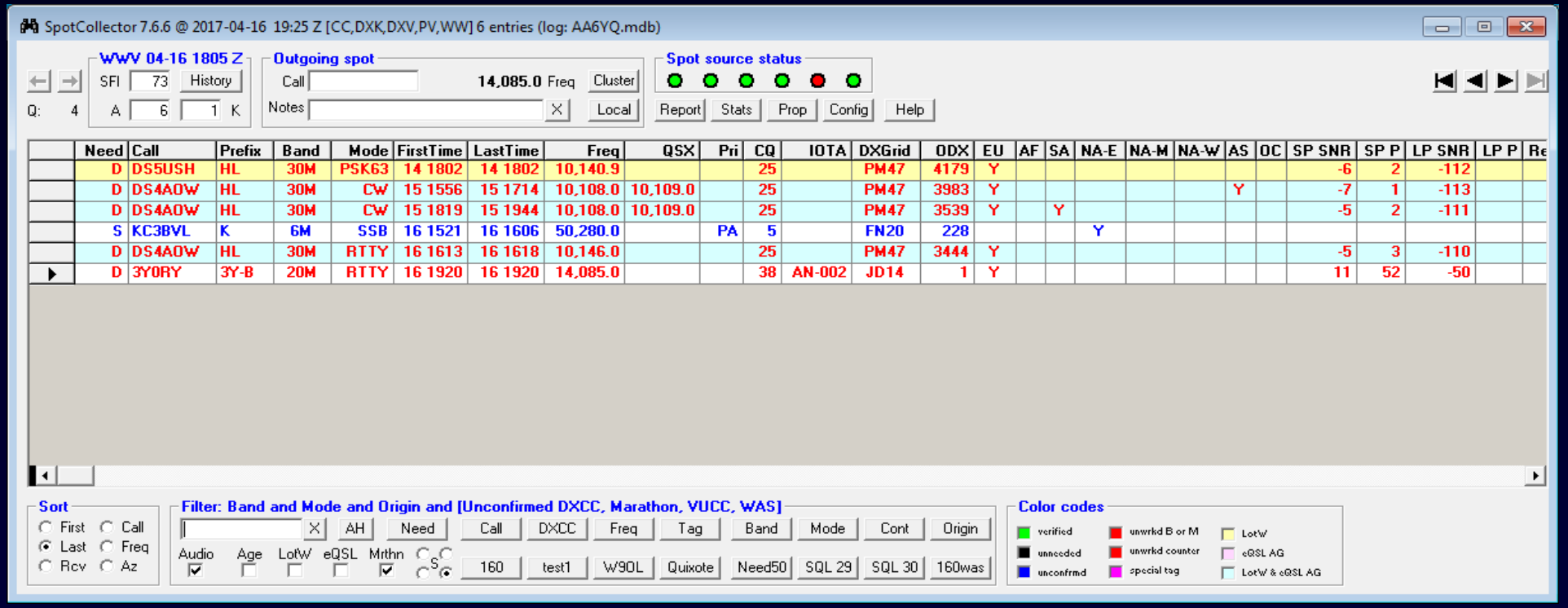


On 80m through 10m, PropView's VOACAP engine computes

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

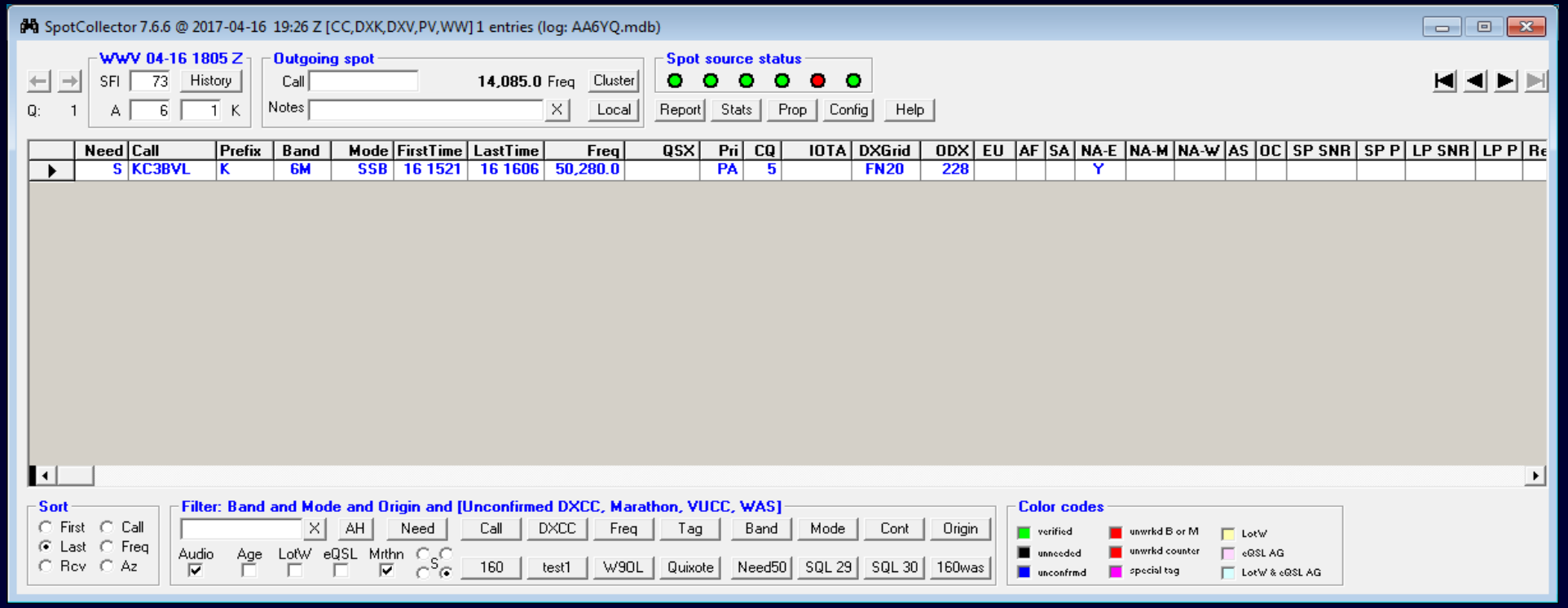
Tabular View of Active DX

Needed DX on Selected Bands and Modes



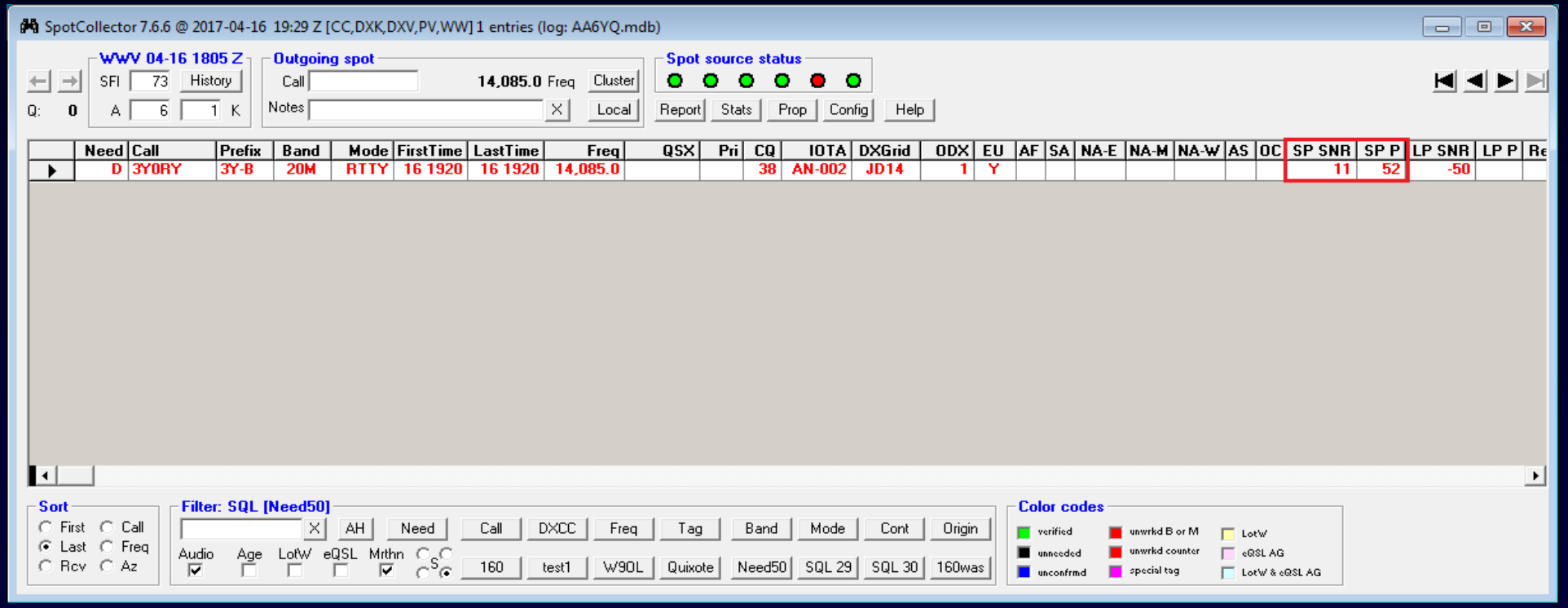
Tabular View of Active DX

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



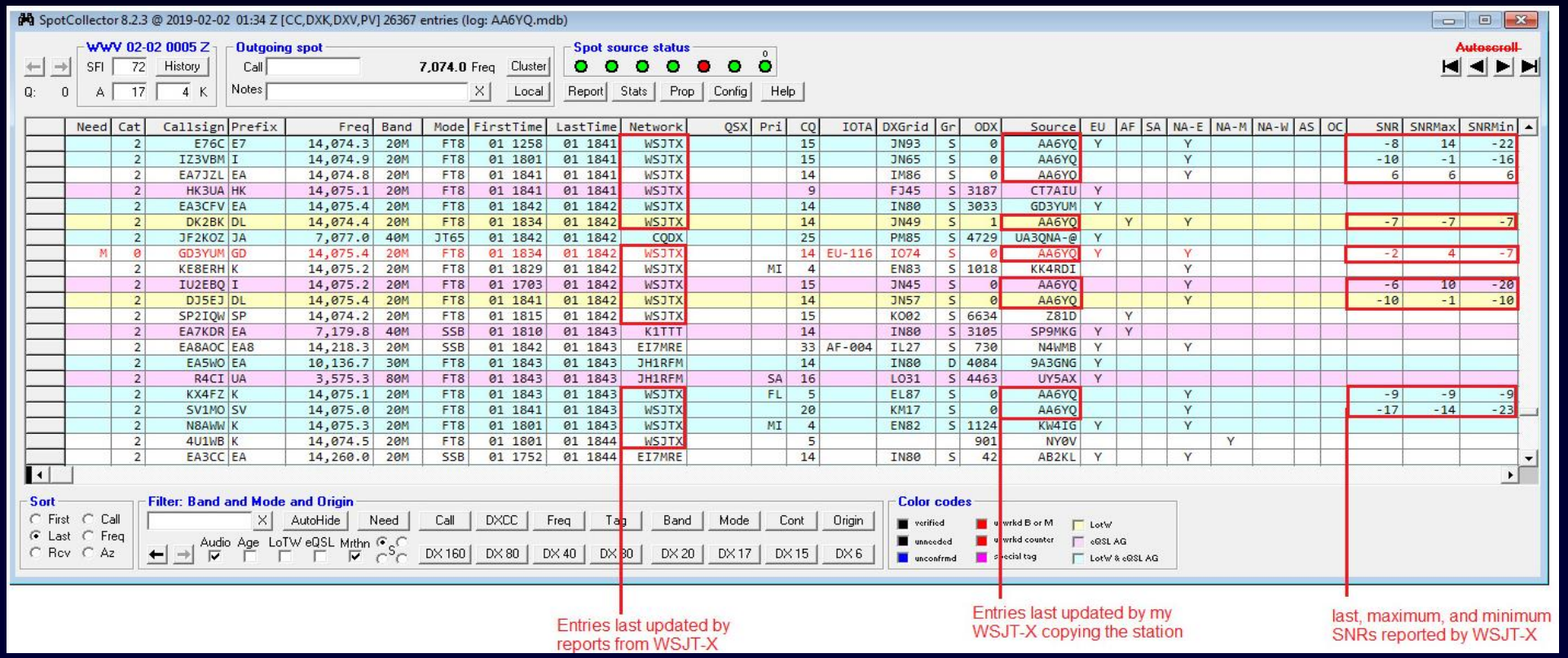
Tabular View of Active DX

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



Tabular View of Active DX

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



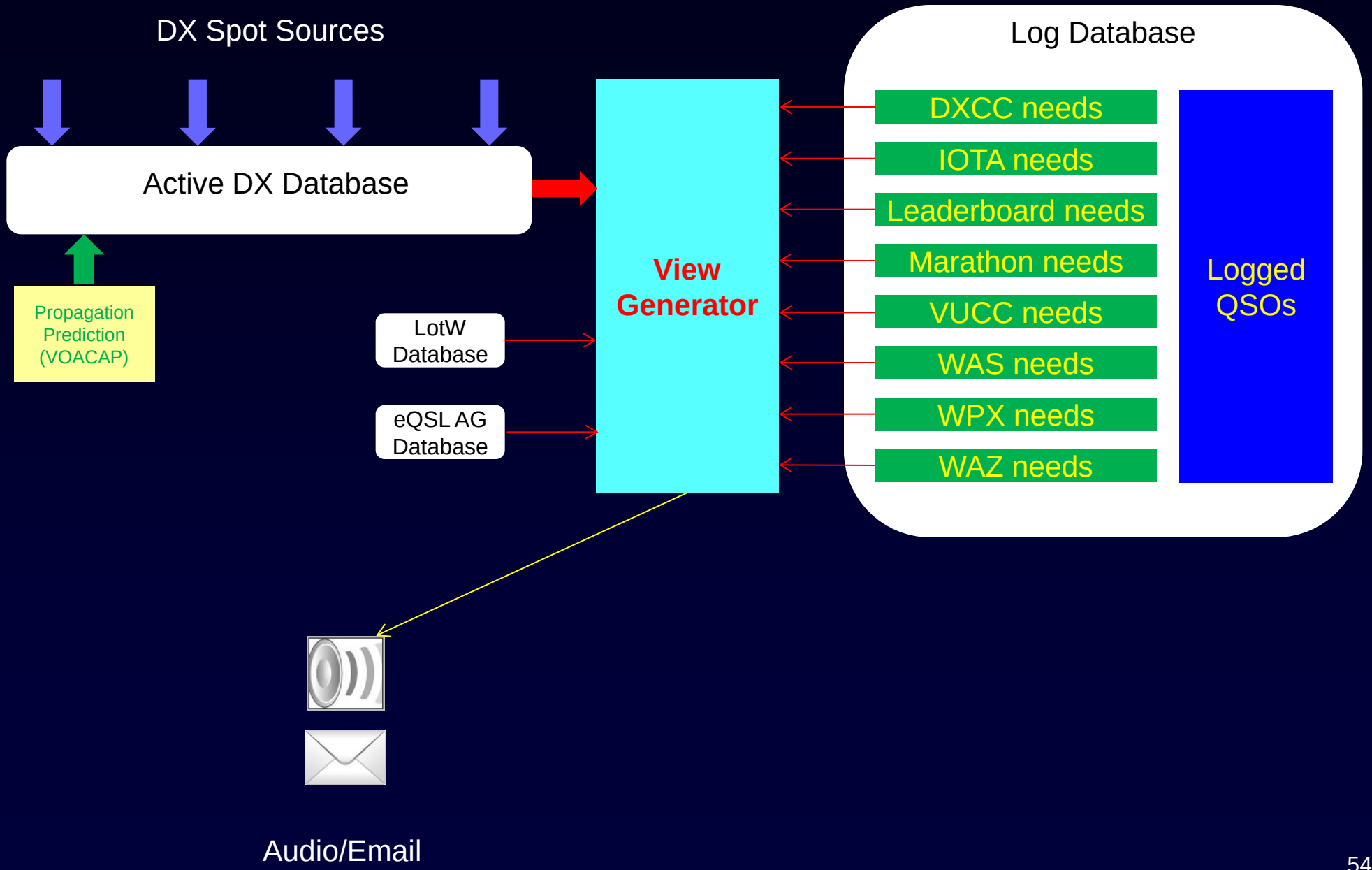
Tabular View of Active DX

in a web browser from anywhere

Tabular View of Active DX

in a web browser from anywhere

Audio and Email Views of Active DX

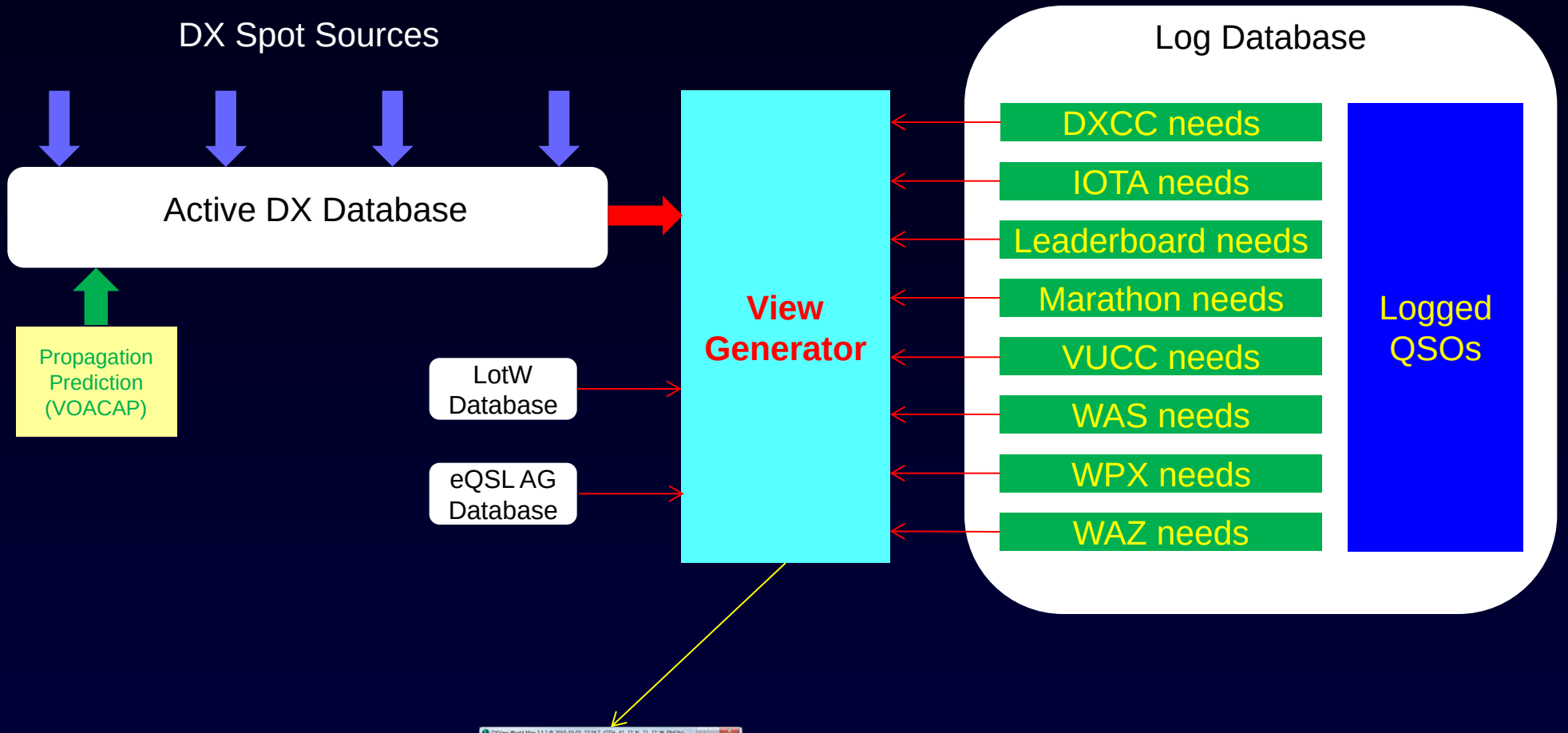


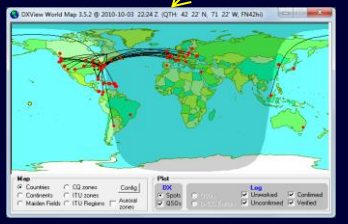
Audio and Email Views of Active DX

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

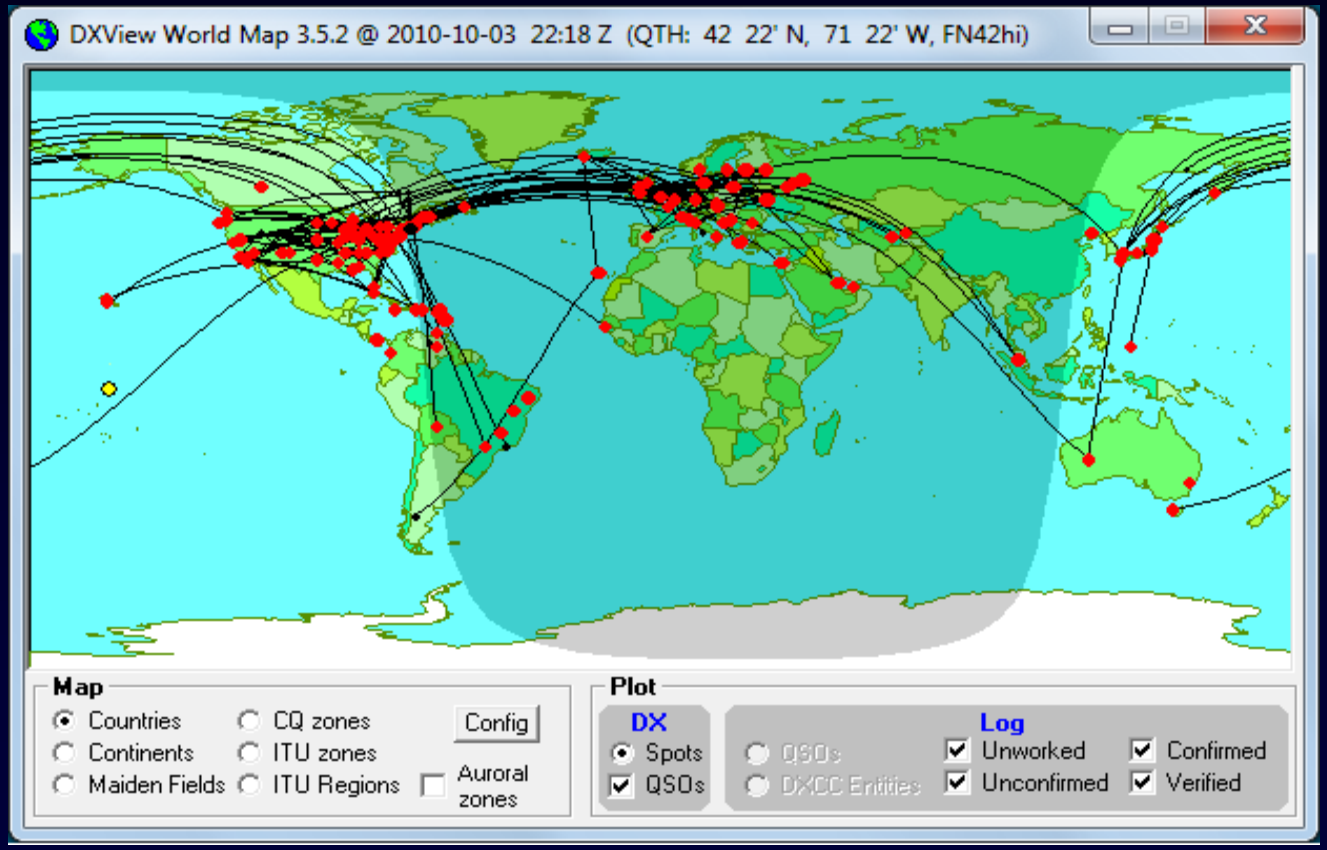




World Map

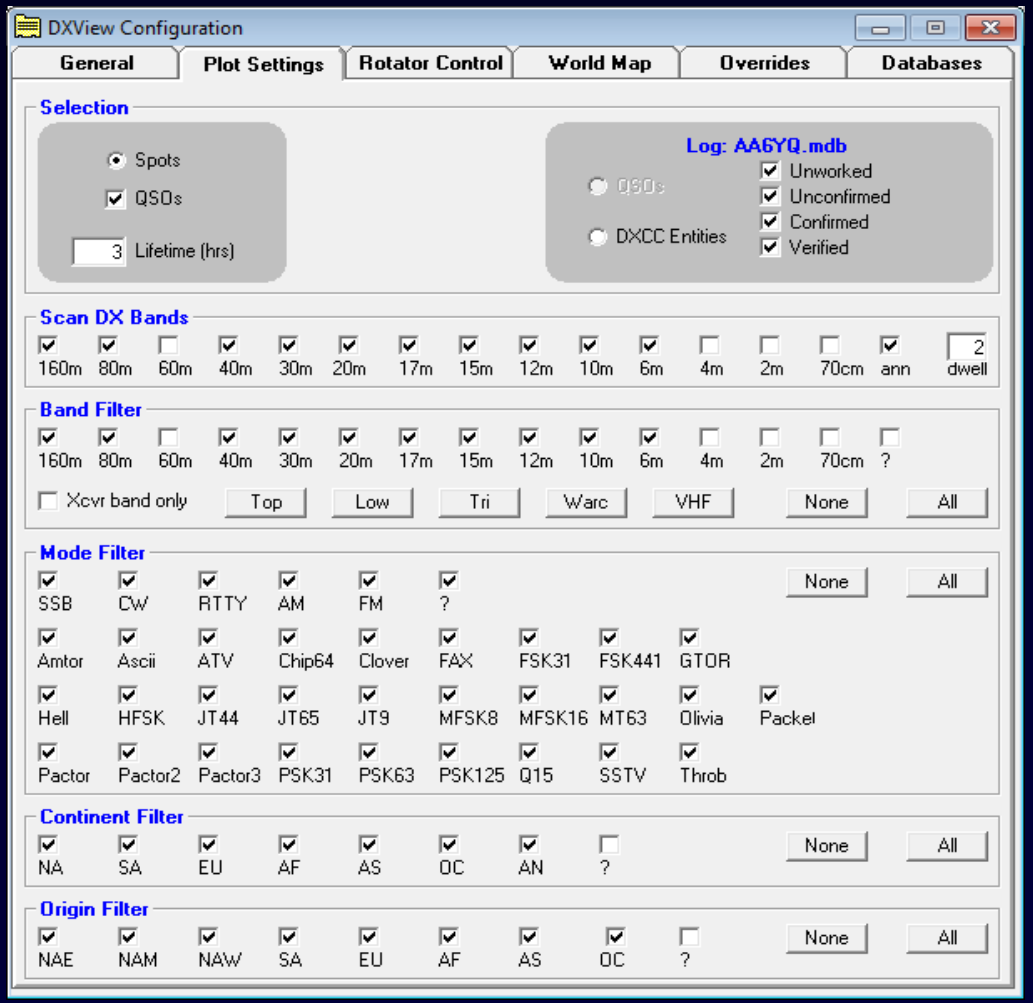
World Map View of Active DX

"Active DX on Selected Bands"



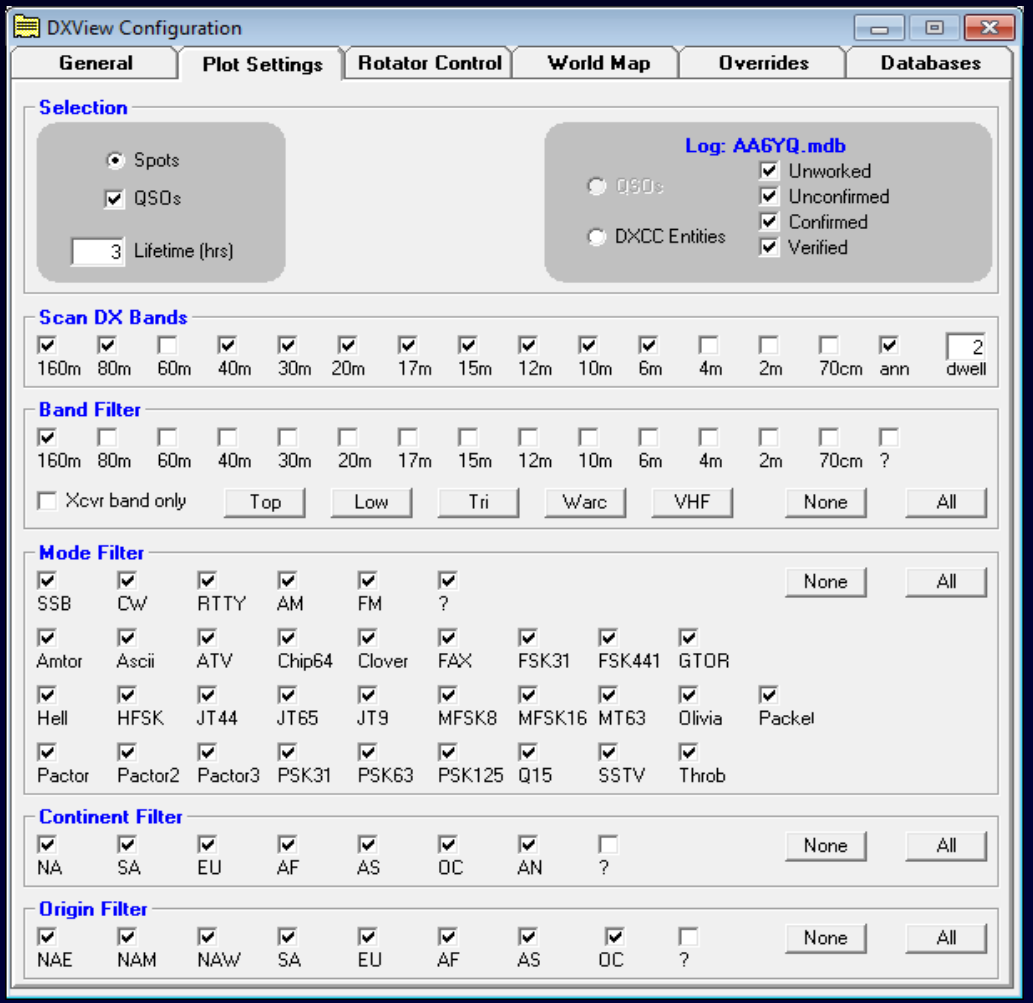
World Map View of Active DX

Controlling the Map View



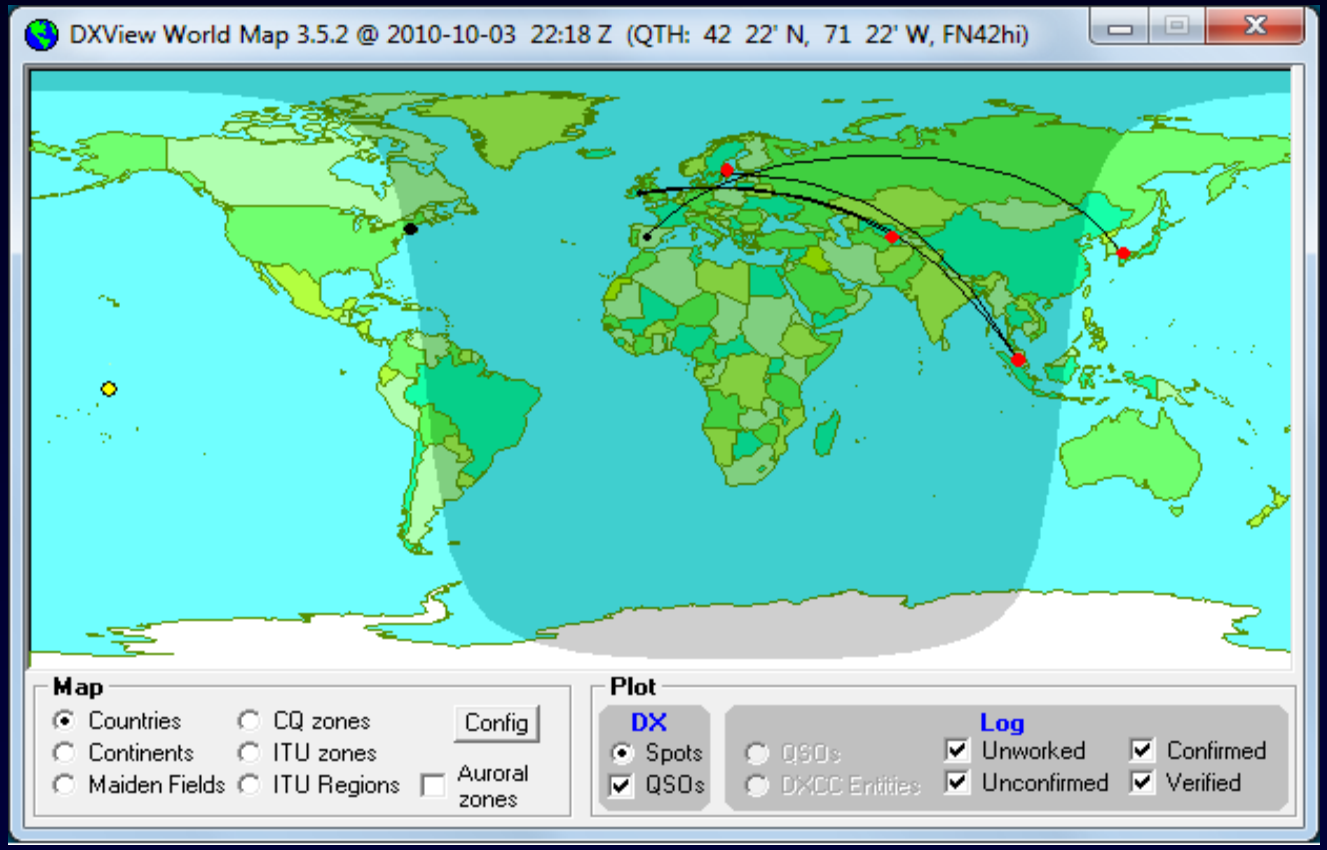
World Map View of Active DX

Controlling the Map View



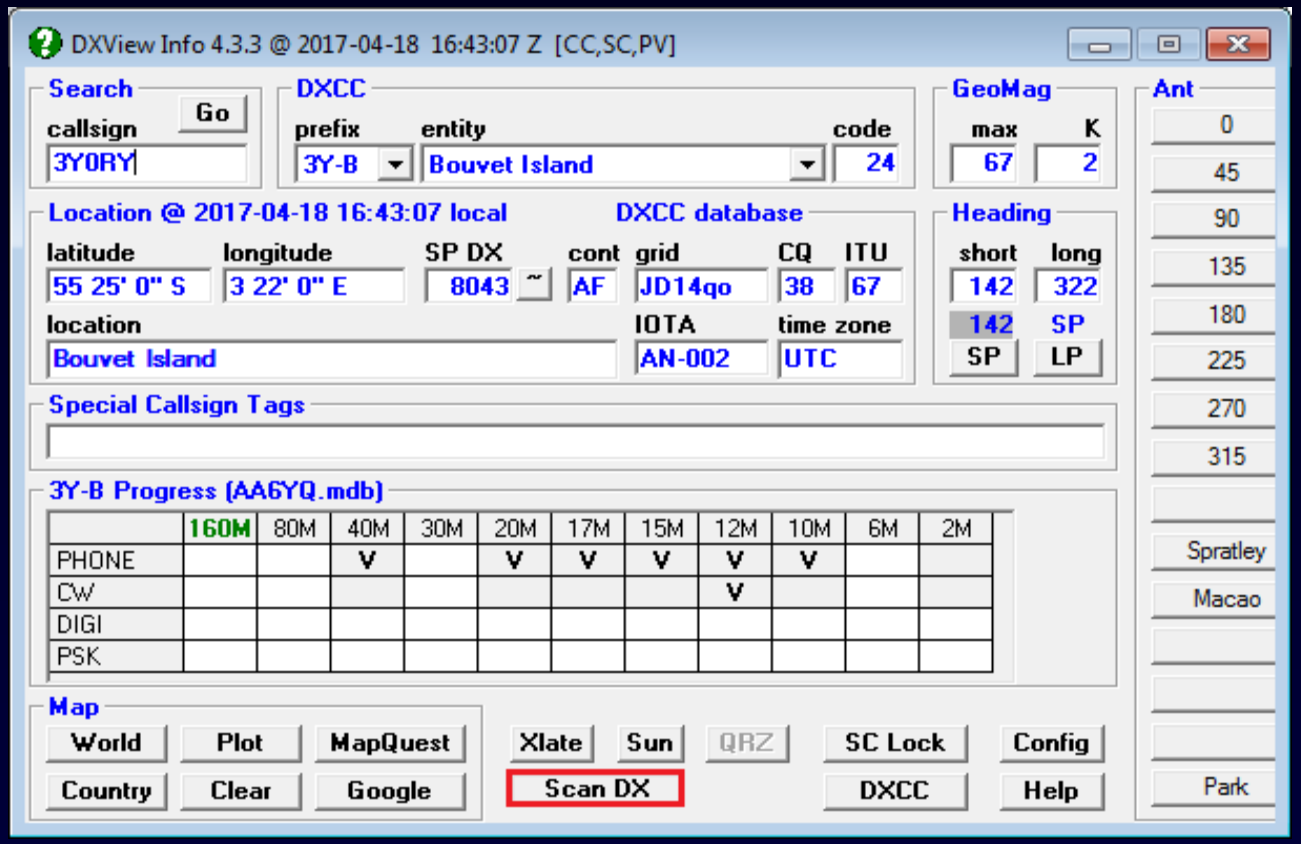
World Map View of Active DX

"160m"



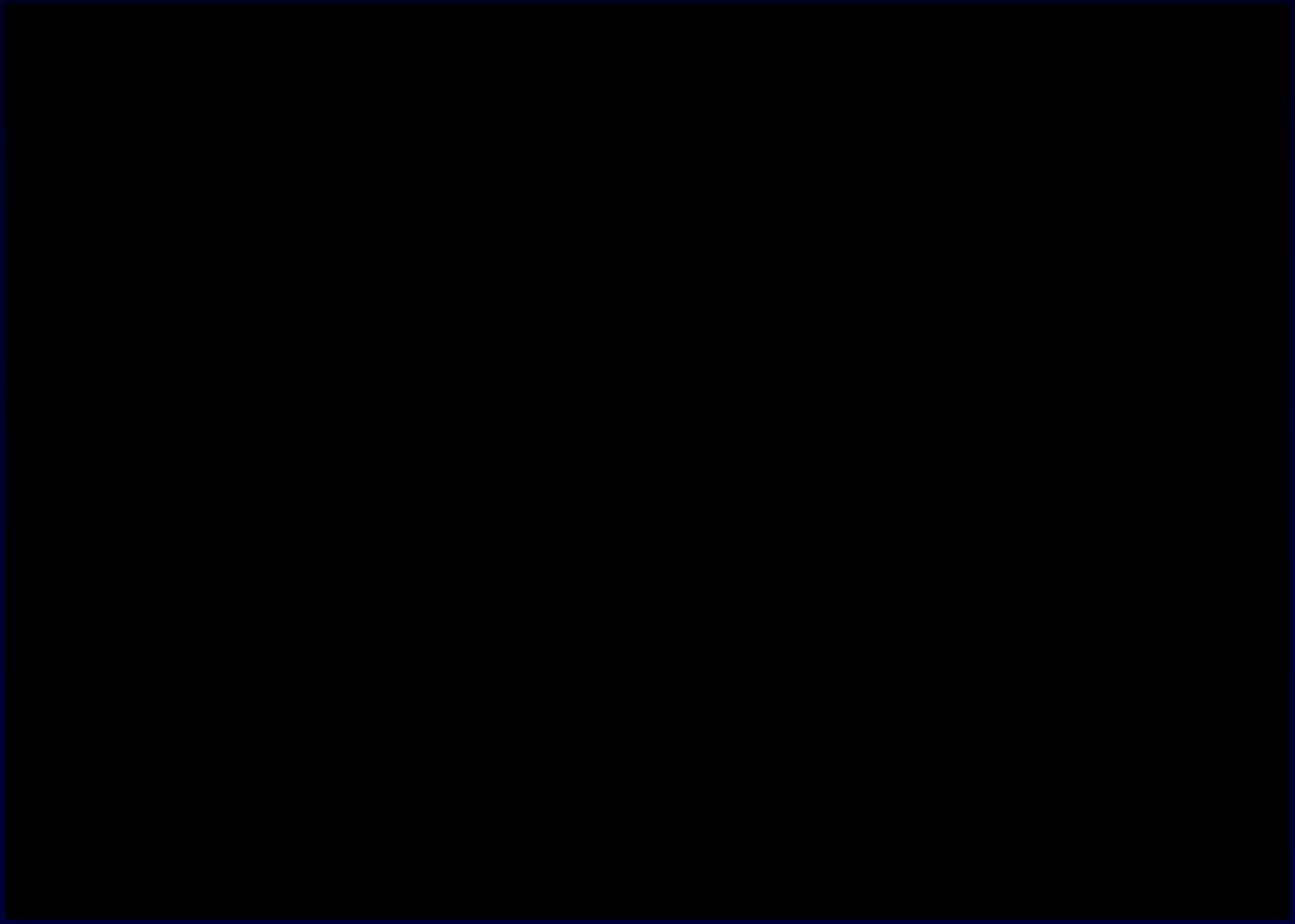
World Map View of Active DX

ScanDX



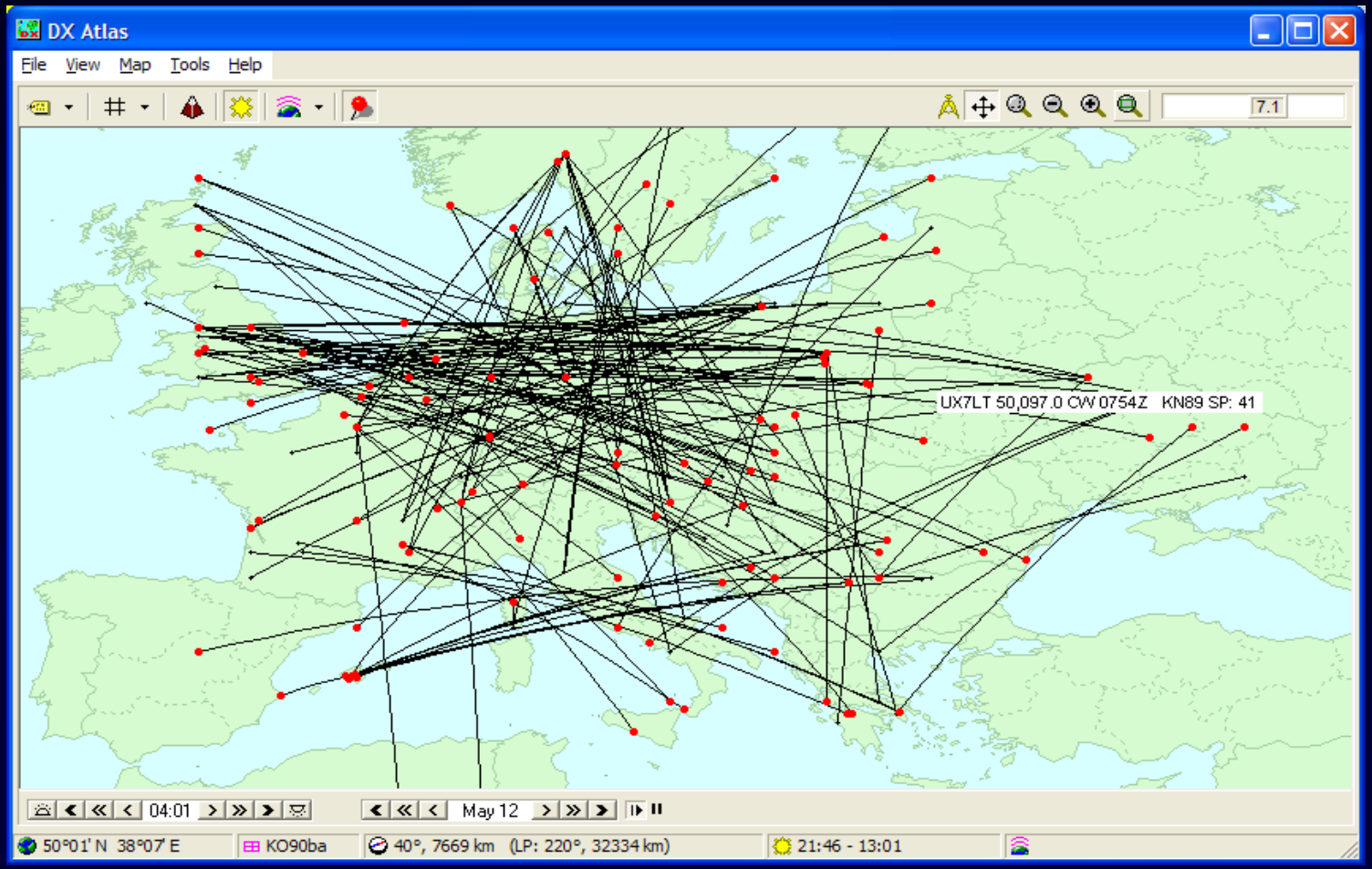
World Map View of Active DX

ScanDX



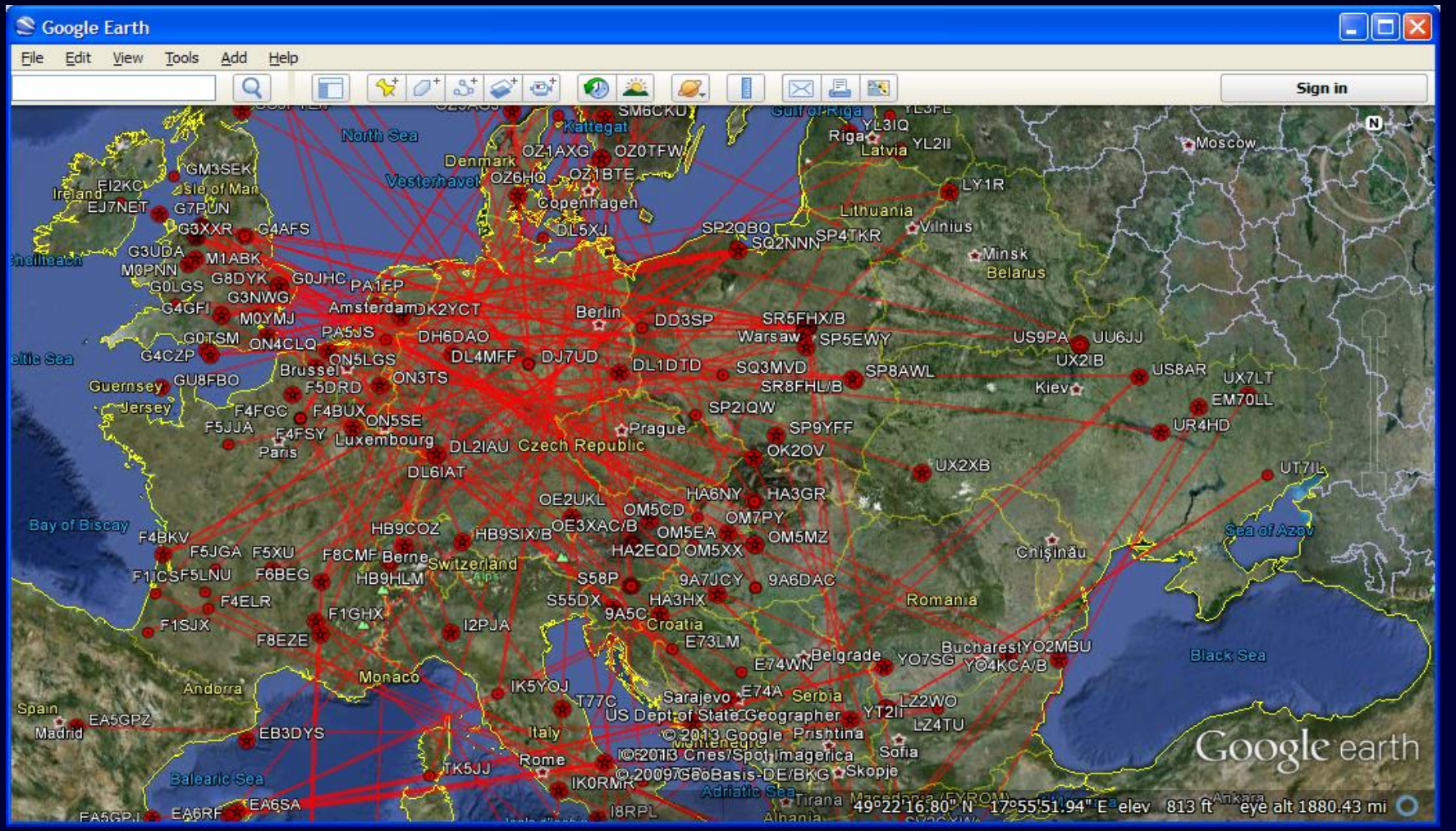
World Map View of Active DX

"6m" on DX Atlas



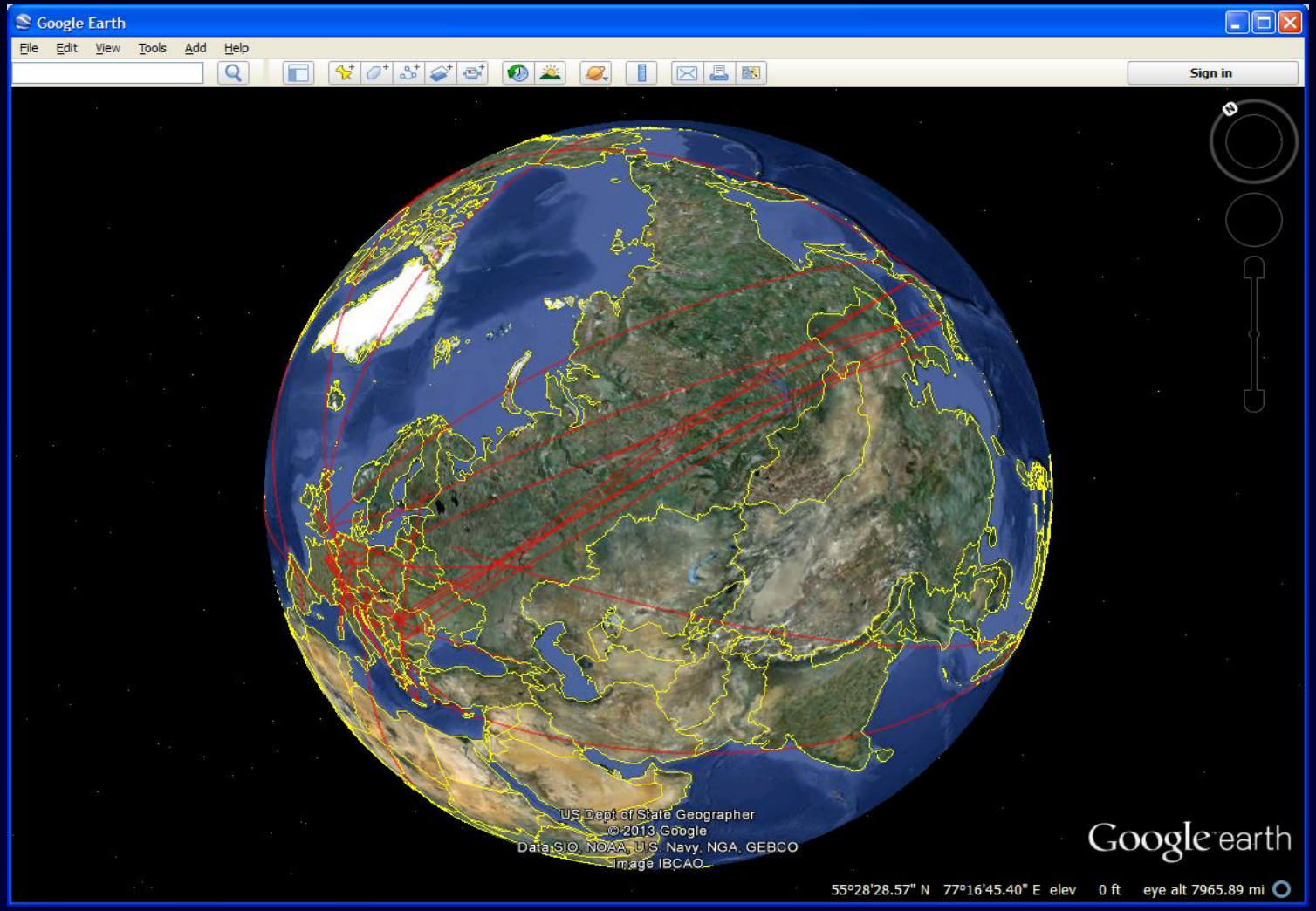
World Map View of Active DX

"6m" on Google Earth

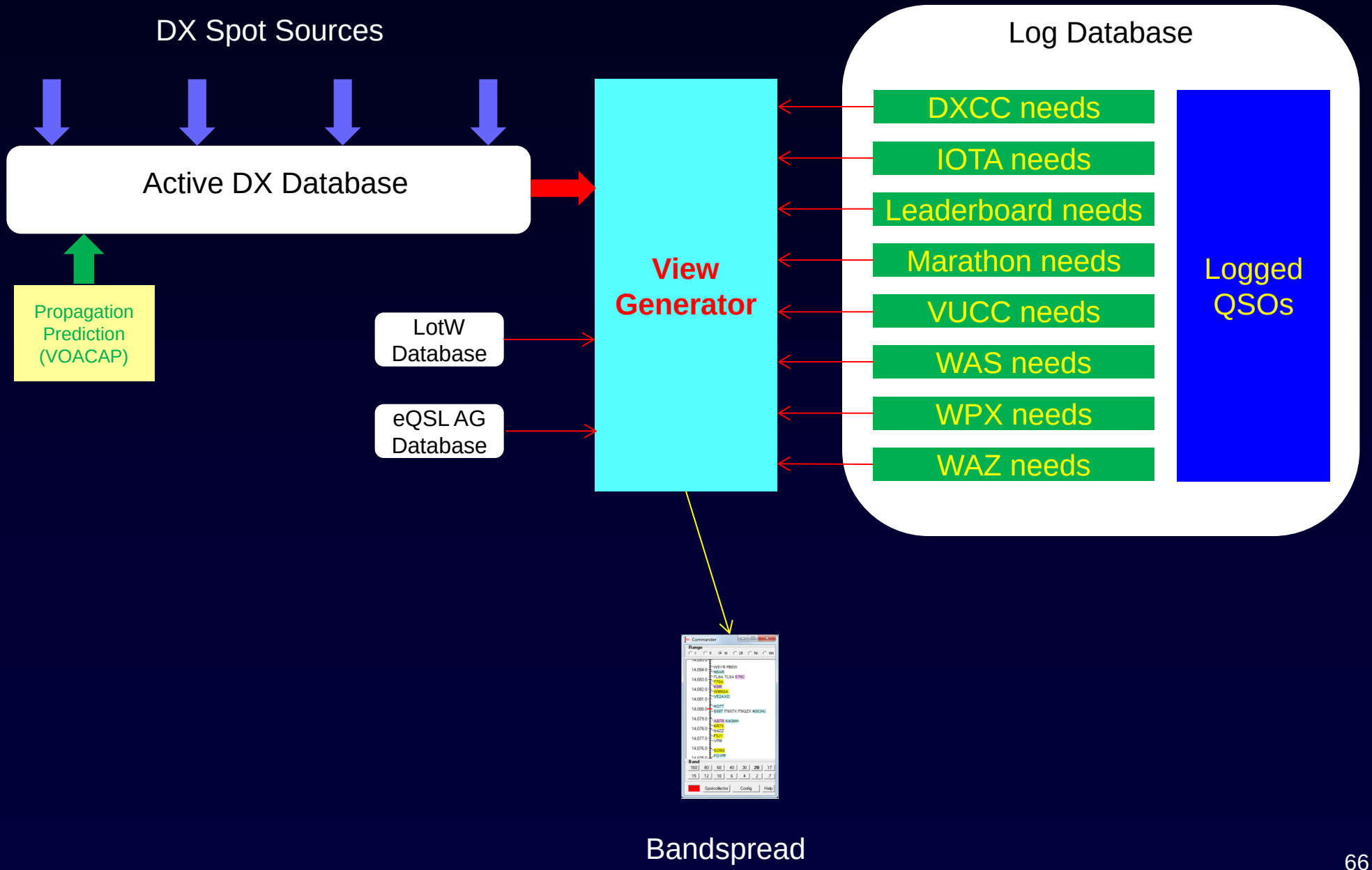


World Map View of Active DX

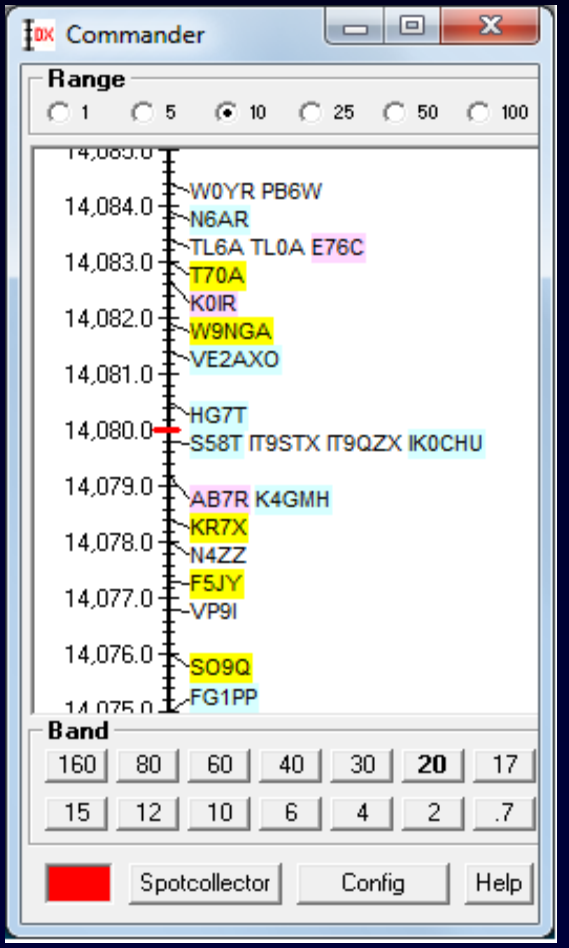
"12m" on Google Earth



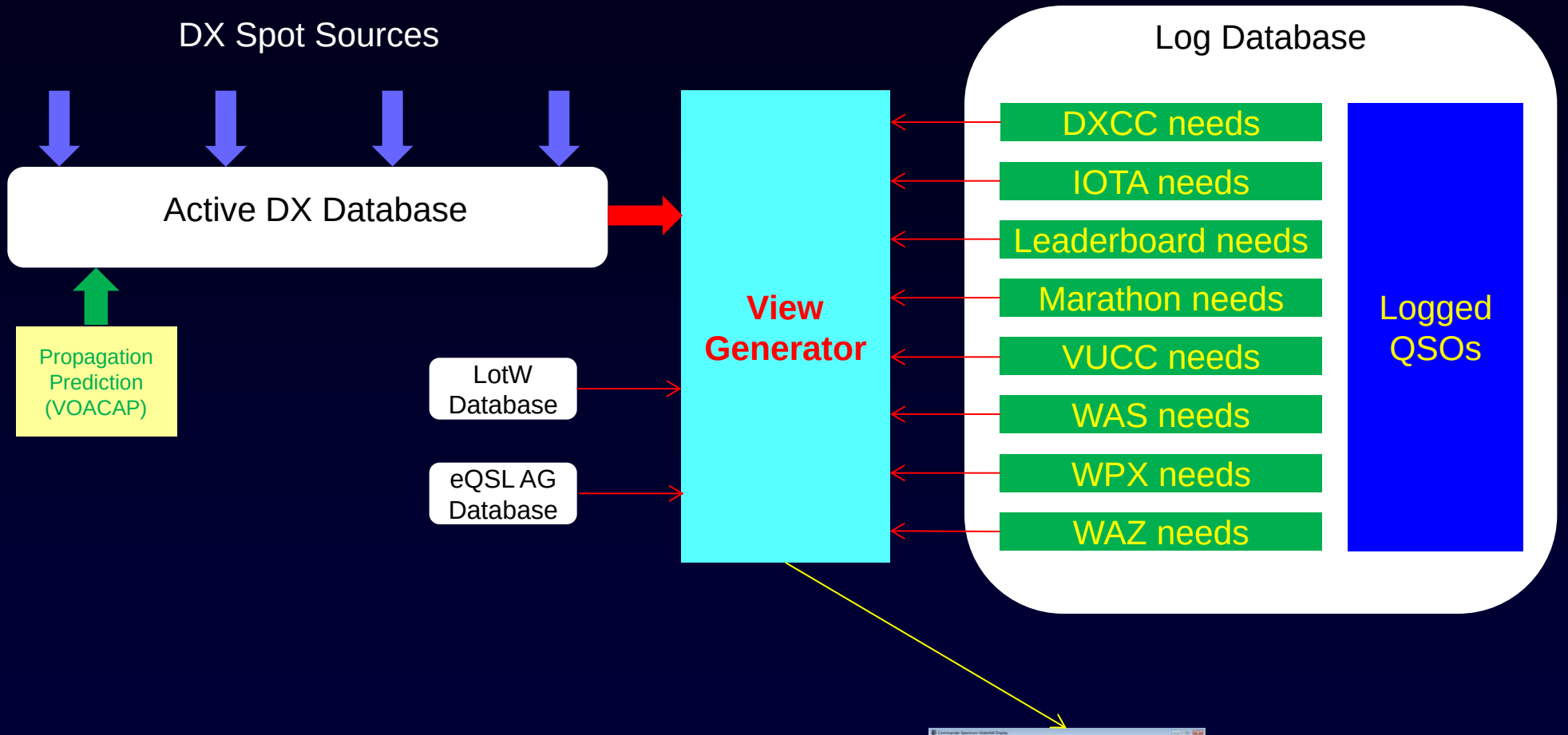
Bandspread View of Active DX

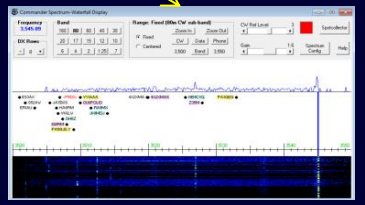


Bandspread View of Active DX



Spectrum-Waterfall View of Active DX

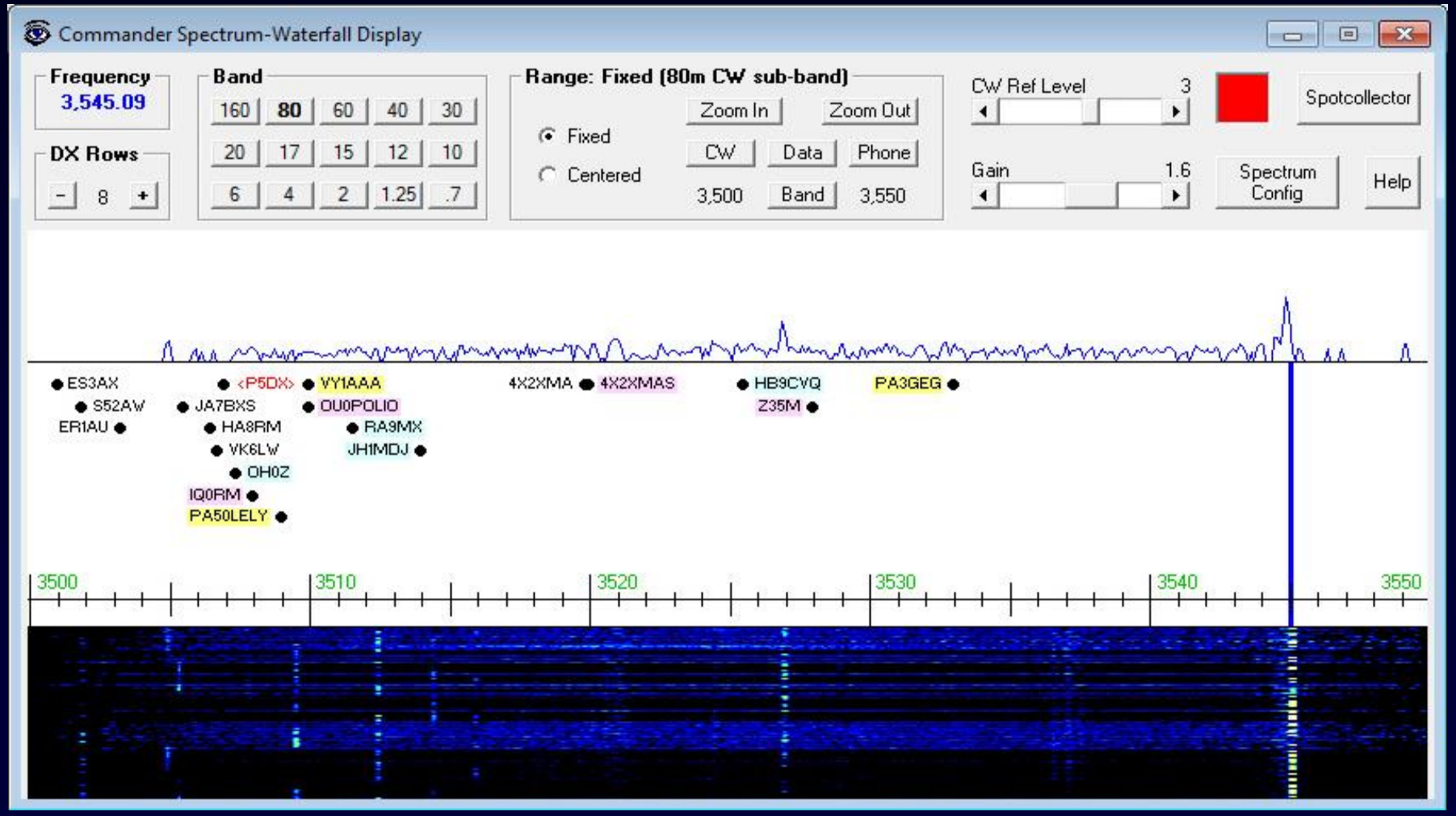




Spectrum

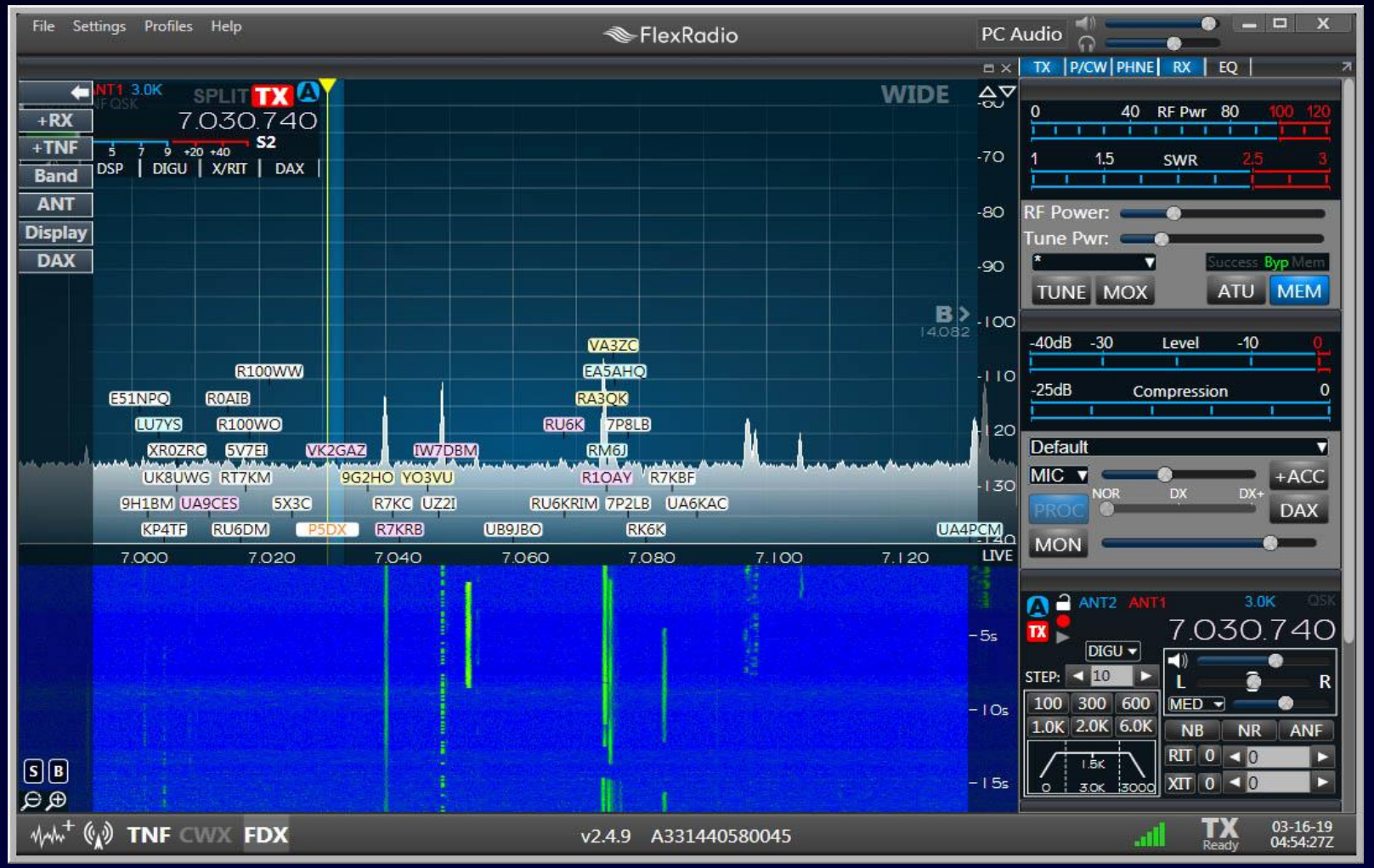
Spectrum-Waterfall View of Active DX

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



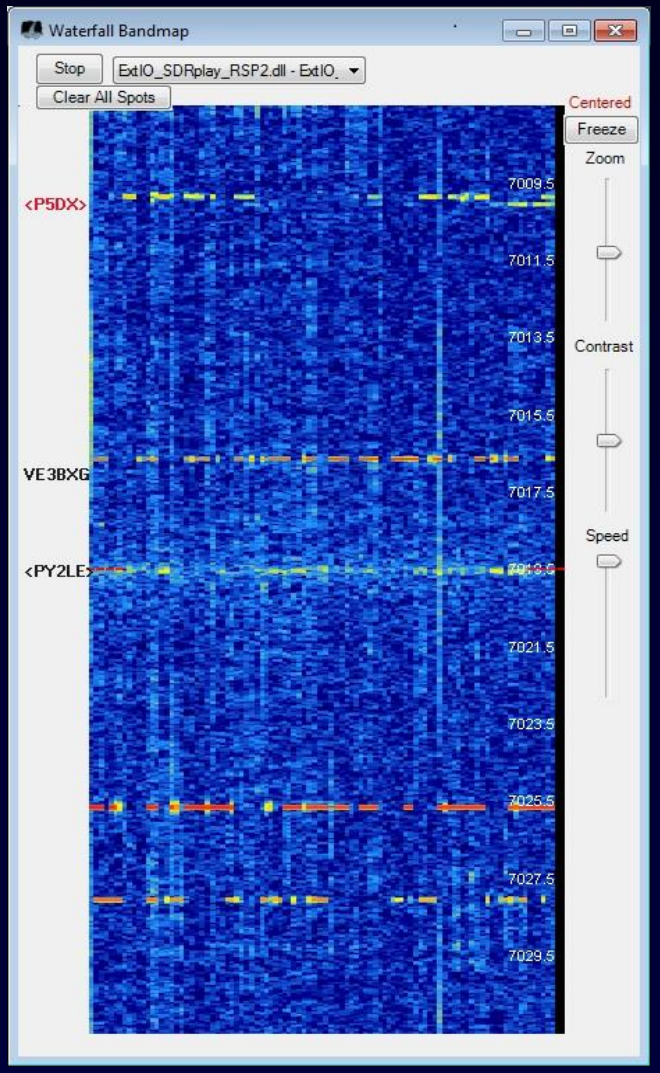
Spectrum-Waterfall View of Active DX

Flex Signature Radios



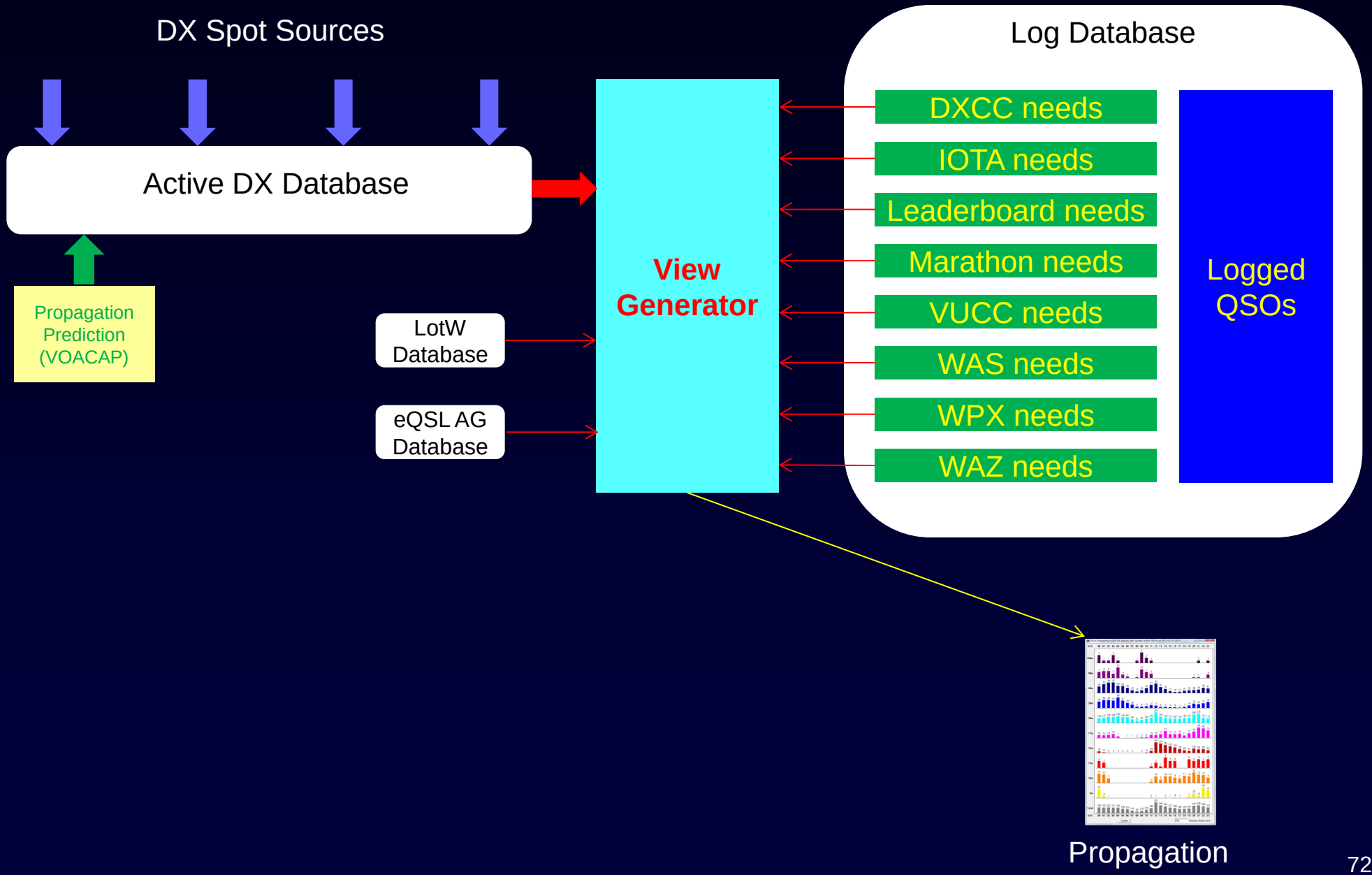
Spectrum-Waterfall View of Active DX

Just Released: Interoperation with N2IC's Waterfall Bandmap

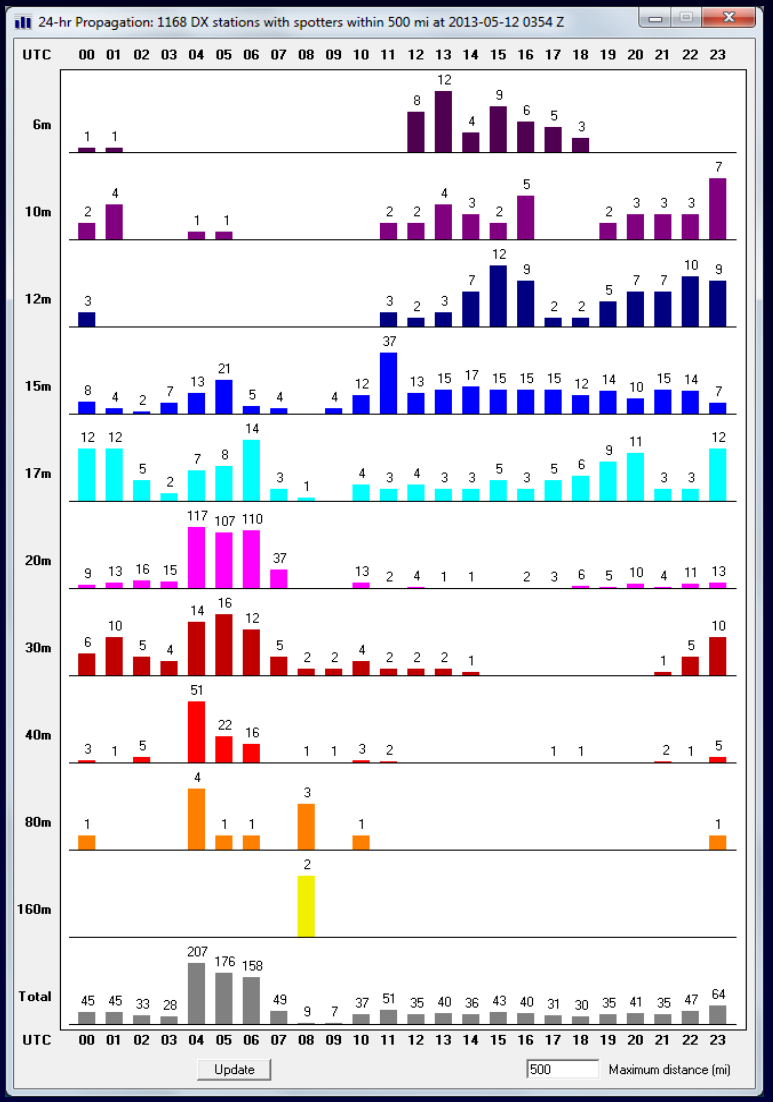


- Supports most SDRs
- RF or IF input

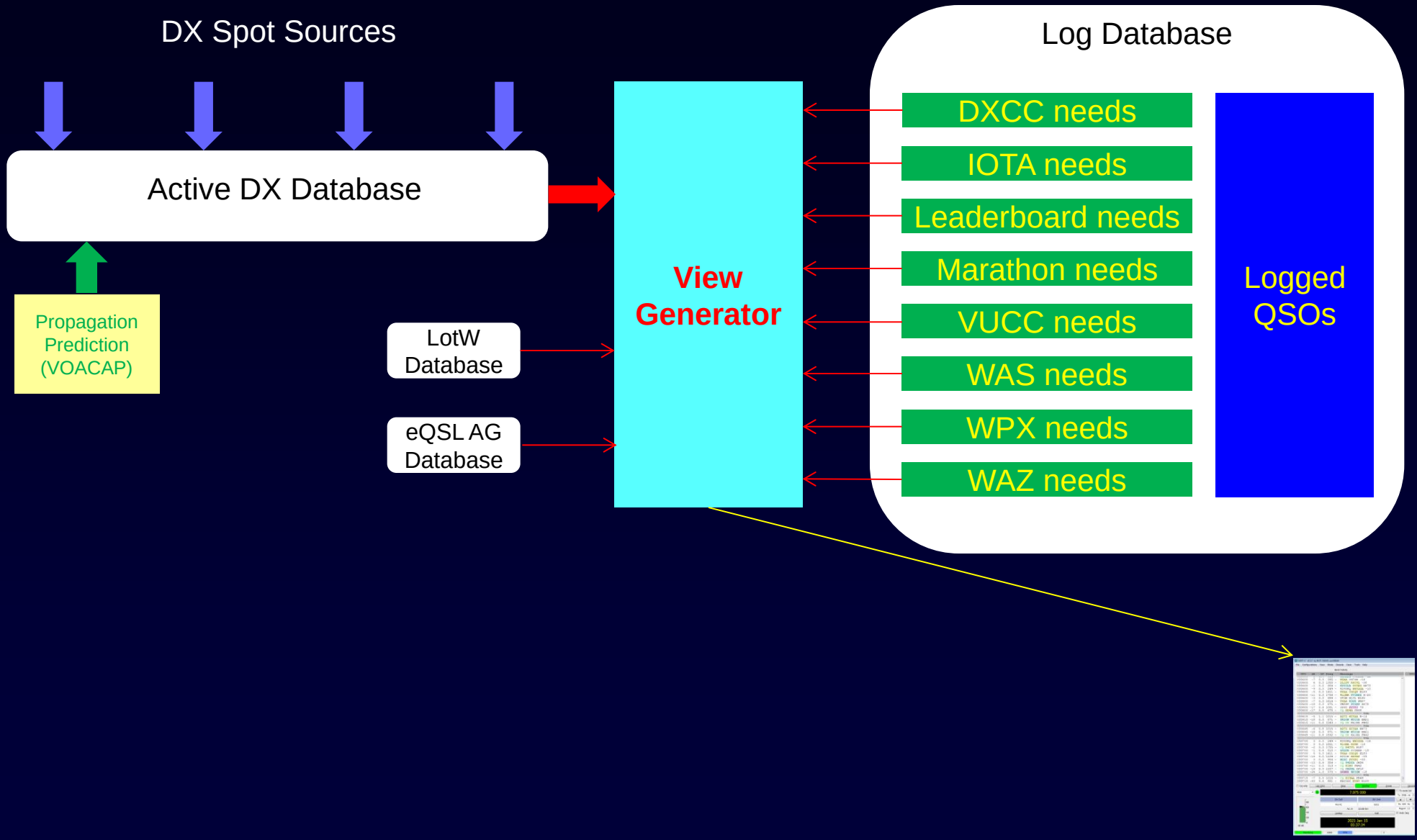
Propagation View of Active DX



Propagation View of Active DX

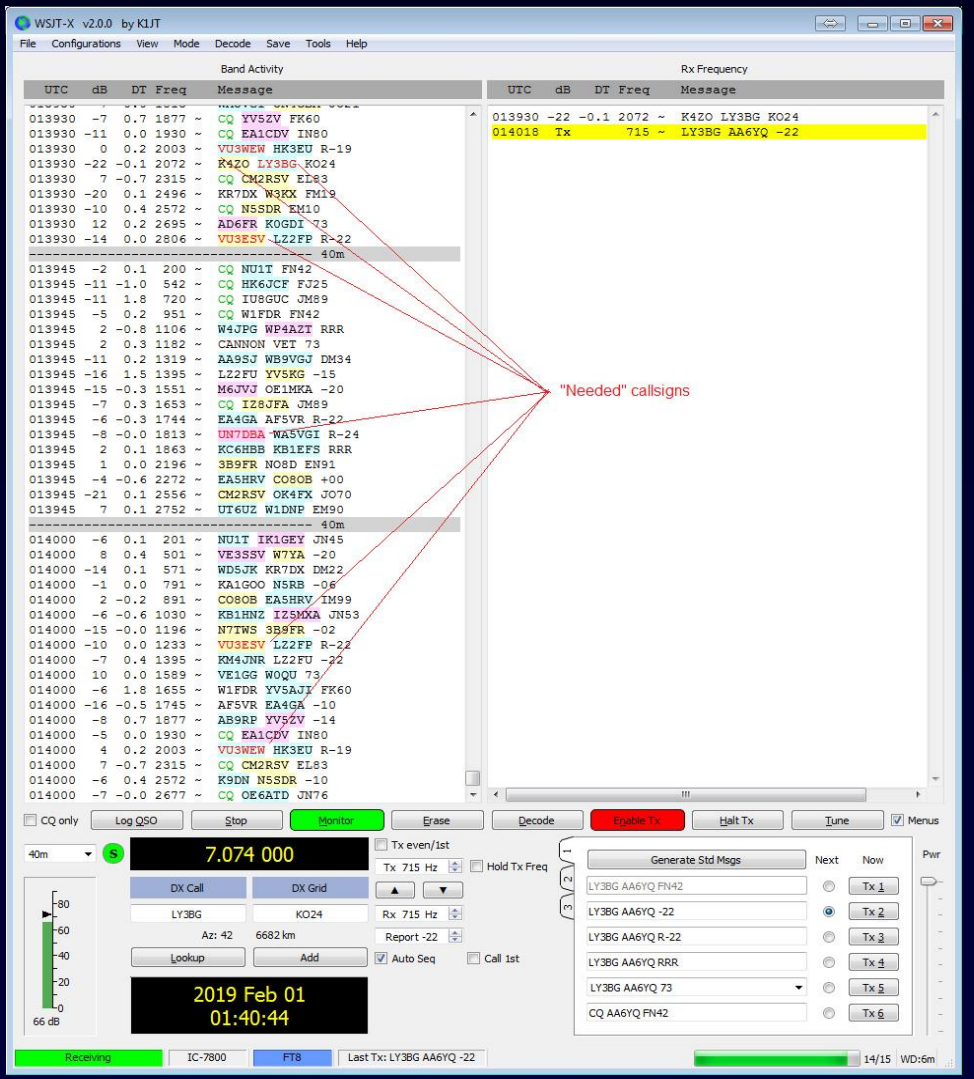


WSJT-X View of Active DX



WSJT-X View of Active DX

Log Database



Multiple Views of Active DX

DX Spot Sources

Active DX Database

Propagation Prediction (VOACAP)

LotW Database

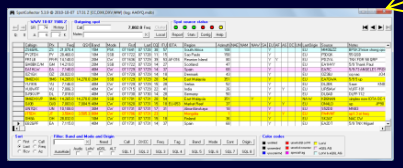
eQSL AG Database

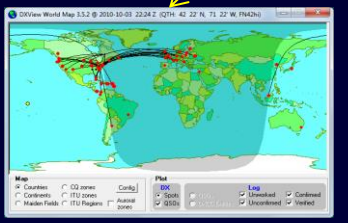
View Generator

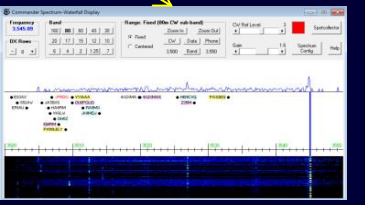
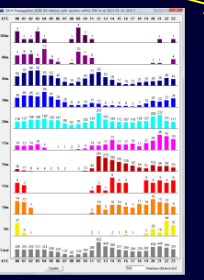
Log Database

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

Logged QSOs



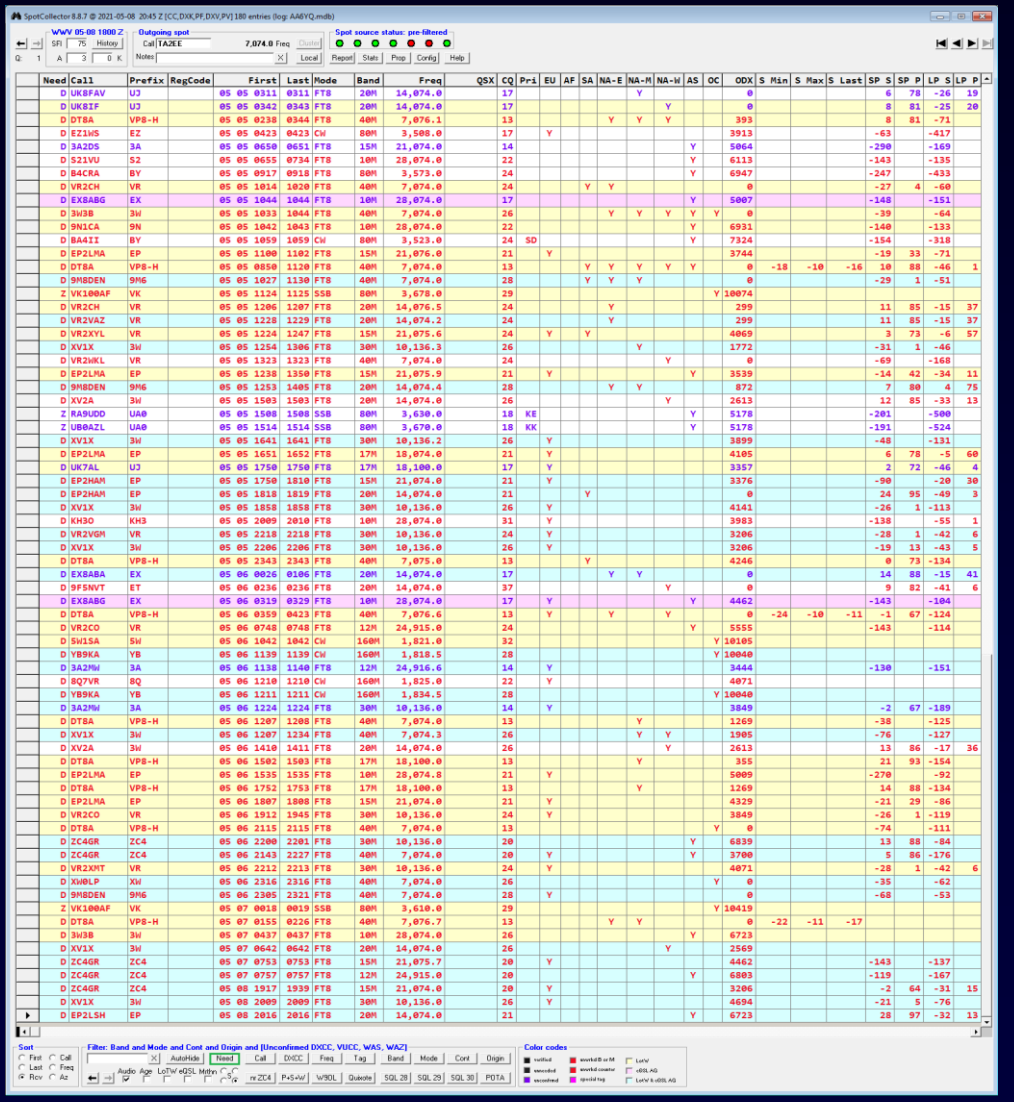

Tabular | Audio/Email | World Map | Bandspread | Spectrum | Propagation | WSJT-X

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?



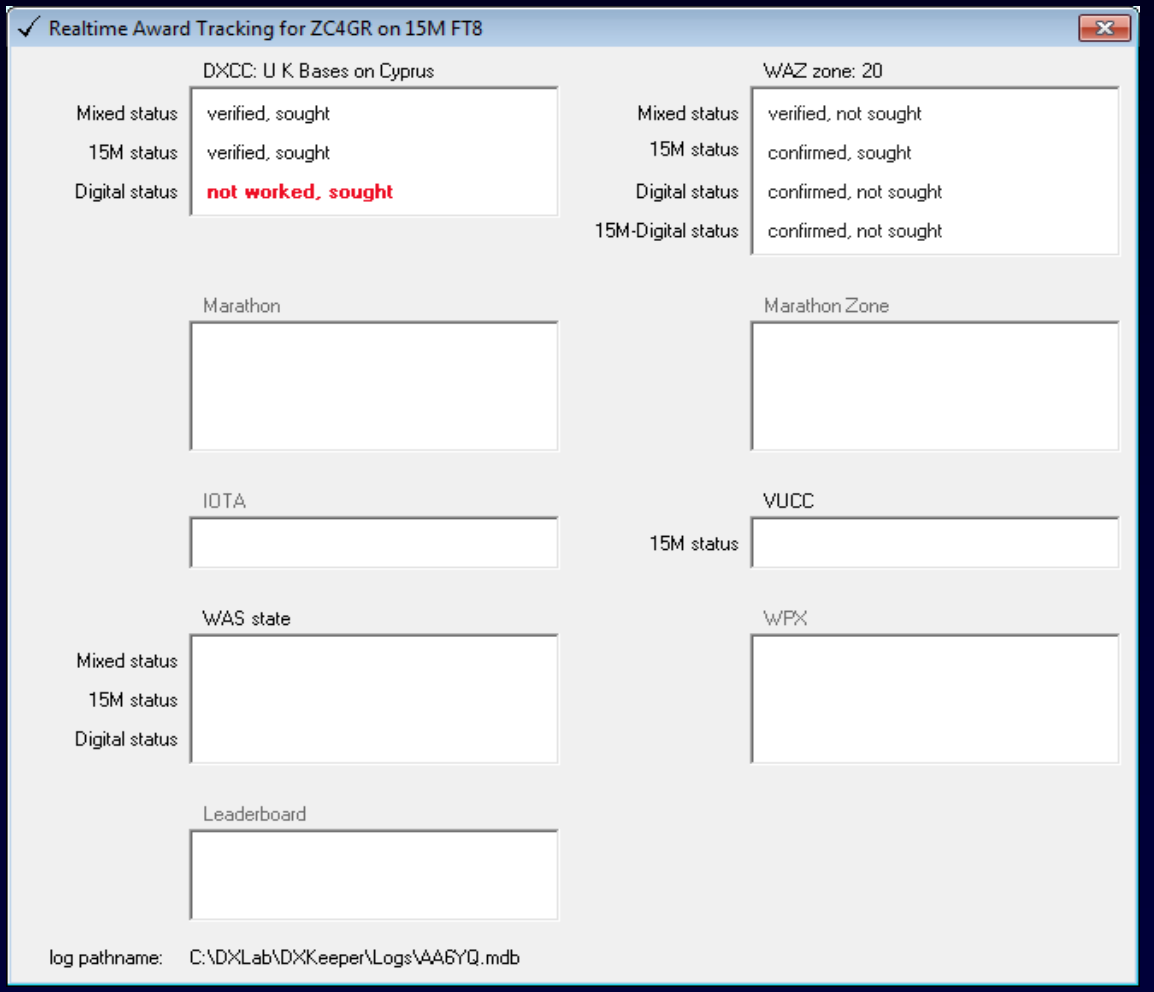
Need	Call	Prefix	RegCode	First	Last	Mode	Band	Freq	QSX	CQ	Pri	EU	AF	SA	NA-E	NA-M	NA-W	AS	OC	ODX	S Min	S Max	S Last	SP S	SP P	LP S	LP P
D	UK8FAV	UJ		05 05 0311	0311	FT8	20M	14,074.0		17						Y				0				6	78	-26	19
D	UK8IF	UJ		05 05 0342	0343	FT8	20M	14,074.0		17							Y			0				8	81	-25	20
D	DT8A	VP8-H		05 05 0238	0344	FT8	40M	7,076.1		13					Y	Y	Y			393				8	81	-71	
D	EZ1WS	EZ		05 05 0423	0423	CW	80M	3,508.0		17		Y								3913				-63		-417	
D	3A2DS	3A		05 05 0650	0651	FT8	15M	21,074.0		14									Y	5064				-290		-169	
D	S21VU	S2		05 05 0655	0734	FT8	10M	28,074.0		22									Y	6113				-143		-135	
D	B4CRA	BY		05 05 0917	0918	FT8	80M	3,573.0		24									Y	6947				-247		-433	
D	VR2CH	VR		05 05 1014	1020	FT8	40M	7,074.0		24				Y	Y					0				-27	4	-60	
D	EX8ABG	EX		05 05 1044	1044	FT8	10M	28,074.0		17									Y	5007				-148		-151	
D	3W3B	3W		05 05 1033	1044	FT8	40M	7,074.0		26					Y	Y	Y	Y	Y	0				-39		-64	
D	9N1CA	9N		05 05 1042	1043	FT8	10M	28,074.0		22									Y	6931				-140		-133	
D	BA4II	BY		05 05 1059	1059	CW	80M	3,523.0		24	SD								Y	7324				-154		-318	
D	EP2LMA	EP		05 05 1100	1102	FT8	15M	21,076.0		21		Y								3744				-19	33	-71	
D	DT8A	VP8-H		05 05 0850	1120	FT8	40M	7,074.0		13				Y	Y	Y	Y	Y		0	-18	-10	-16	10	88	-46	1
D	9M8DEN	9M6		05 05 1027	1130	FT8	40M	7,074.0		28				Y	Y	Y				0				-29	1	-51	
Z	VK100AF	VK		05 05 1124	1125	SSB	80M	3,678.0		29										Y 10074							
D	VR2CH	VR		05 05 1206	1207	FT8	20M	14,076.5		24					Y					299				11	85	-15	37
D	VR2VAZ	VR		05 05 1228	1229	FT8	20M	14,074.2		24					Y					299				11	85	-15	37
D	VR2XYL	VR		05 05 1224	1247	FT8	15M	21,075.6		24		Y		Y						4069				3	73	-6	57
D	XV1X	3W		05 05 1254	1306	FT8	30M	10,136.3		26						Y				1772				-31	1	-46	
D	VR2HKL	VR		05 05 1323	1323	FT8	40M	7,074.0		24							Y			0				-69		-168	
D	EP2LMA	EP		05 05 1238	1350	FT8	15M	21,075.9		21		Y							Y	3539				-14	42	-34	11
D	9M8DEN	9M6		05 05 1253	1405	FT8	20M	14,074.4		28					Y	Y				872				7	80	4	75
D	XV2A	3W		05 05 1503	1503	FT8	20M	14,074.0		26							Y			2613				12	85	-33	13
Z	RA9UDD	UA0		05 05 1508	1508	SSB	80M	3,630.0		18	KE								Y	5178				-201		-500	
Z	UB0AZL	UA0		05 05 1514	1514	SSB	80M	3,670.0		18	KK								Y	5178				-191		-524	
D	XV1X	3W		05 05 1641	1641	FT8	30M	10,136.2		26		Y								3899				-48		-131	
D	EP2LMA	EP		05 05 1651	1652	FT8	17M	18,074.0		21		Y								4105				6	78	-5	60
D	UK7AL	UJ		05 05 1750	1750	FT8	17M	18,100.0		17		Y								3357				2	72	-46	4
D	EP2HAM	EP		05 05 1750	1810	FT8	15M	21,074.0		21		Y								3376				-90		-20	30
D	EP2HAM	EP		05 05 1818	1819	FT8	20M	14,074.0		21				Y						0				24	95	-49	3
D	XV1X	3W		05 05 1858	1858	FT8	30M	10,136.0		26		Y								4141				-26	1	-113	
D	KH3O	KH3		05 05 2009	2010	FT8	10M	28,074.0		31		Y								3983				-138		-55	1
D	VR2VGM	VR		05 05 2218	2218	FT8	30M	10,136.0		24		Y								3206				-28	1	-42	6
D	XV1X	3W		05 05 2206	2206	FT8	30M	10,136.0		26		Y								3206				-19	13	-43	5
D	DT8A	VP8-H		05 05 2343	2343	FT8	40M	7,075.0		13				Y						4246				0	73	-134	
D	EX8ABA	EX		05 06 0026	0106	FT8	20M	14,074.0		17						Y	Y			0				14	88	-15	41
D	9F5NVT	ET		05 06 0236	0236	FT8	20M	14,074.0		37								Y		0				9	82	-41	6
D	EX8ABG	EX		05 06 0319	0329	FT8	10M	28,074.0		17		Y							Y	4462				-143		-104	
D	DT8A	VP8-H		05 06 0359	0423	FT8	40M	7,076.6		13		Y			Y		Y			0	-24	-10	-11	-1	67	-124	
D	VR2CO	VR		05 06 0748	0748	FT8	12M	24,915.0		24									Y	5555				-143		-114	
D	5W1SA	5W		05 06 1042	1042	CW	160M	1,821.0		32										Y 10105							
D	YB9KA	YB		05 06 1139	1139	CW	160M	1,818.5		28										Y 10040							
D	3A2MW	3A		05 06 1138	1140	FT8	12M	24,916.6		14		Y								3444				-130		-151	
D	8Q7VR	8Q		05 06 1210	1210	CW	160M	1,825.0		22		Y								4071							
D	YB9KA	YB		05 06 1211	1211	CW	160M	1,834.5		28										Y 10040							
D	3A2MW	3A		05 06 1224	1224	FT8	30M	10,136.0		14		Y								3849				-2	67	-189	
D	DT8A	VP8-H		05 06 1207	1208	FT8	40M	7,074.0		13						Y				1269				-38		-125	
D	XV1X	3W		05 06 1207	1234	FT8	40M	7,074.3		26						Y	Y			1905				-76		-127	
D	XV2A	3W		05 06 1410	1411	FT8	20M	14,074.0		26							Y			2613				13	86	-17	36
D	DT8A	VP8-H		05 06 1502	1503	FT8	17M	18,100.0		13						Y				355				21	93	-154	
D	EP2LMA	EP		05 06 1535	1535	FT8	10M	28,074.8		21		Y								5009				-270		-92	
D	DT8A	VP8-H		05 06 1752	1753	FT8	17M	18,100.0		13						Y				1269				14	88	-134	
D	EP2LMA	EP		05 06 1807	1808	FT8	15M	21,074.0		21		Y								4329				-21	29	-86	
D	VR2CO	VR		05 06 1912	1945	FT8	30M	10,136.0		24		Y								3849				-26	1	-119	
D	DT8A	VP8-H		05 06 2115	2115	FT8	40M	7,074.0		13									Y	0				-74		-111	
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							Y	3700				5	86	-176	
D	VR2XMT	VR		05 06 2212	2213	FT8	30M	10,136.0		24		Y								4071				-28	1	-42	6
D	XW0LP	XW		05 06 2316	2316	FT8	40M	7,074.0		26									Y	0				-35		-62	
D	9M8DEN	9M6		05 06 2305	2321	FT8	40M	7,074.0		28		Y								0				-68		-53	
Z	VK100AF	VK		05 07 0018	0019	SSB	80M	3,610.0		29										Y 10419							
D	DT8A	VP8-H		05 07 0155	0226	FT8	40M	7,076.7		13					Y	Y				0	-22	-11	-17				
D	3W3B	3W		05 07 0437	0437	FT8	10M	28,074.0		26									Y	6723							
D	XV1X	3W		05 07 0642	0642	FT8	20M	14,074.0		26							Y			2569							
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
D	XV1X	3W		05 08 2009	2009	FT8	30M	10,136.0		26		Y								4694				-21	5	-76	
D	EP2LSH	EP		05 08 2016	2016	FT8	20M	14,074.0		21									Y	6723				28	97	-32	13

Interesting Targets

- 3W
- 5W
- 9M8
- 9N
- BA
- EP2LMA
- KH3O
- VP8-H
- VR
- XV
- YB
- ZC4

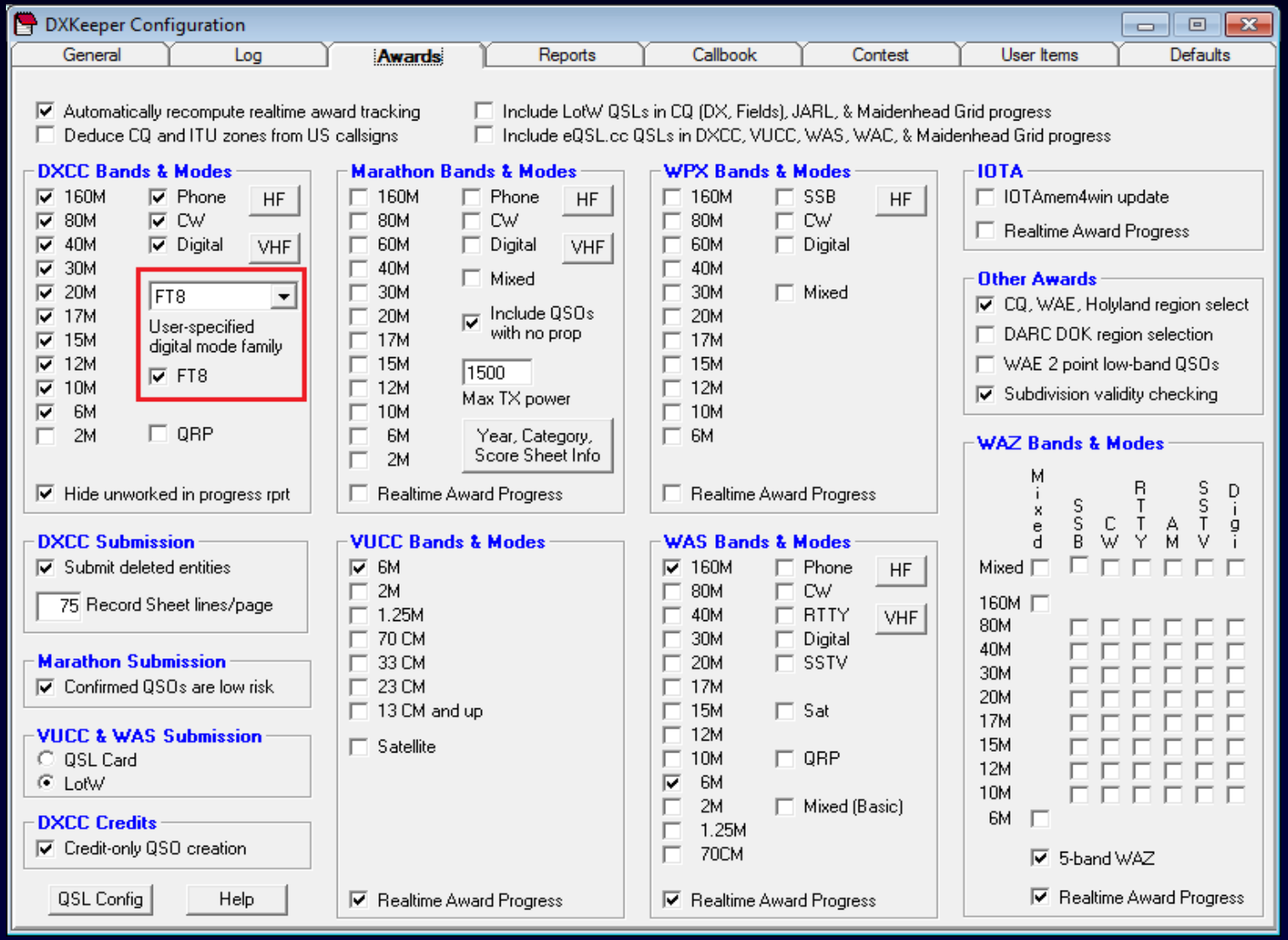
Almost All FT8 !

Award Tracking for ZC4GR on 15m FT8

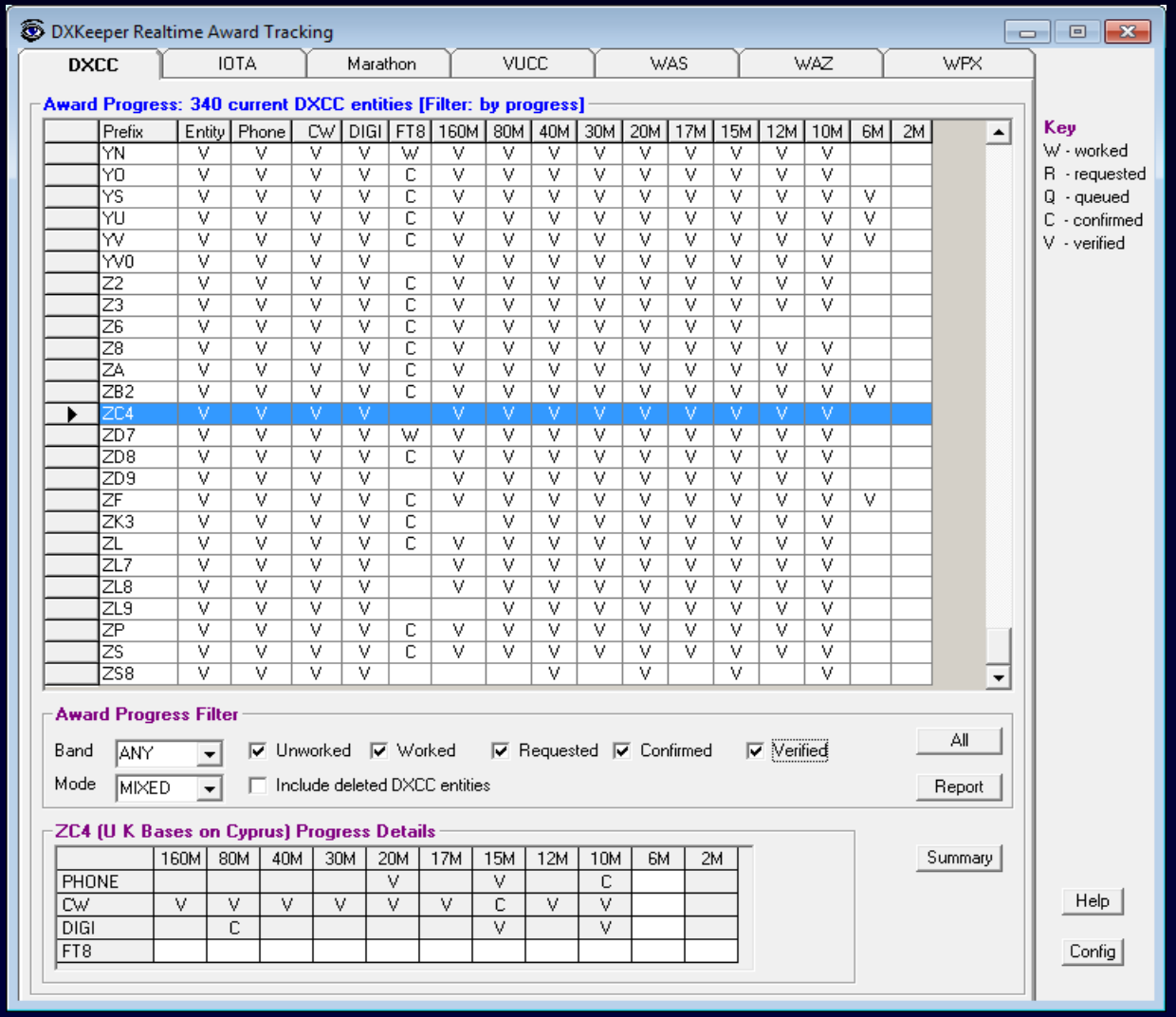


Finding and Working Needed DX

Because I'm Pursuing all DXCC Entities in FT8!

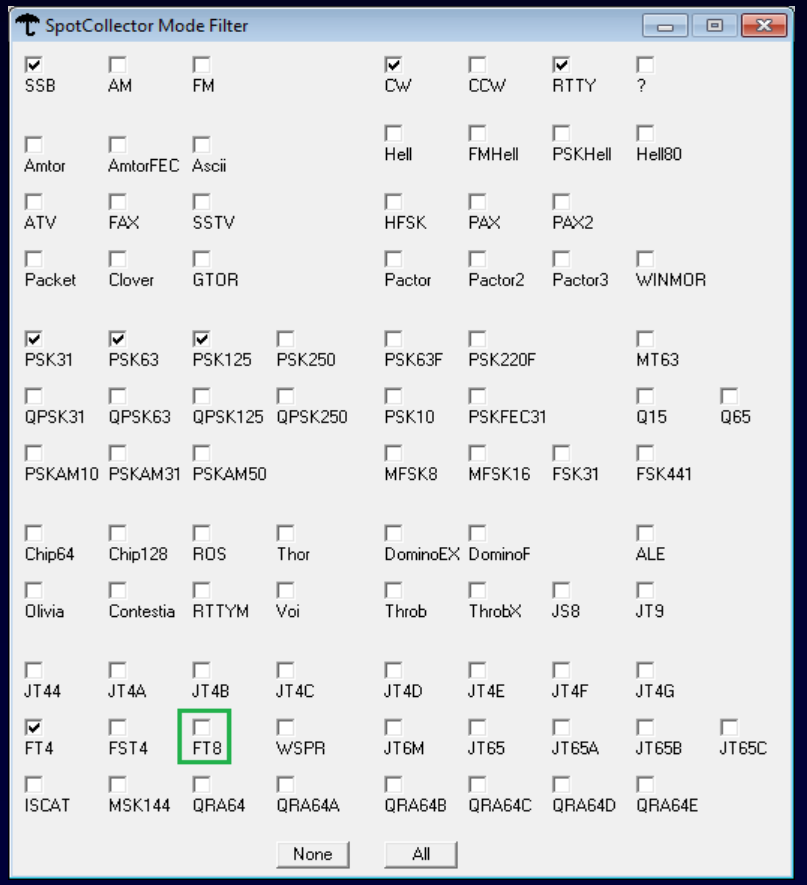


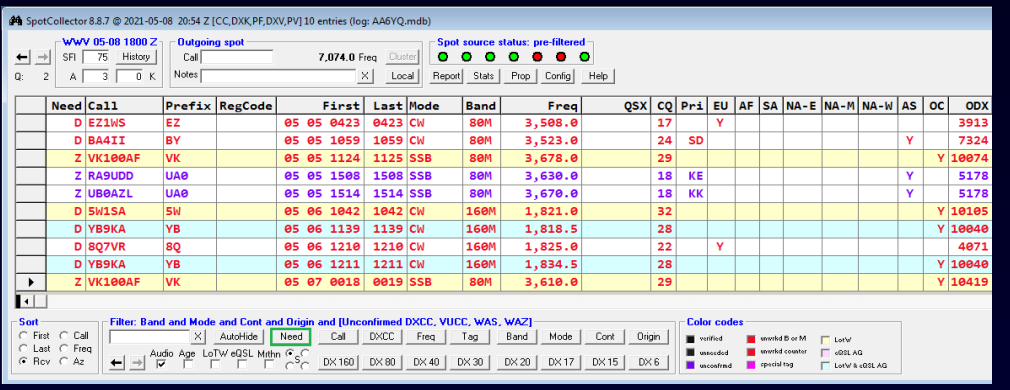
DXCC Award Tracking for ZC4GR



Finding and Working Needed DX

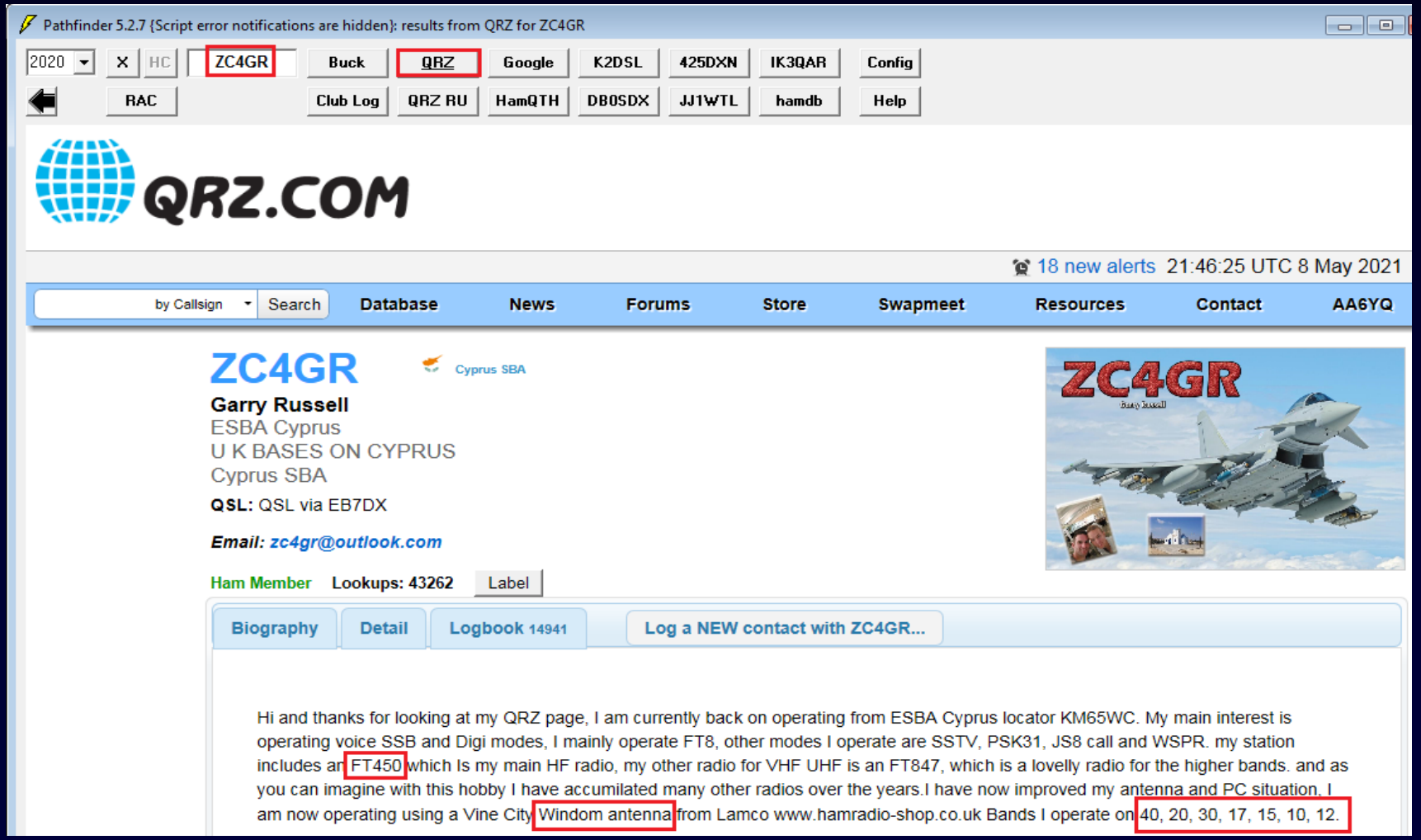
What is QRV in other than FT8 that I Need?





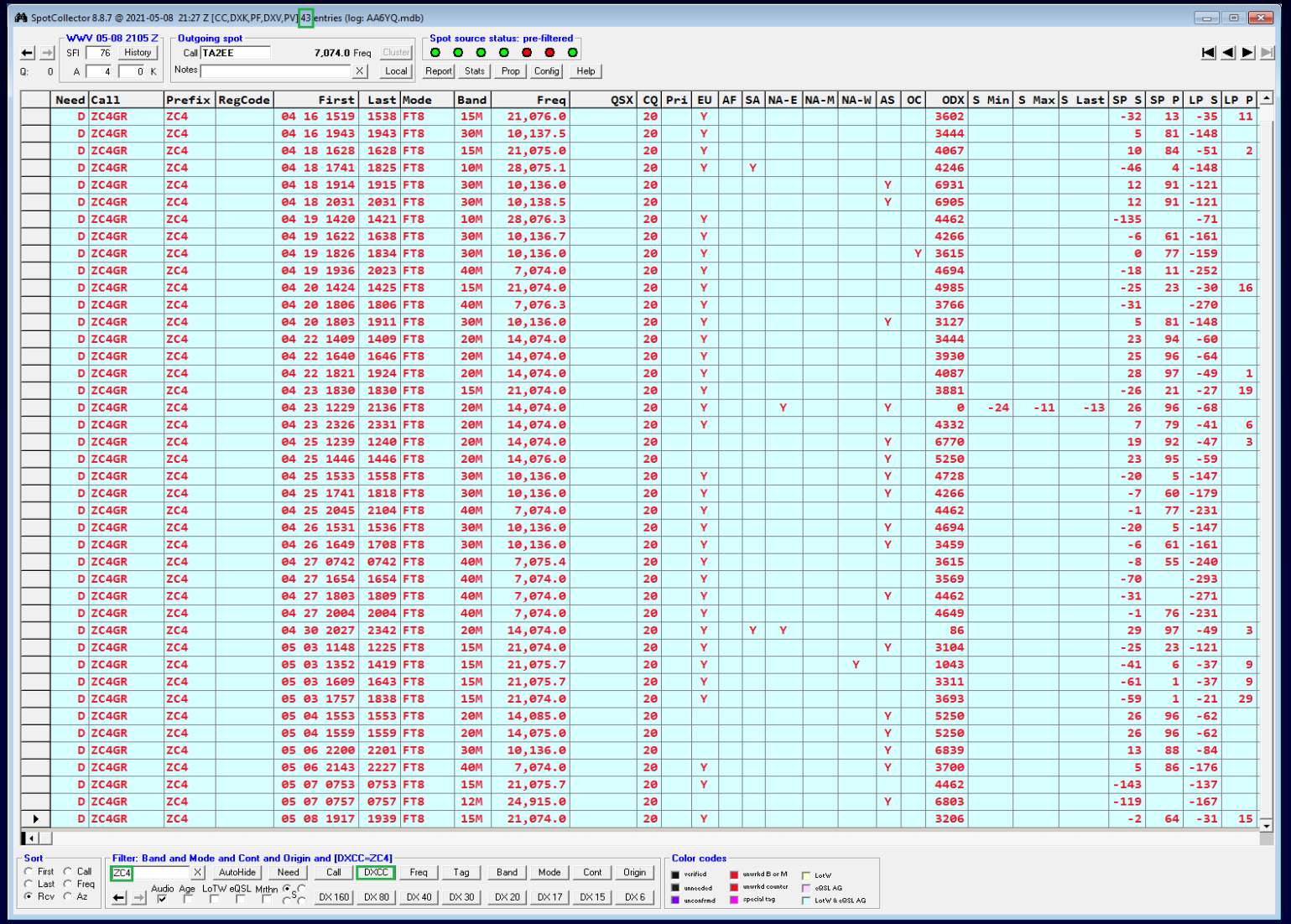
- Stations on 160m and 80m
  - EZ1WS not valid for DXCC
  - VK1000AF is in SSB, and is only needed for WAZ
  - The rest were spotted after my 1030Z sunrise

ZC4GR on FT8 Looks Challenging



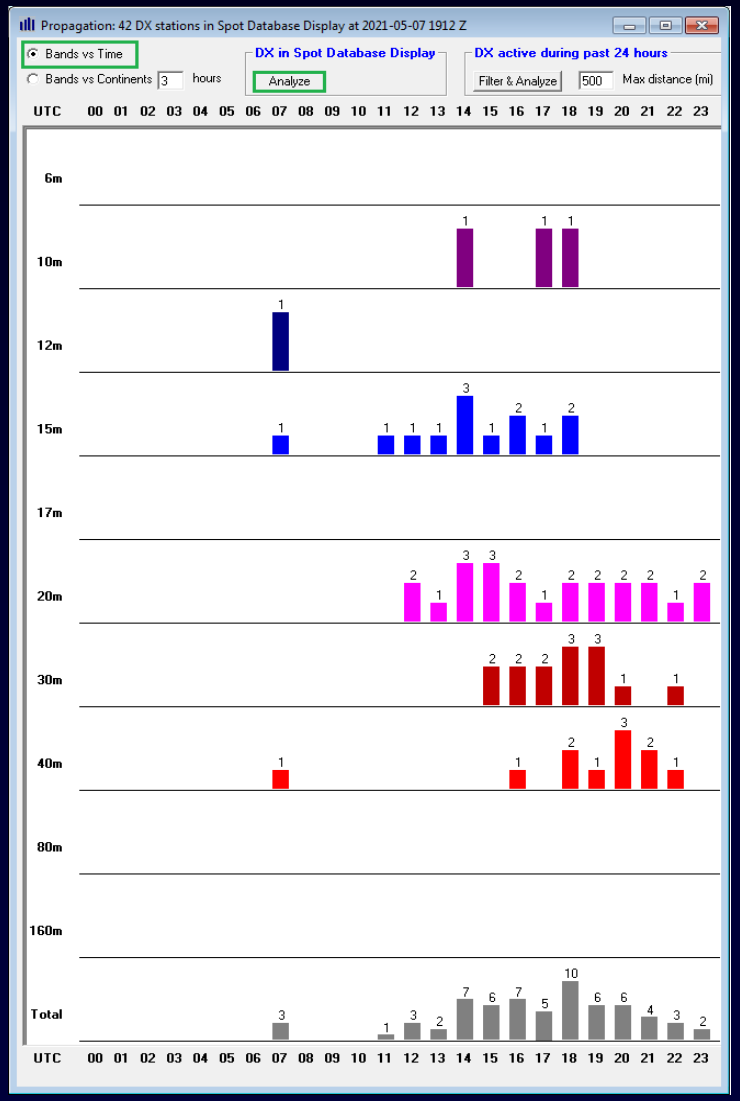
ZC4GR on FT8 Looks Challenging

Check for Recent Activity



Working ZC4GR on FT8

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

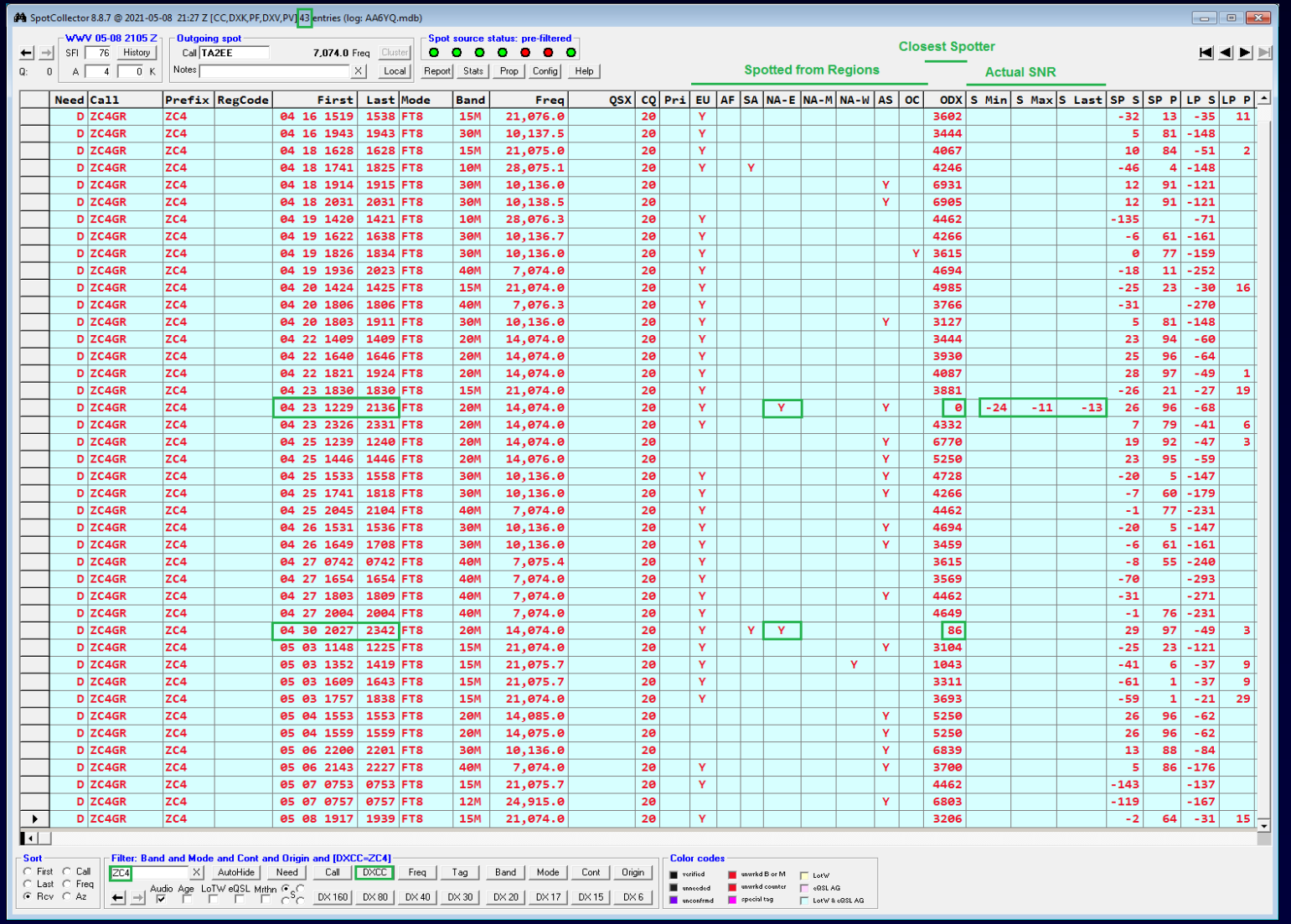


When QRV?

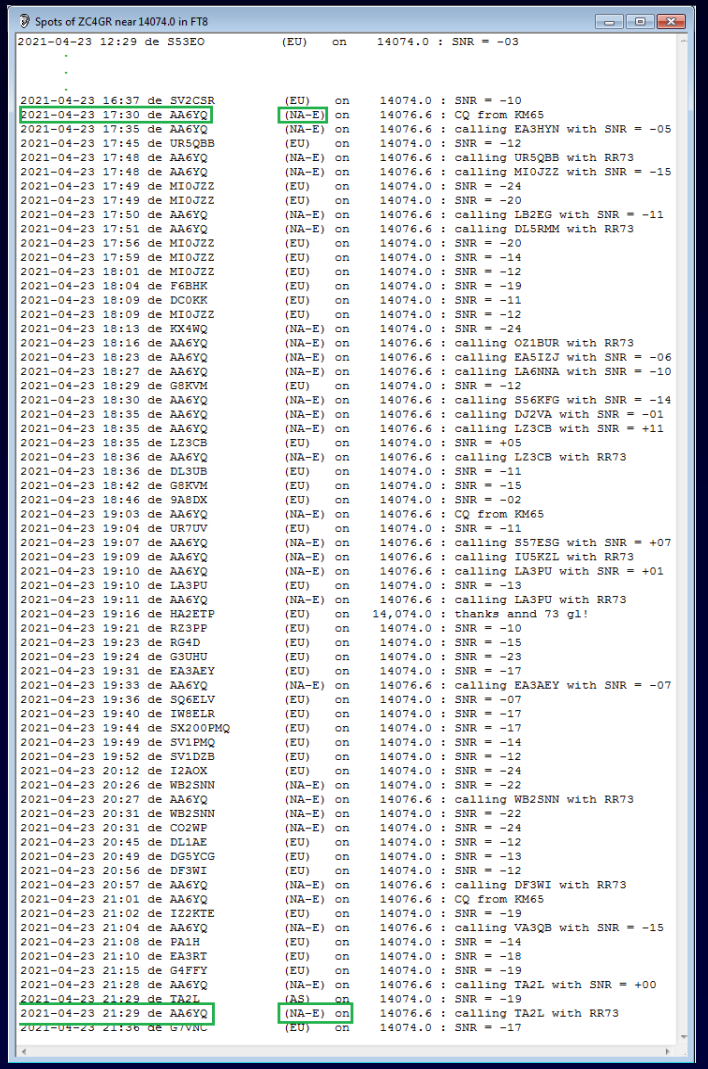
- 15m: 11Z to 18Z
- 20m: 12Z to 23Z
- 30m: 15Z to 20Z
- 40m: 16Z to 21Z

Working ZC4GR on FT8

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



20m ZC4GR Spots on 4/23 @ 1229Z

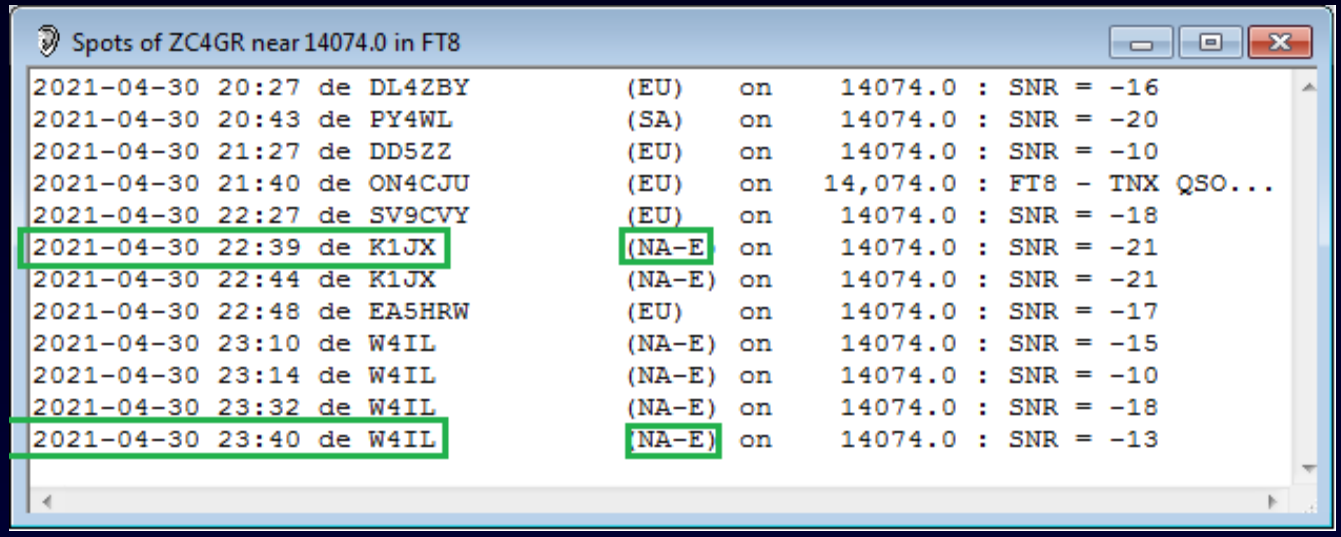


Spots of ZC4GR near 14074.0 in FT8

```
2021-04-23 12:29 de S53EO          (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 UR5QBB         (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 MI0JZZ with SNR = -15
2021-04-23 17:49 de MI0JZZ         (EU)    on    14074.0 : SNR = -24
2021-04-23 17:49 de MI0JZZ         (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 MI0JZZ         (EU)    on    14074.0 : SNR = -20
2021-04-23 17:59 de MI0JZZ         (EU)    on    14074.0 : SNR = -14
2021-04-23 18:01 de MI0JZZ         (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 MI0JZZ         (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 OZ1BUR 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 S56KFG 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 LZ3CB 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 S57ESG 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 annd 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 I2AOX          (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 CO2WP          (NA-E)  on    14074.0 : SNR = -24
2021-04-23 20:45 de DL1AE          (EU)    on    14074.0 : SNR = -12
2021-04-23 20:49 de DG5YCG         (EU)    on    14074.0 : SNR = -13
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 IZ2KTE         (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
```

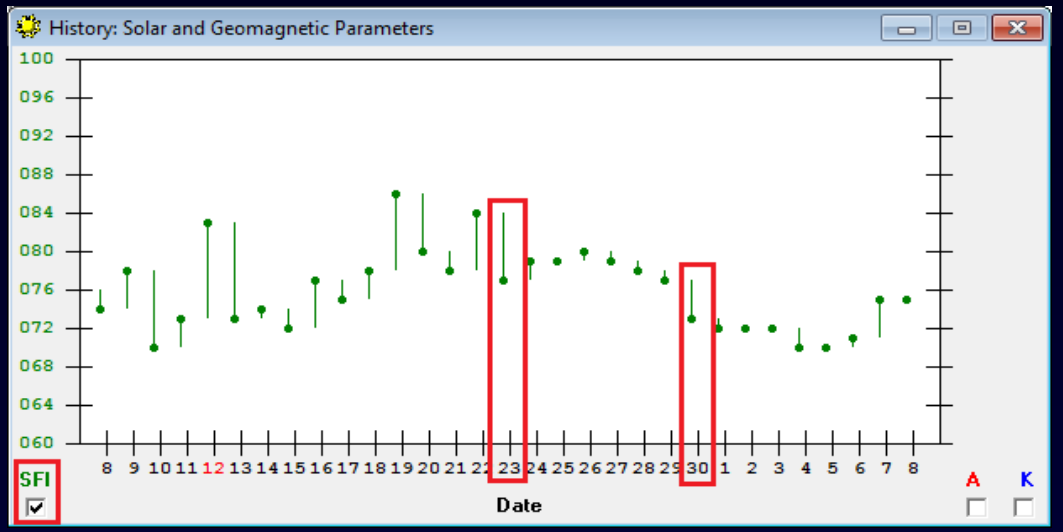
- QRV from 1229Z to 2136Z
- WSJT-X copied from 1730Z to 2129Z

20m ZC4GR Spots on 4/30 @ 2027Z

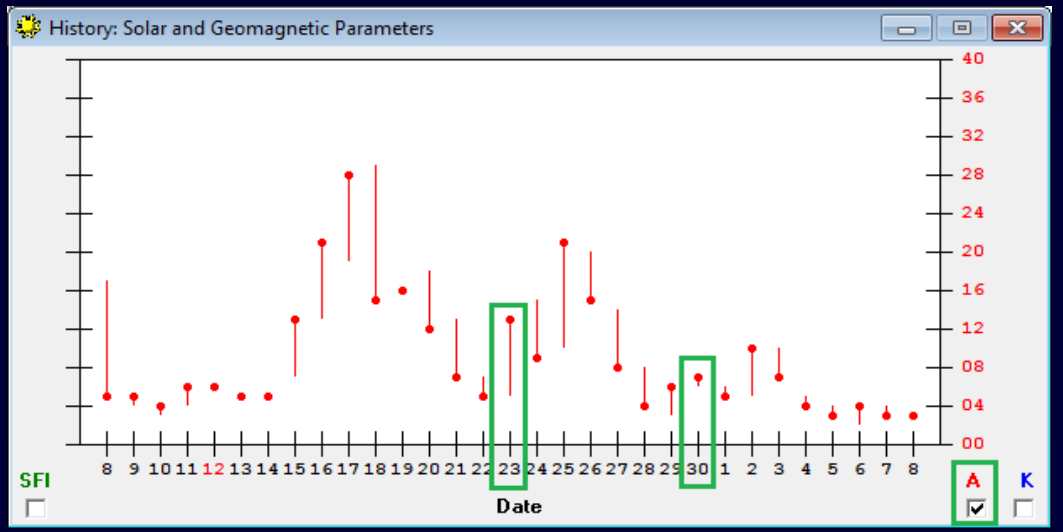


Propagation Conditions

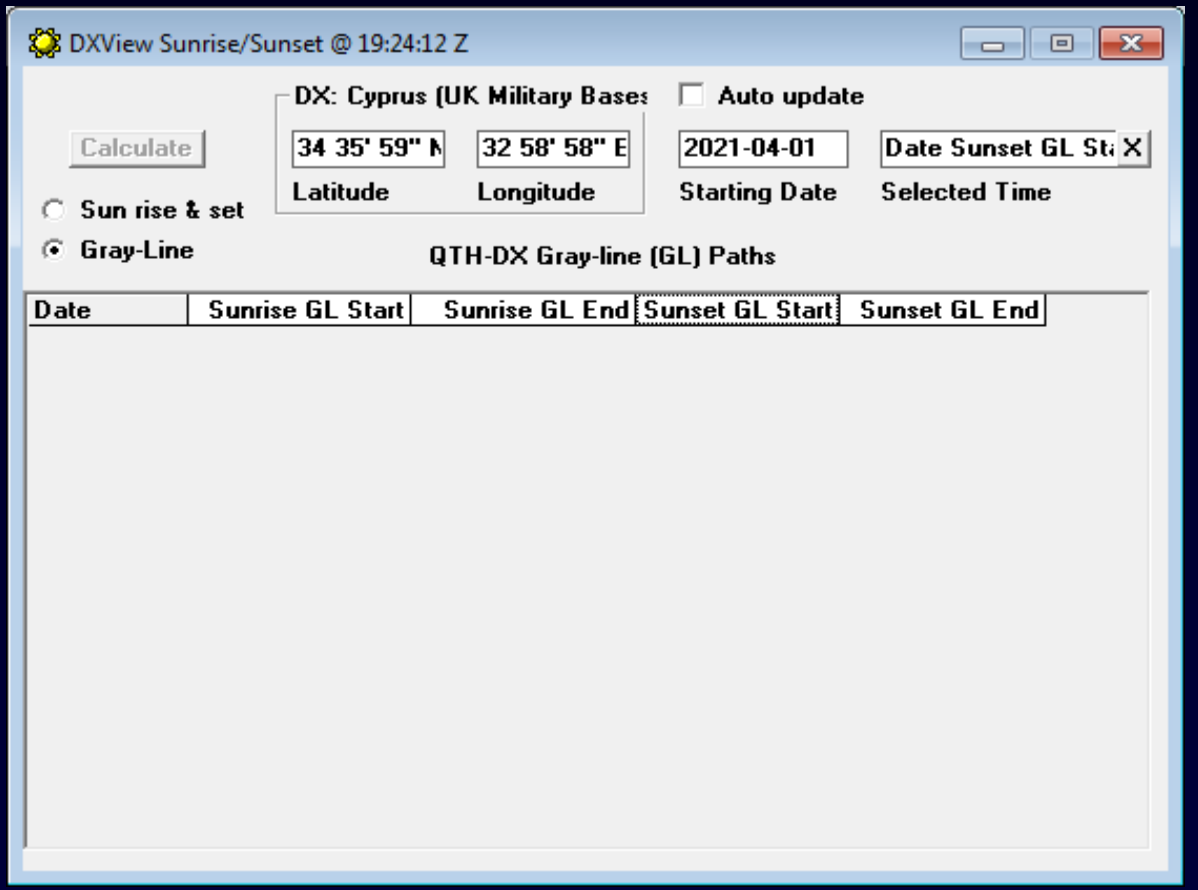
Solar Flux Index



Geogmagnetic A Index



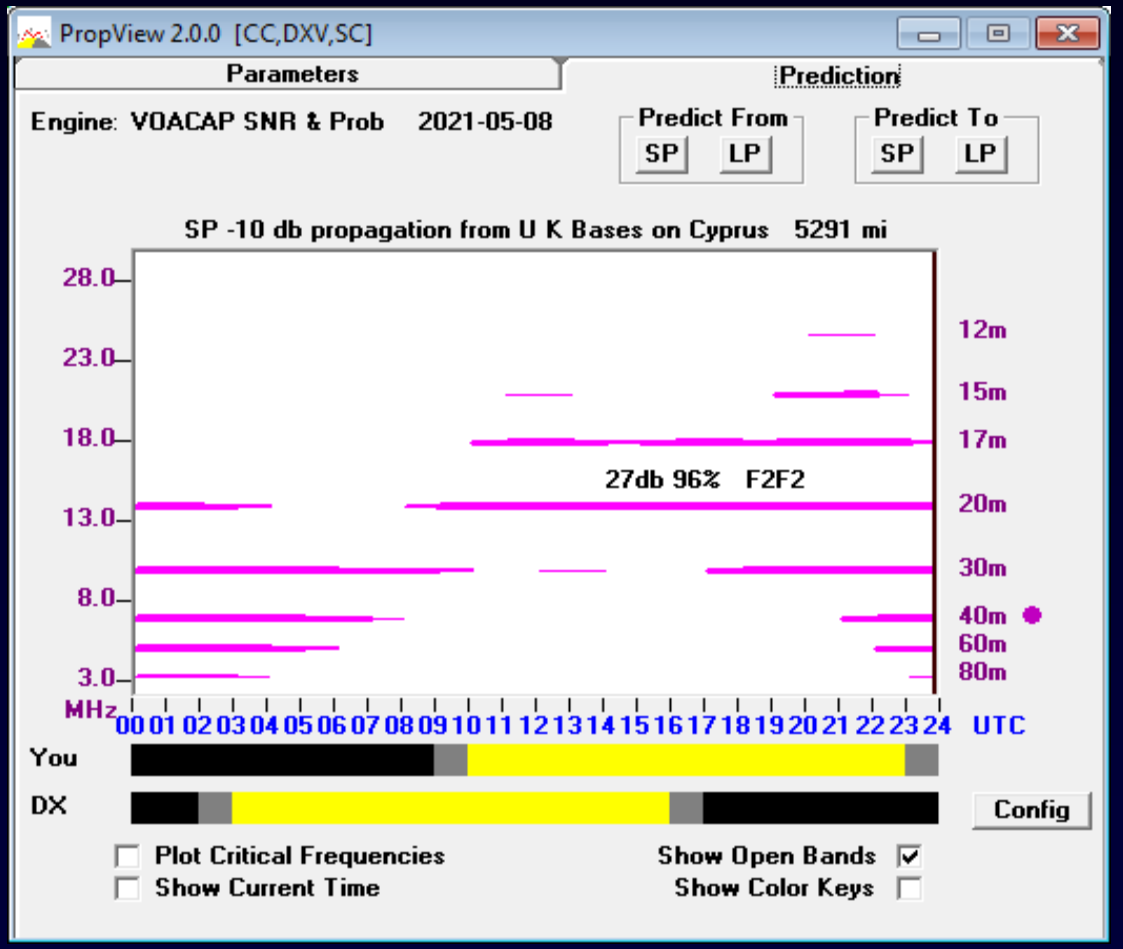
Check for Gray-Line Enhancement



None!

20m Propagation Forecast to ZC4

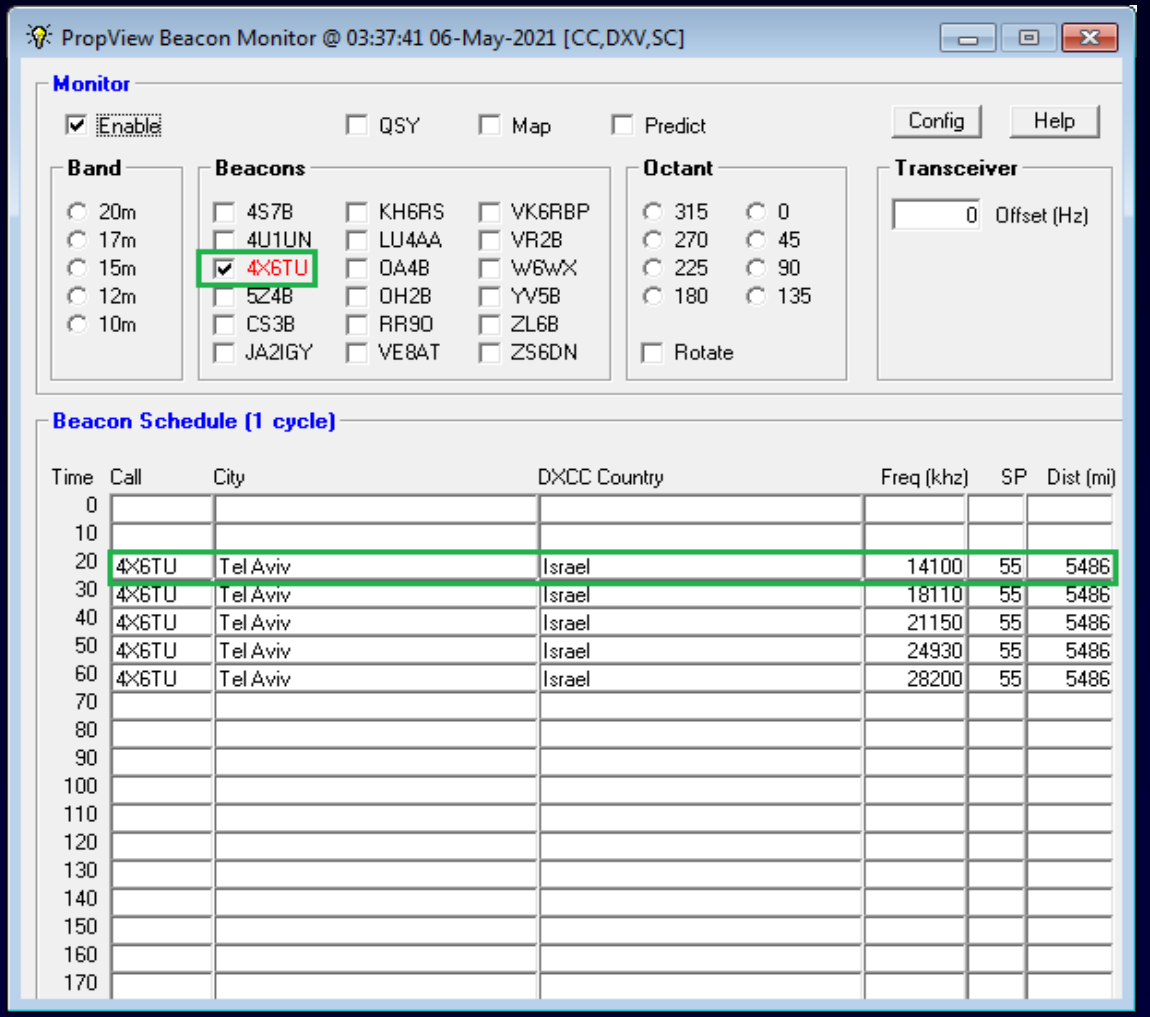
Solar Flux Index = 75, DX running 100 watts



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

Check “Actual” Propagation

NCDXF 4X6TU Beacon is ~230 miles from ZC4



Check “Actual” Propagation

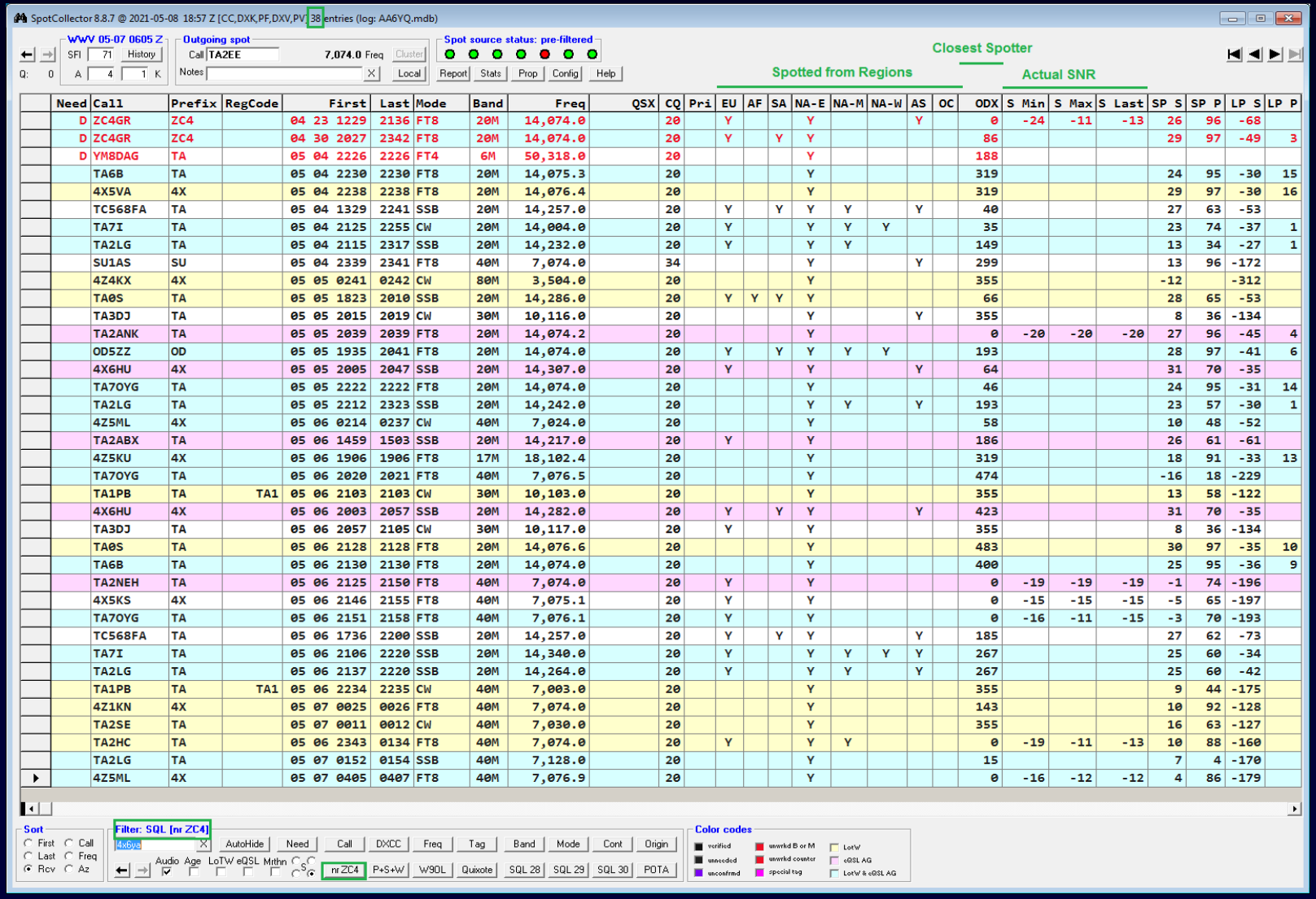
Who Near Me has been Spotting Stations Near ZC4?

Define a “near ZC4” filter to show stations

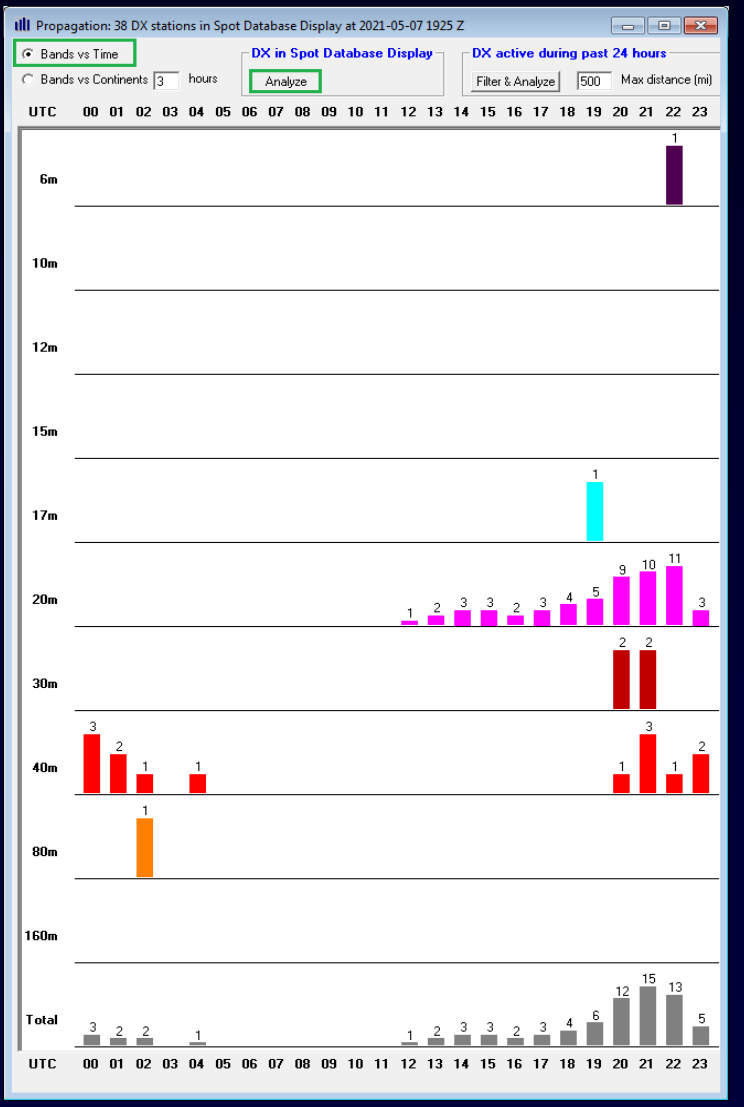
- In ZC4, 5B4, TA, OD, 4X, SU
- spotted by stations less than 500 miles from my QTH

Propagation from “Near Me” to “Near ZC4”

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



Propagation from “Near Me” to “Near ZC4”

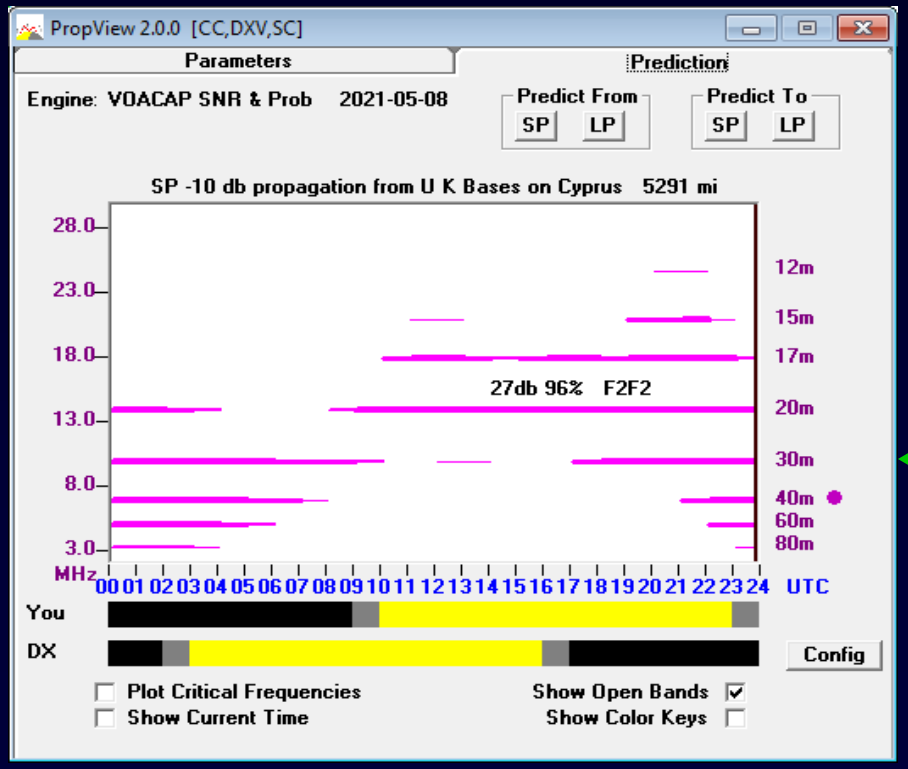


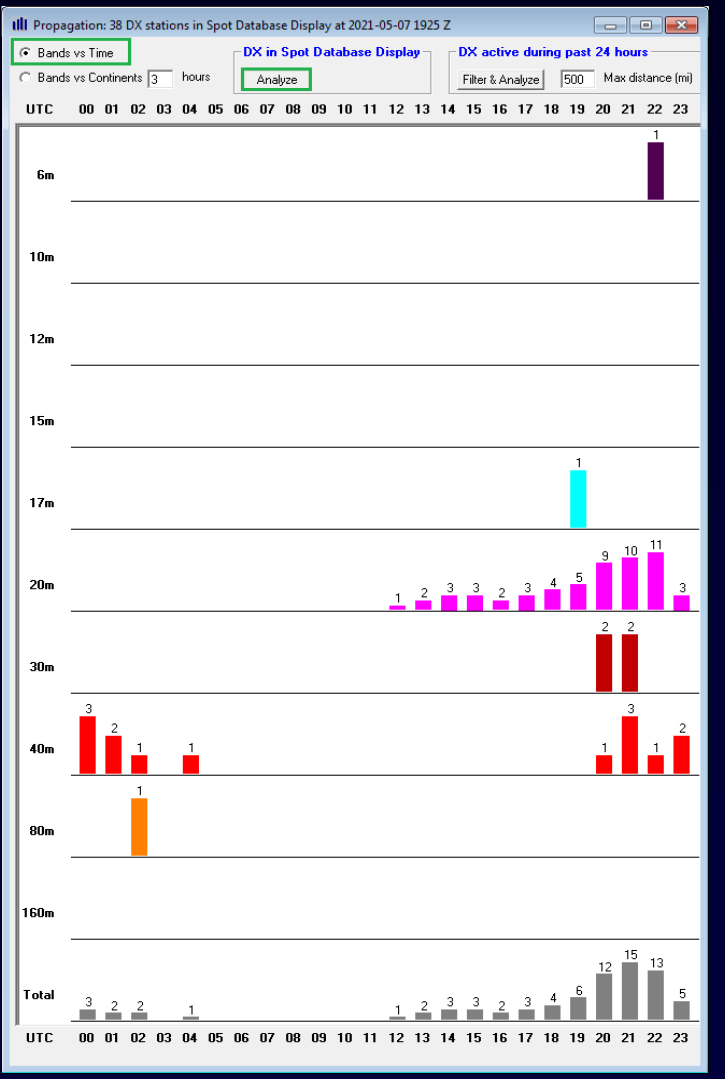
Propagation Openings?

- 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

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1. Monitor the 20m FT8 sub-band from 12Z to 23Z, especially
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Multiple Views of Active DX

DX Spot Sources

EU

Active DX Database

Propagation Prediction (VOACAP)

LotW Database

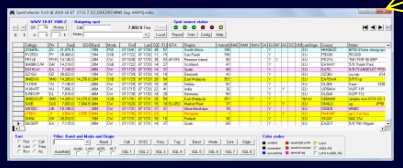
eQSL AG Database

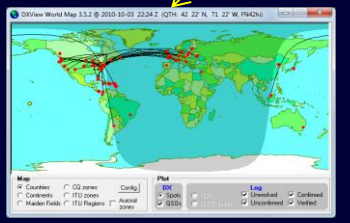
View Generator

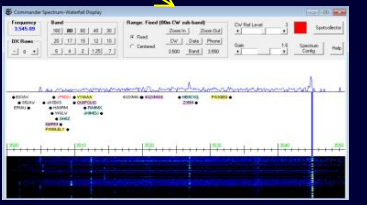
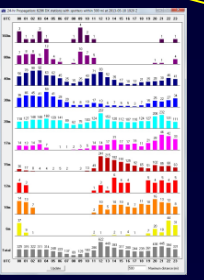
Log Database

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

Logged QSOs




Tabular | Audio/Email | World Map | Bandspread | Spectrum | Propagation | WSJT-X

ZC4GR: The Plan

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- 15m: 11Z to 18Z
- 20m: 12Z to 23Z
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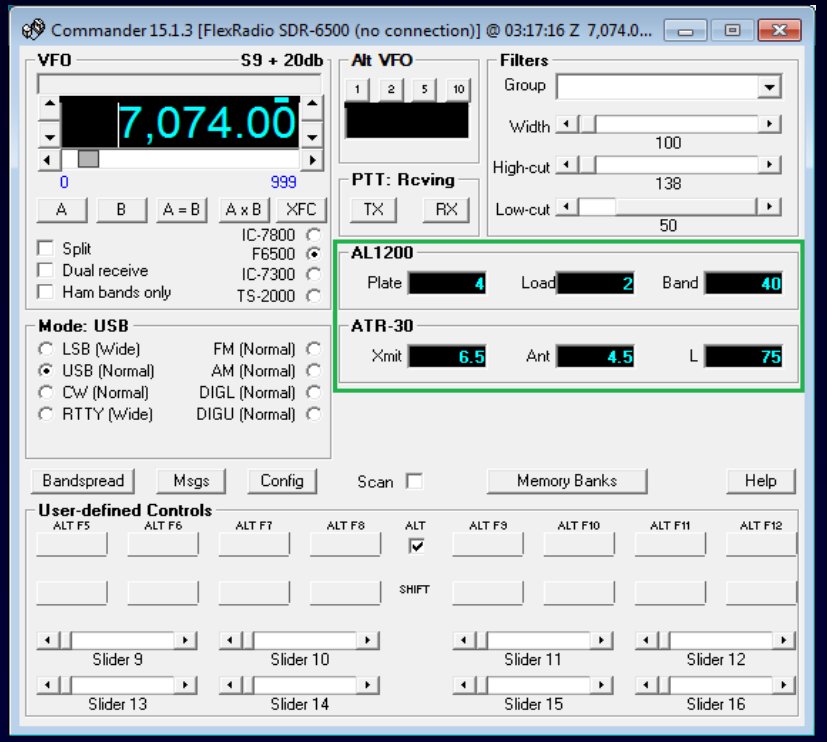
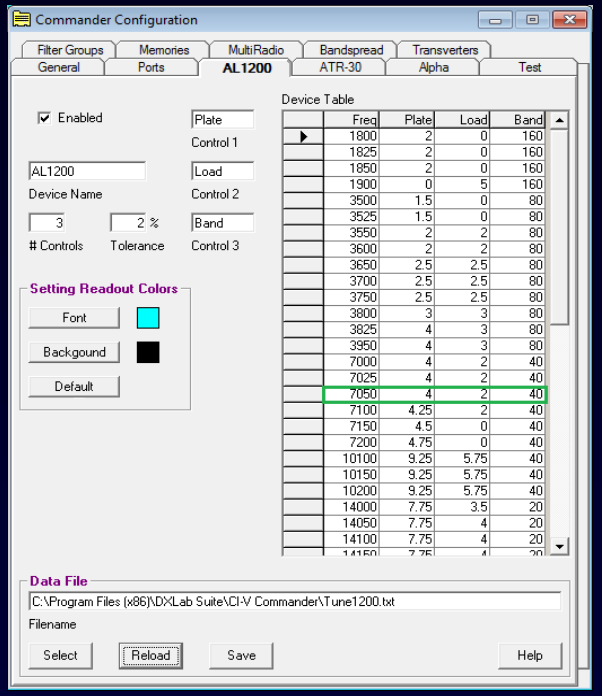
Rapidly Setup Amplifier After QSY





ZC4GR: The Plan

1. Monitor the 20m FT8 sub-band from 12Z to 23Z

   When QRV?
   - 15m: 11Z to 18Z
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   Propagation Openings?
   - 20m: 12Z to 23Z
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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

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

DX Spot Sources

EU

Active DX Database

Propagation Prediction (VOACAP)

Local Spot

LotW Database

eQSL AG Database

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- DXCC needs
- IOTA needs
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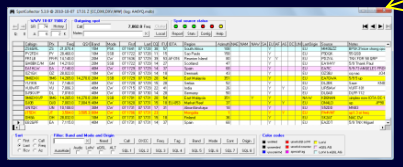
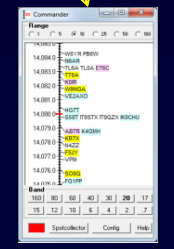
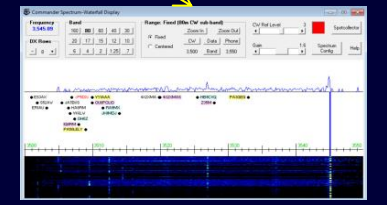
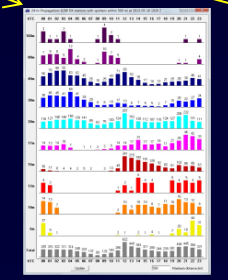
Logged QSOs





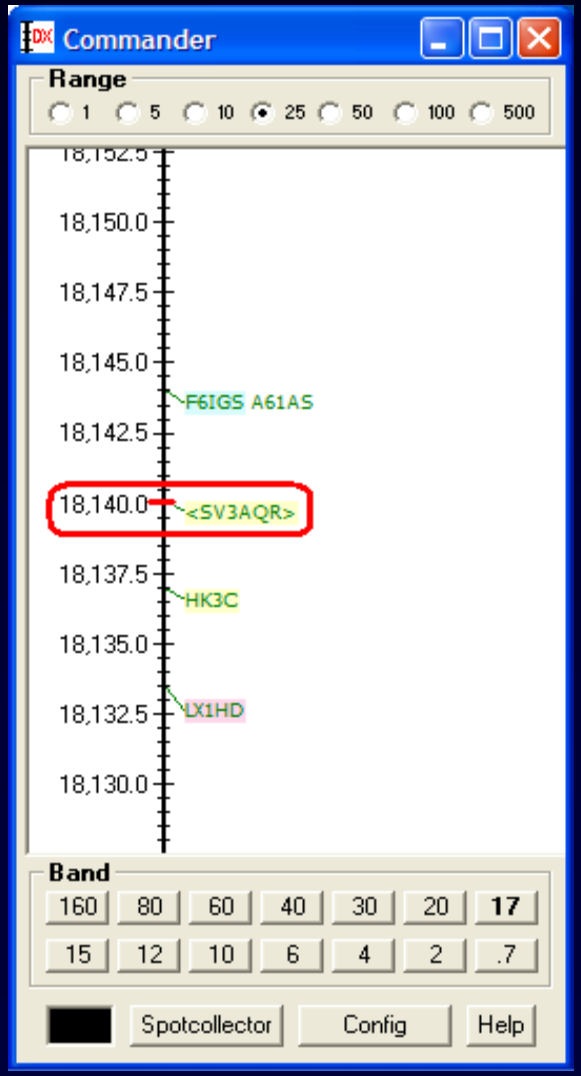




Tabular | Audio/Email | World Map | Bandspread | Spectrum | Propagation | WSJT-X

Blueprinting the Band

"Locally Spot" Every Station You Identify



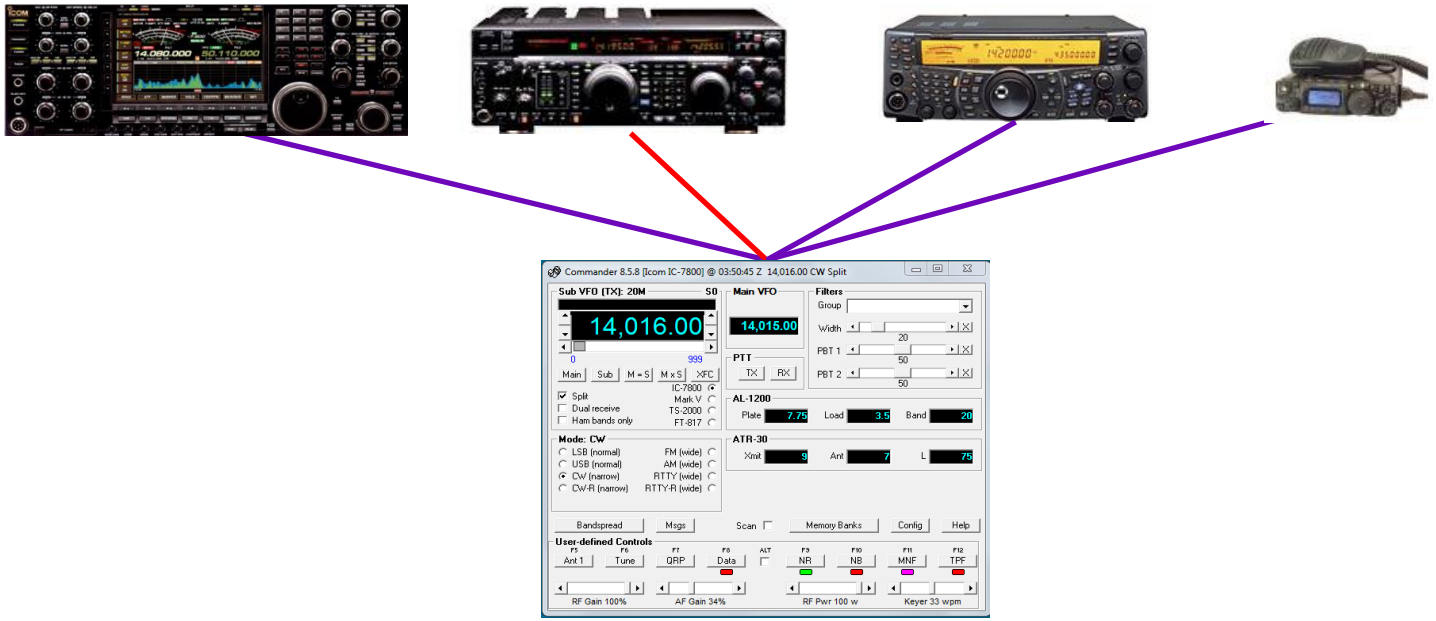
Working ZC4GR in CW, RTTY, or SSB

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

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

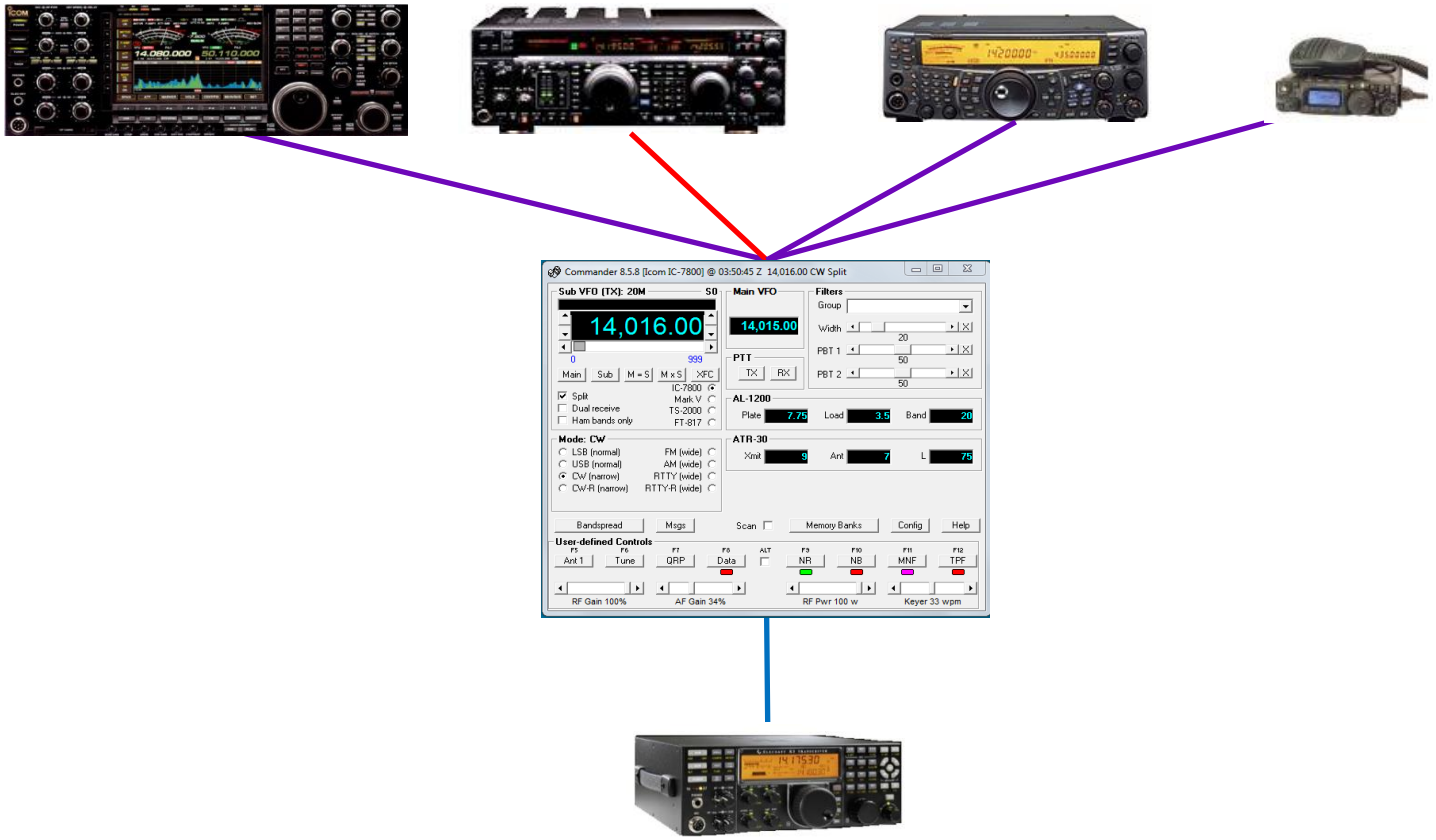
Commander: Multiple Radio Support



Select one of four *primary* radios

- By button click
- Automatically as a function of frequency

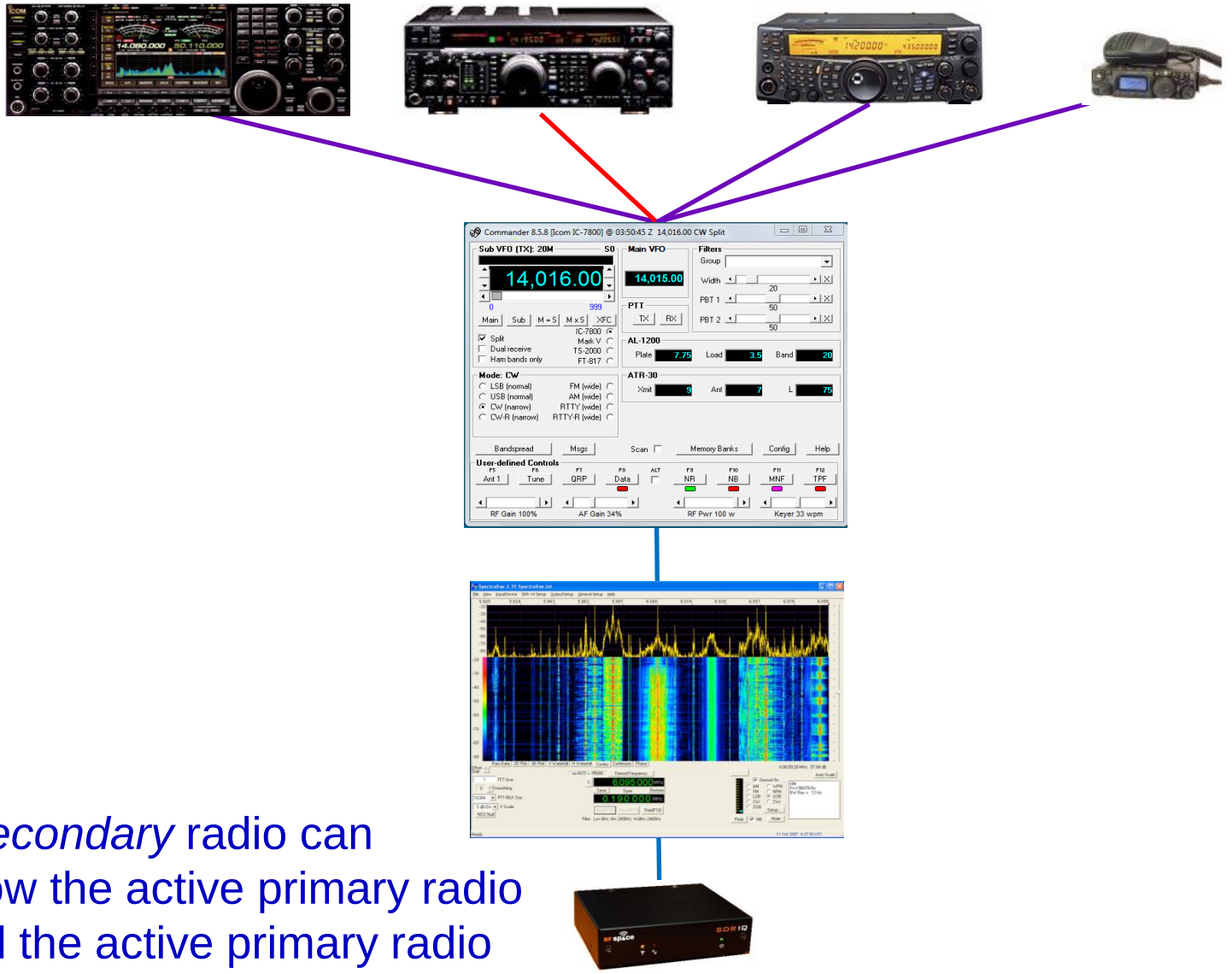
Commander: Multiple Radio Support



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

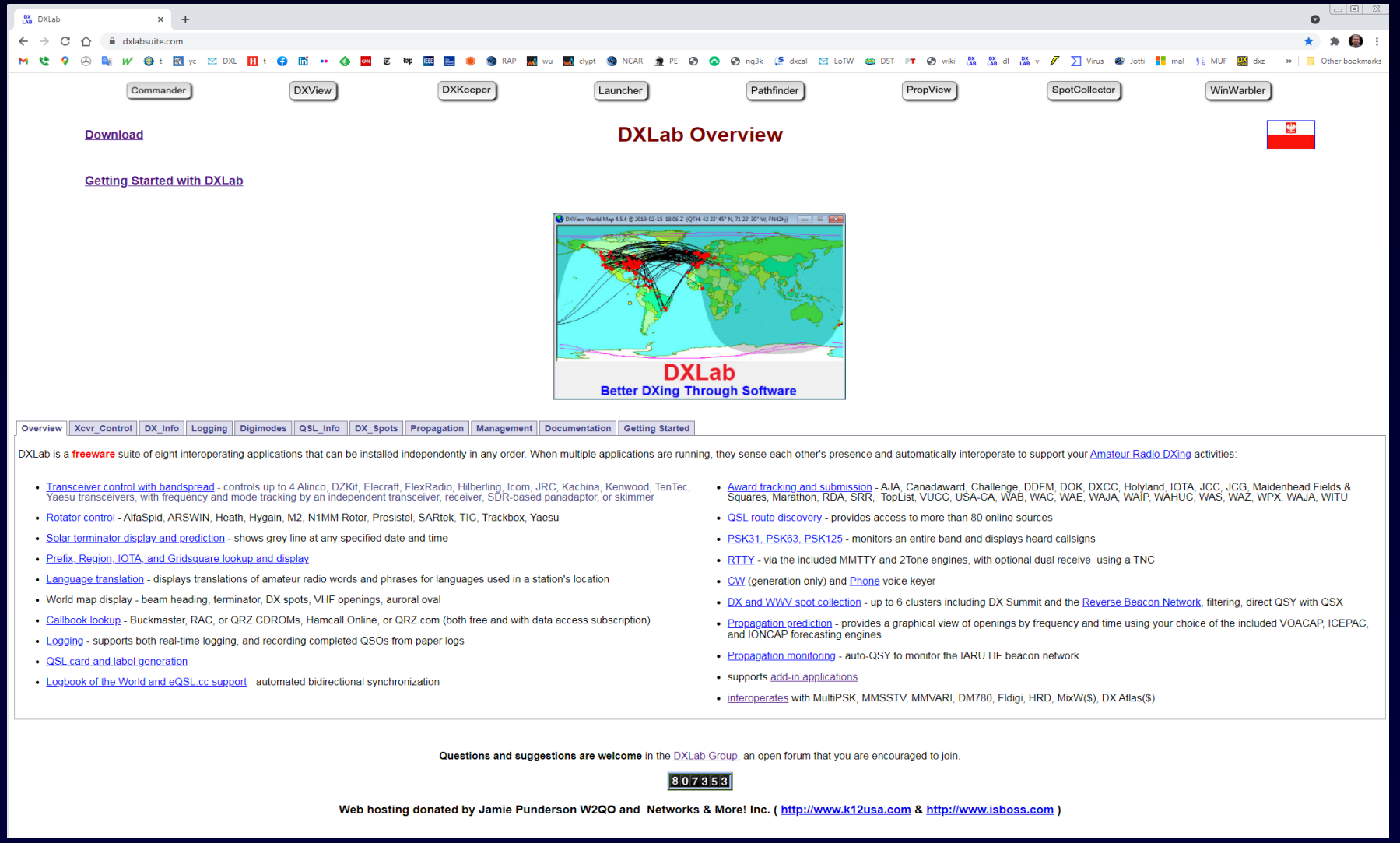
DXing With DXLab

- 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

www.dxlabsuite.com



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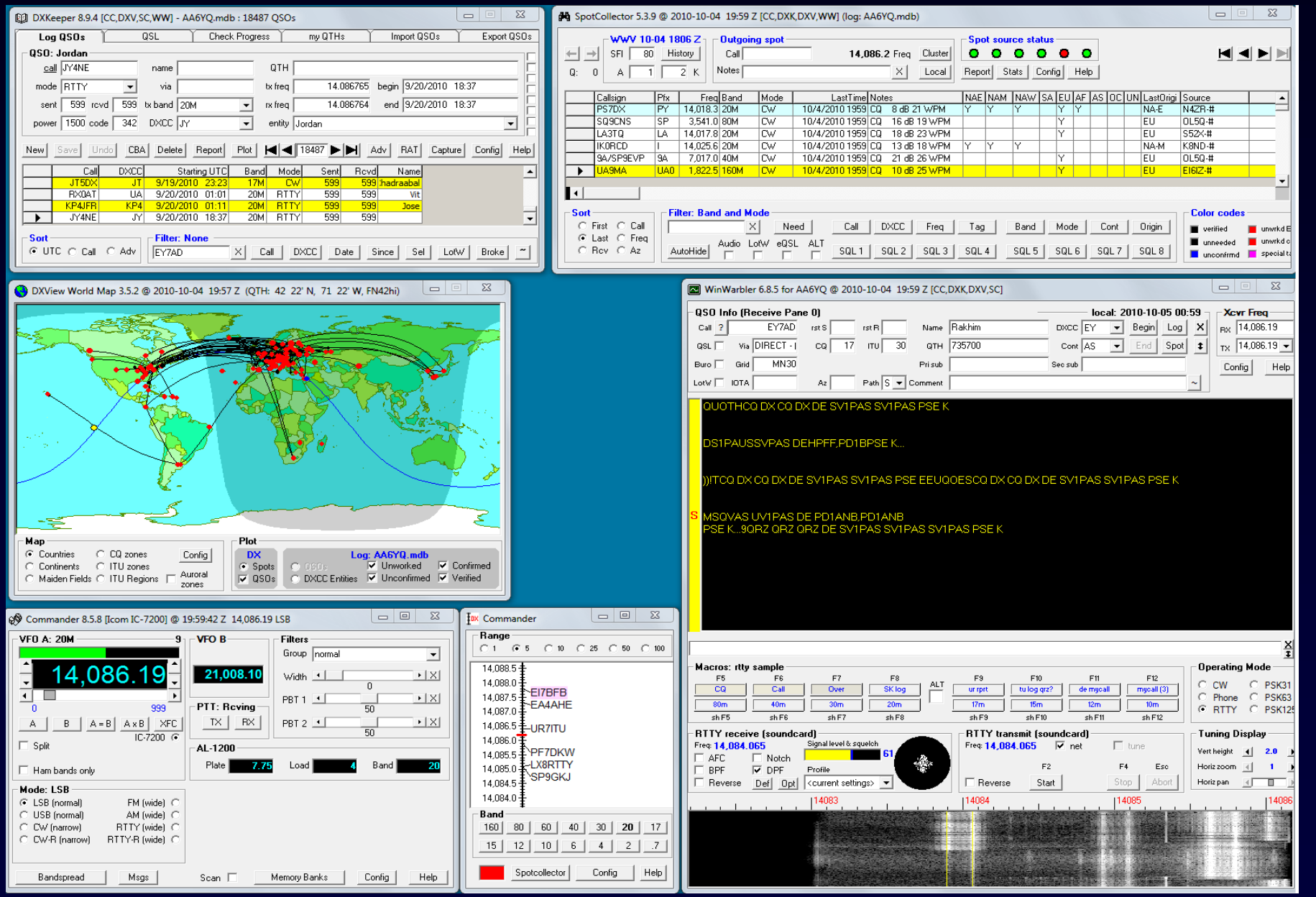
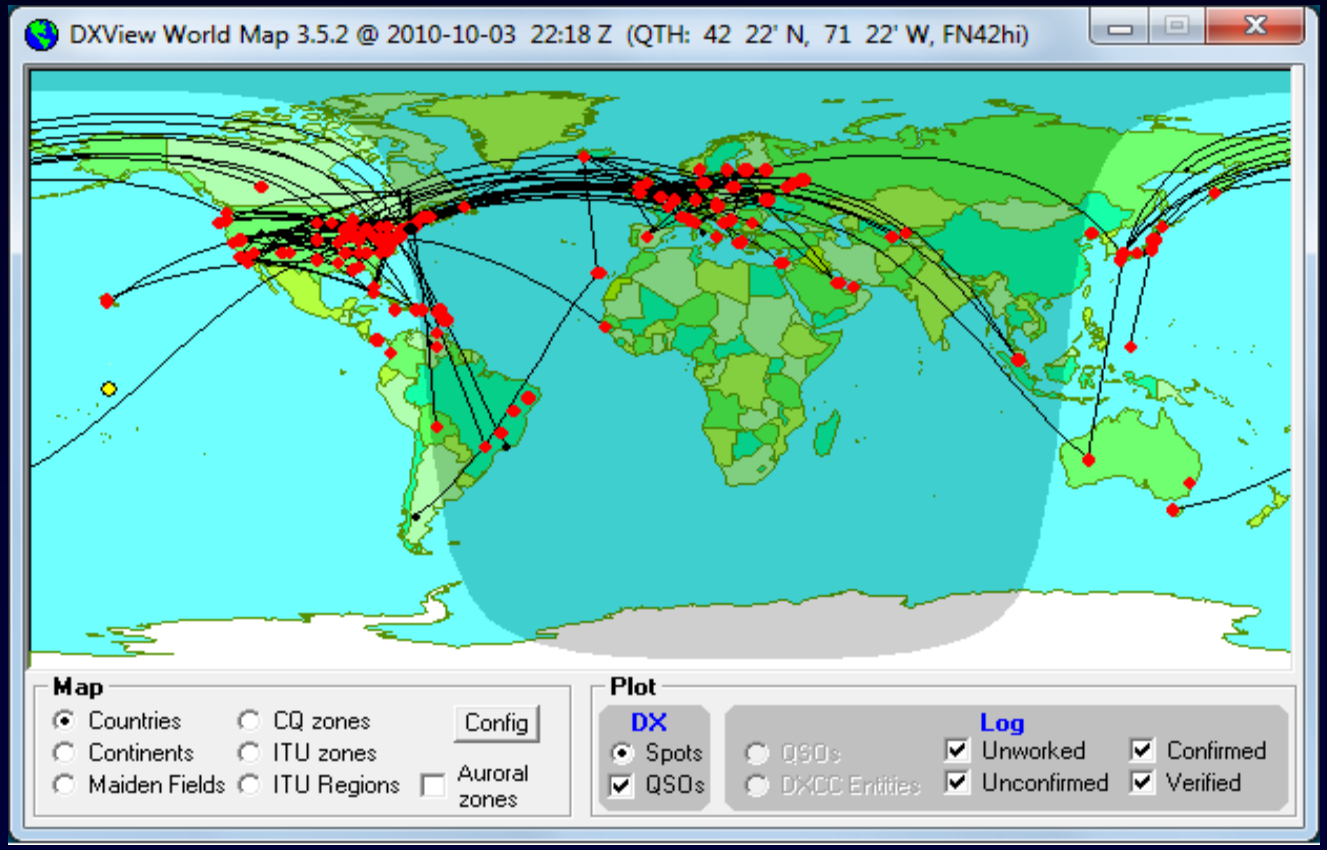
Better DXing Through Software



DXing with DXLab



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