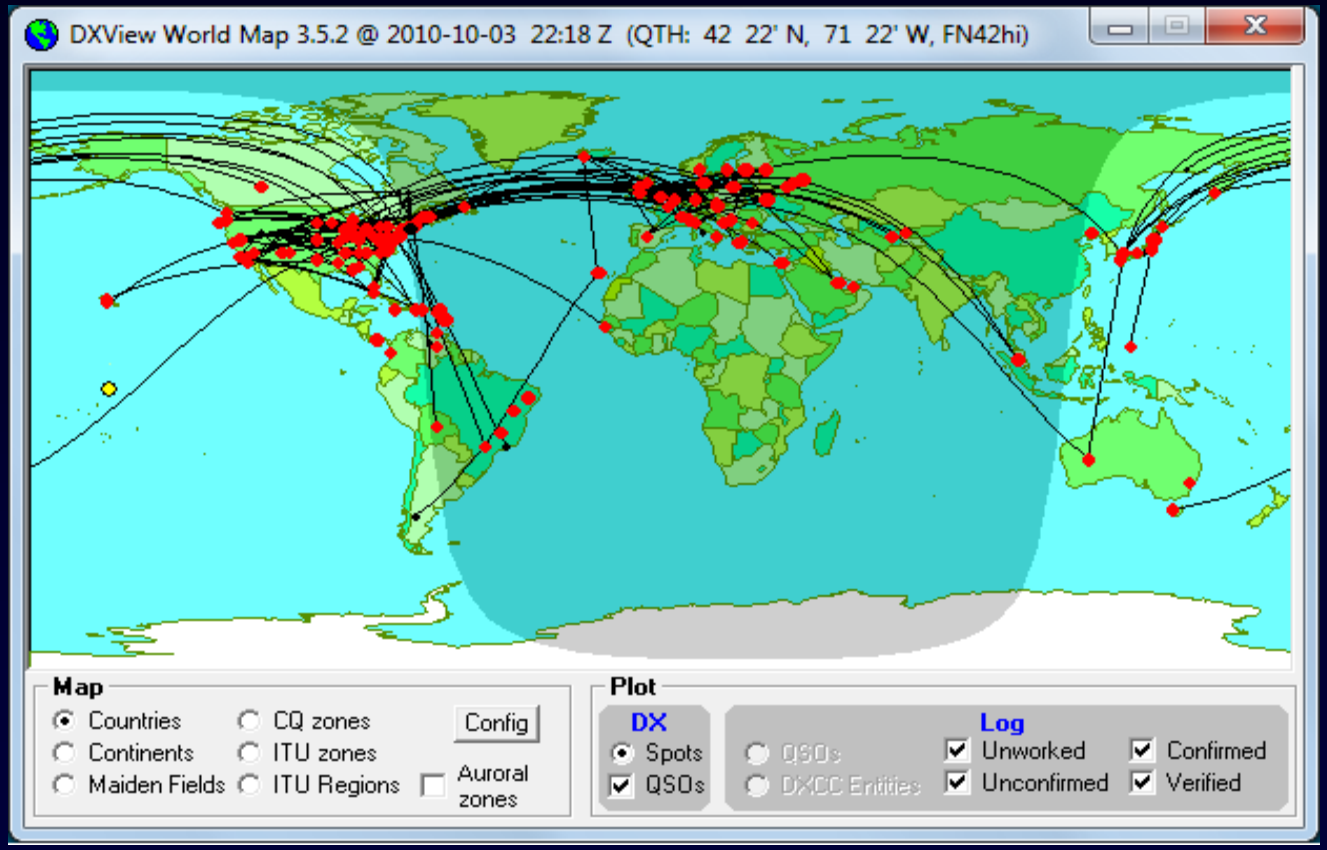
DXing with DXLab

v16 2023-01



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 hardcopy 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

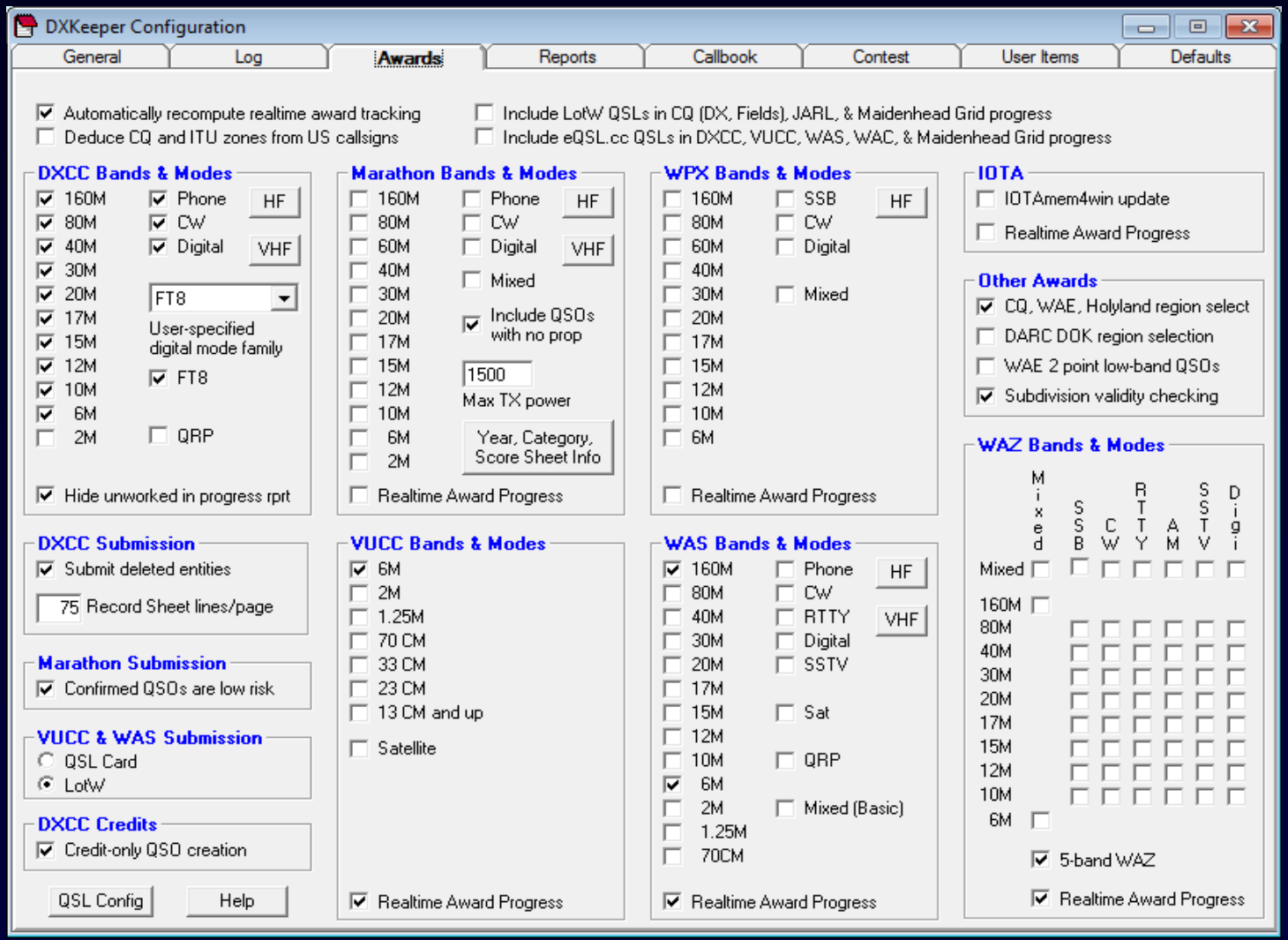
Hardcopy QSL Automation

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

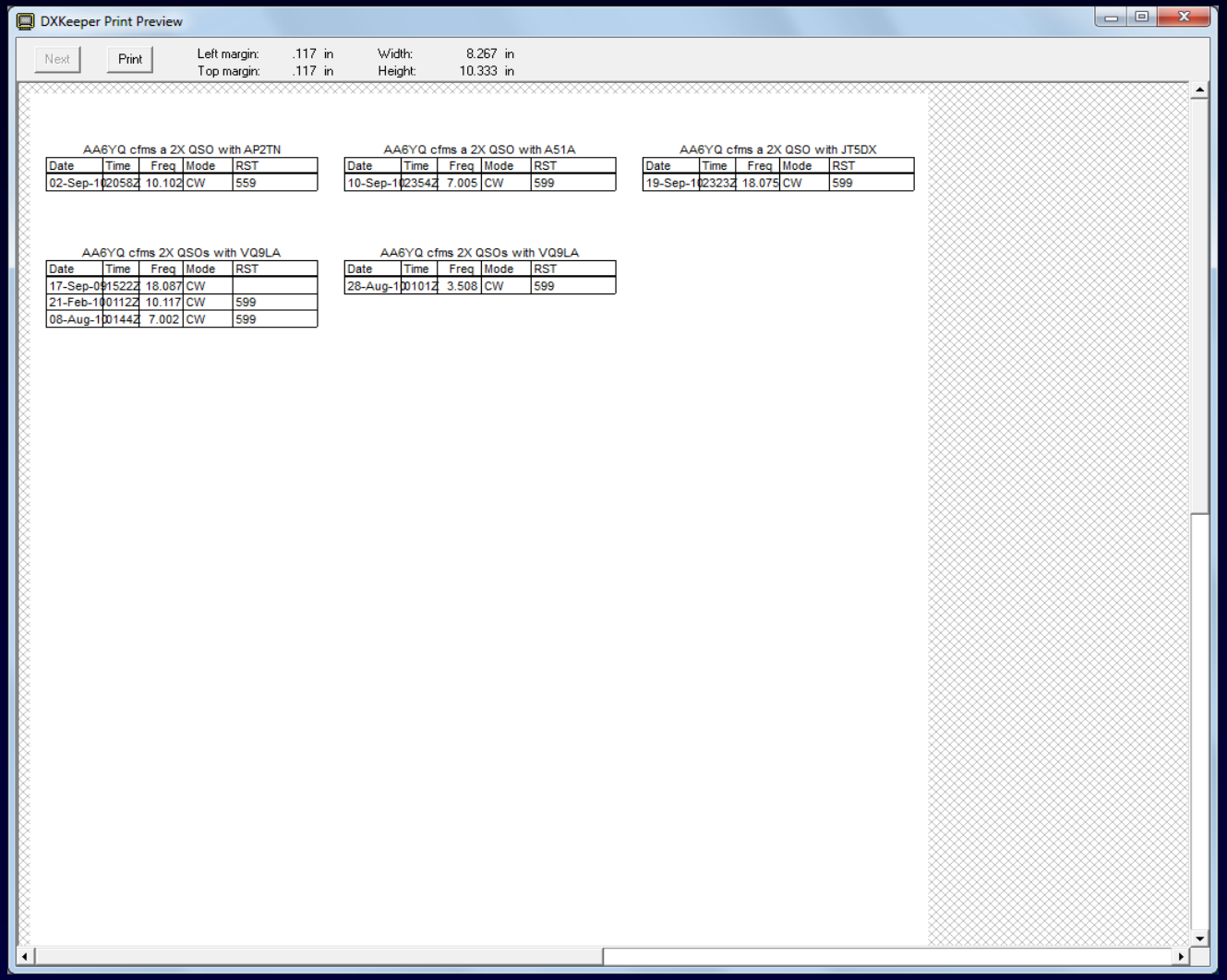
You can specify the bands and modes you are pursuing for each of DXCC, IOTA, Marathon, VUCC, WAS, WAZ, and WPX



QSL Card Printing

QSL Card Printing

QSL Label Printing



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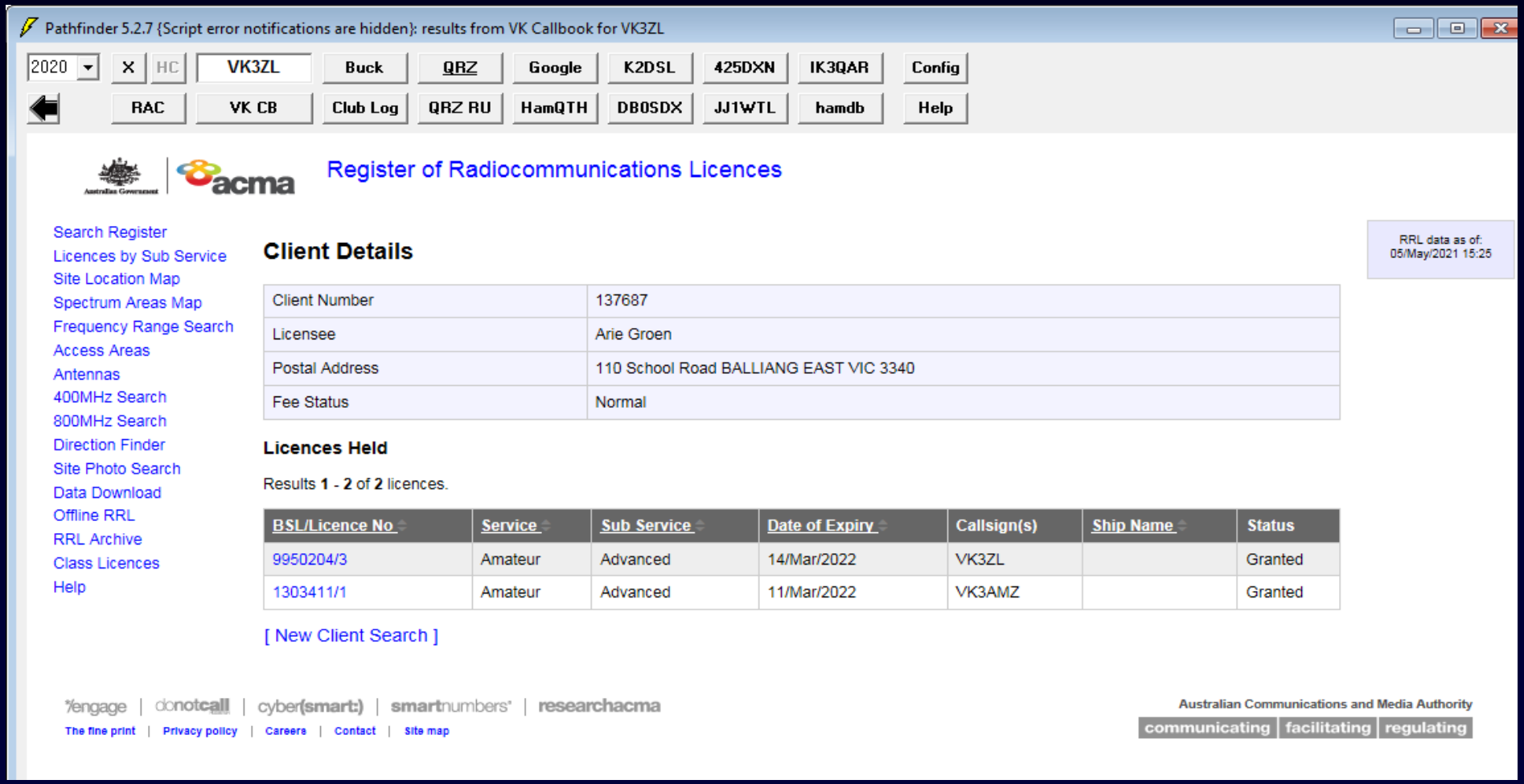
- Keep track of requested QSLs not yet received

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

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- 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
- 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, 10, and 11
   - 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

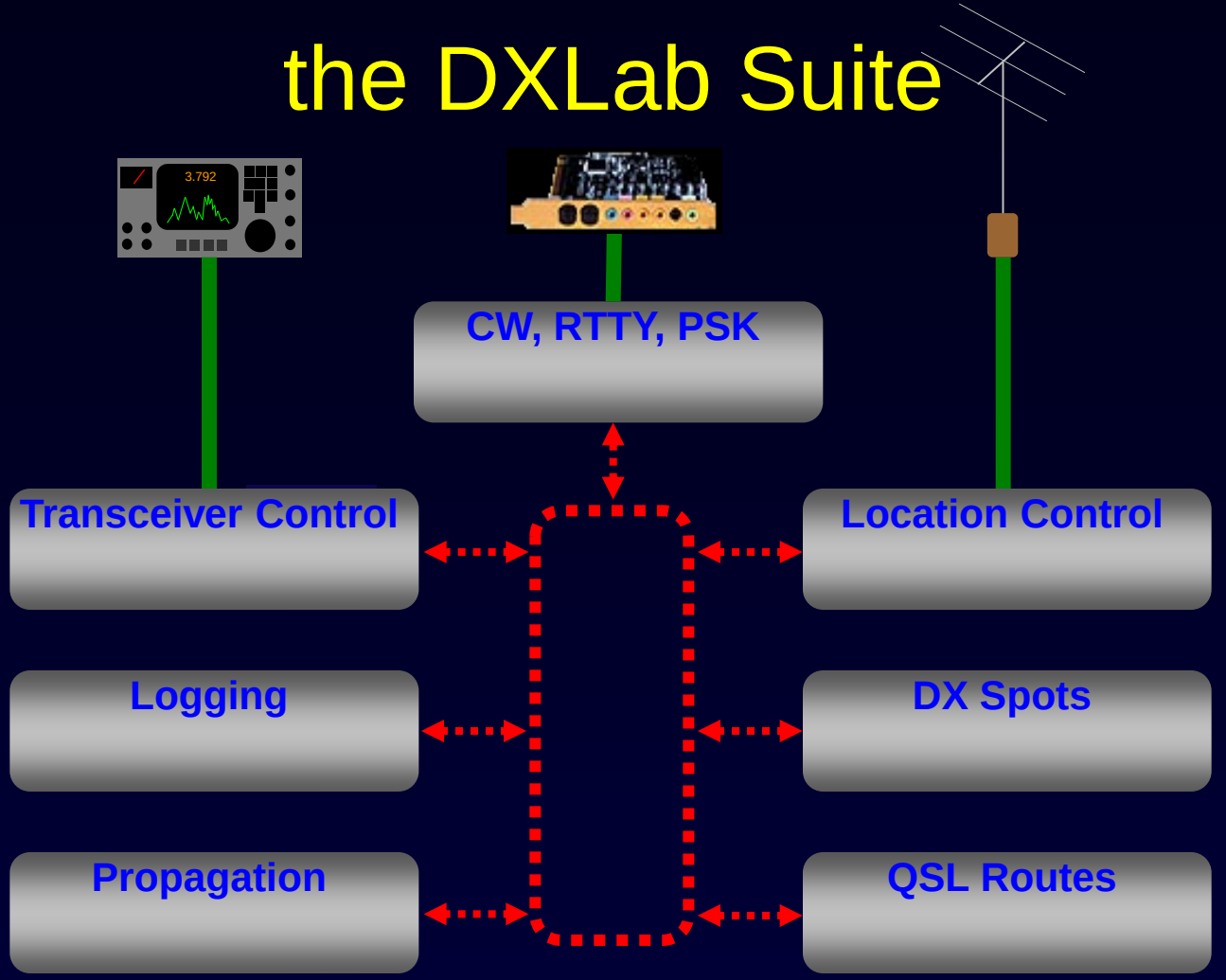
but

when run simultaneously sense each other's presence

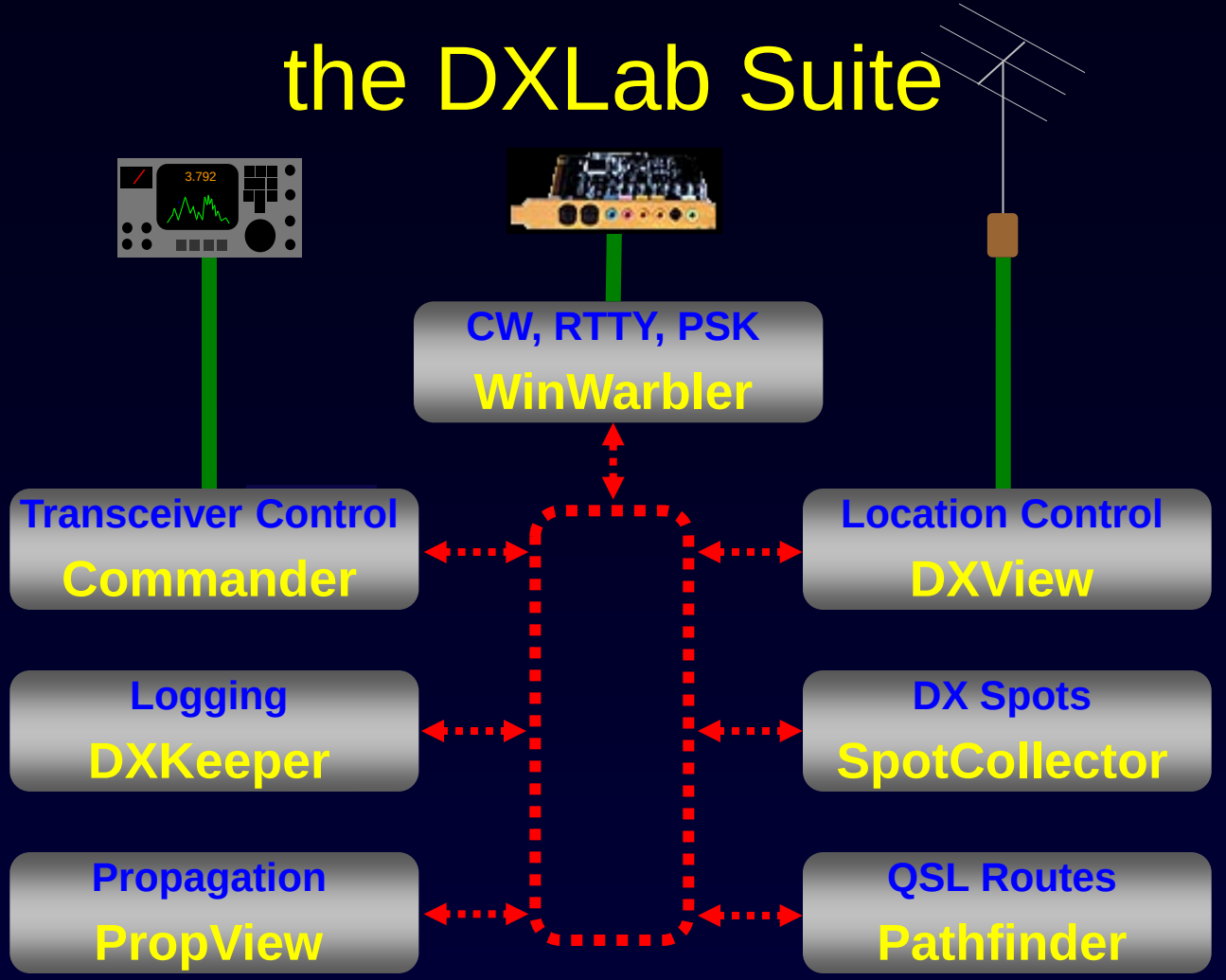
and

interoperate automatically

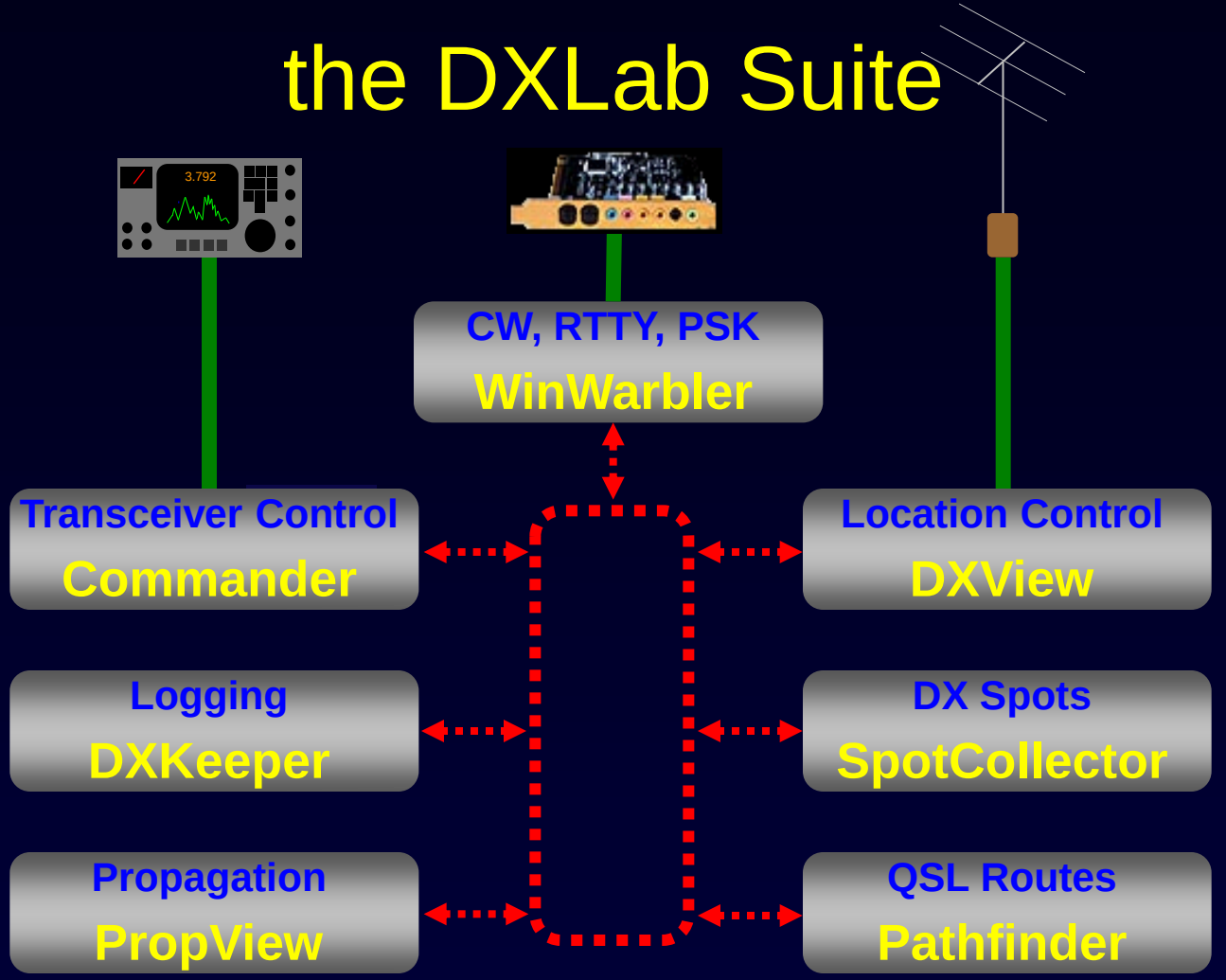
the DXLab Suite



the DXLab Suite

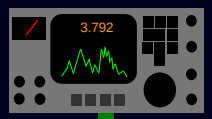


the DXLab Suite



- Modular
- Loosely-coupled

the DXLab Ecosystem



MMTTY

CW, RTTY, PSK
WinWarbler

2Tone

SatPC32

S. A. T.

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

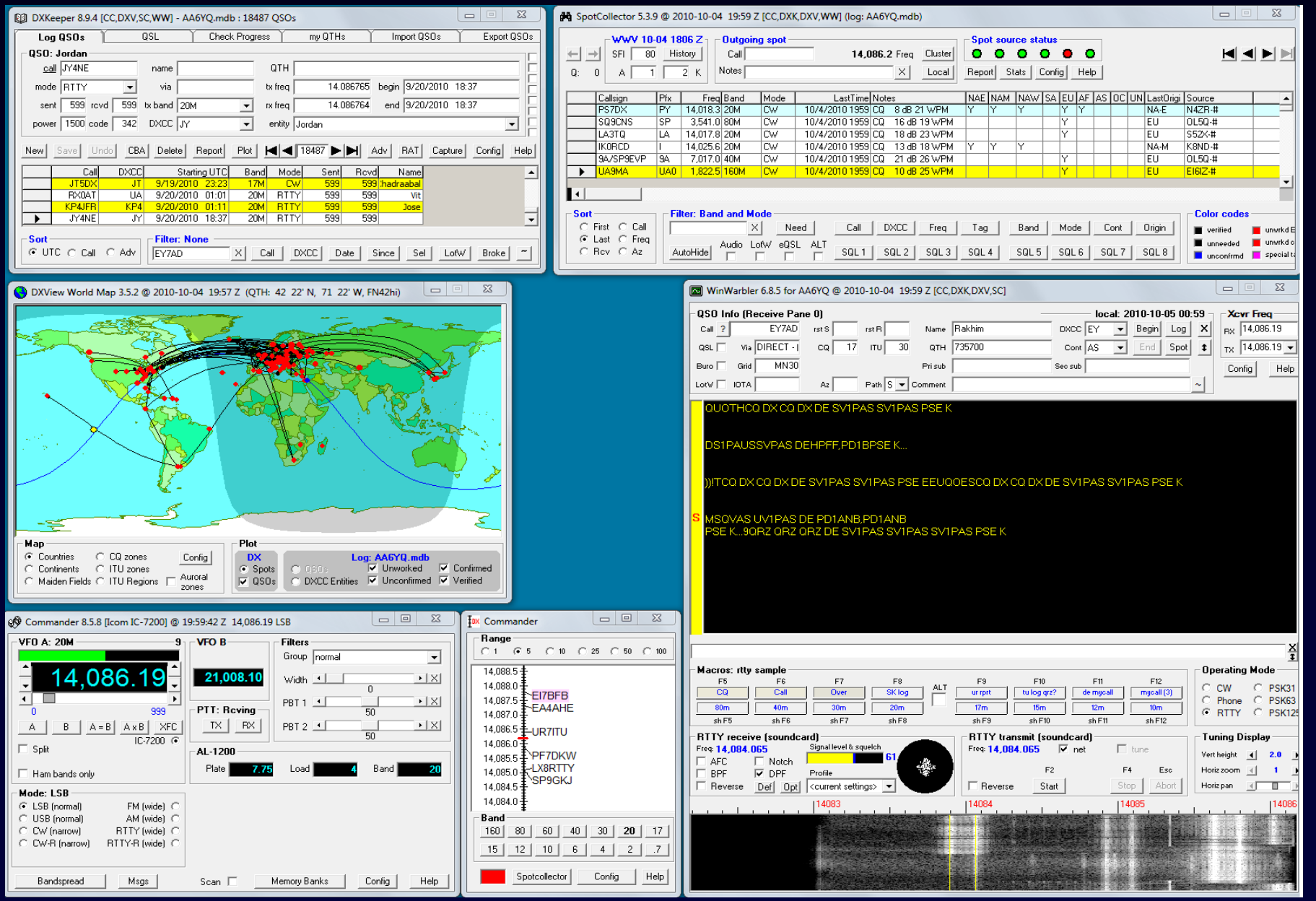
WSJT-X

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

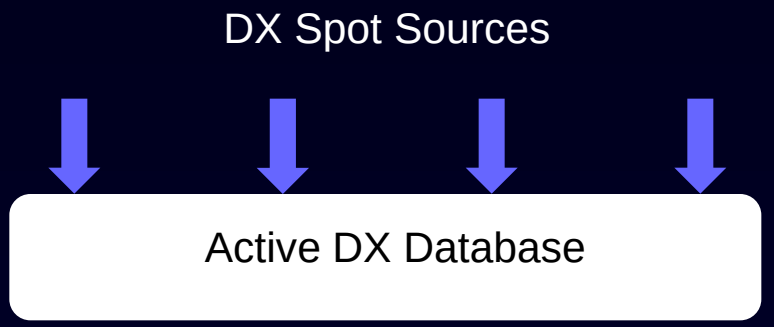
DX Summit

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			

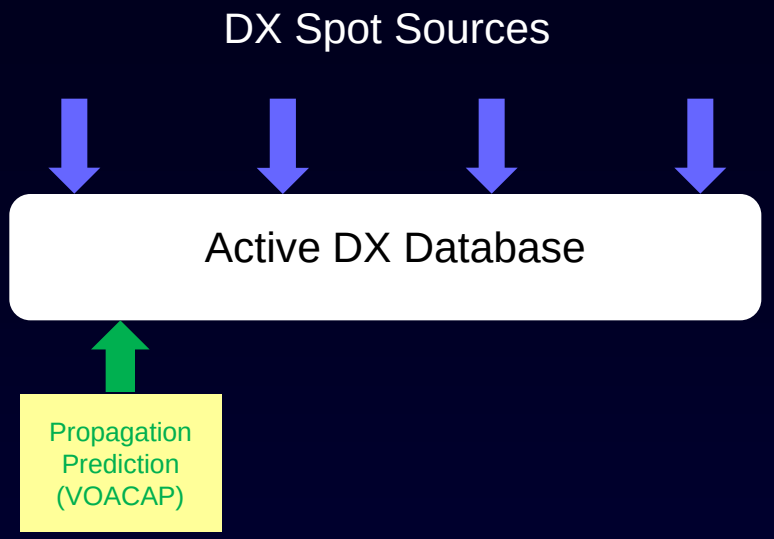
Active DX Database

Multiple Views of Active DX



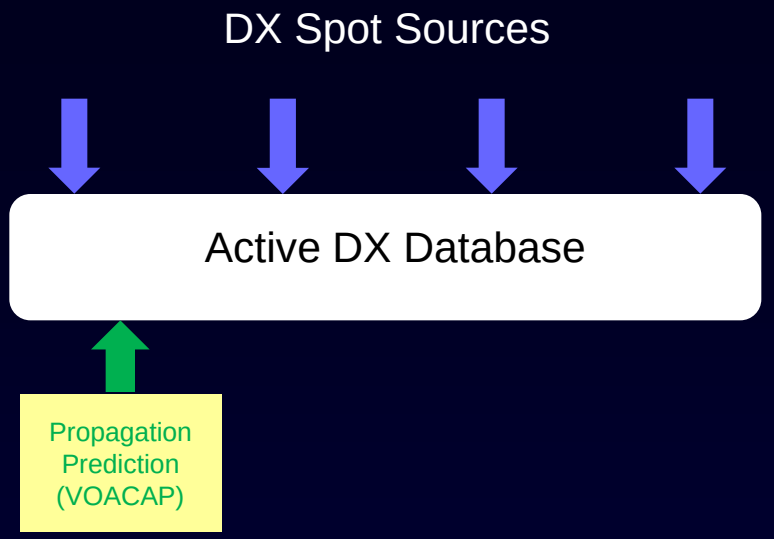
What DX stations are QRV ?

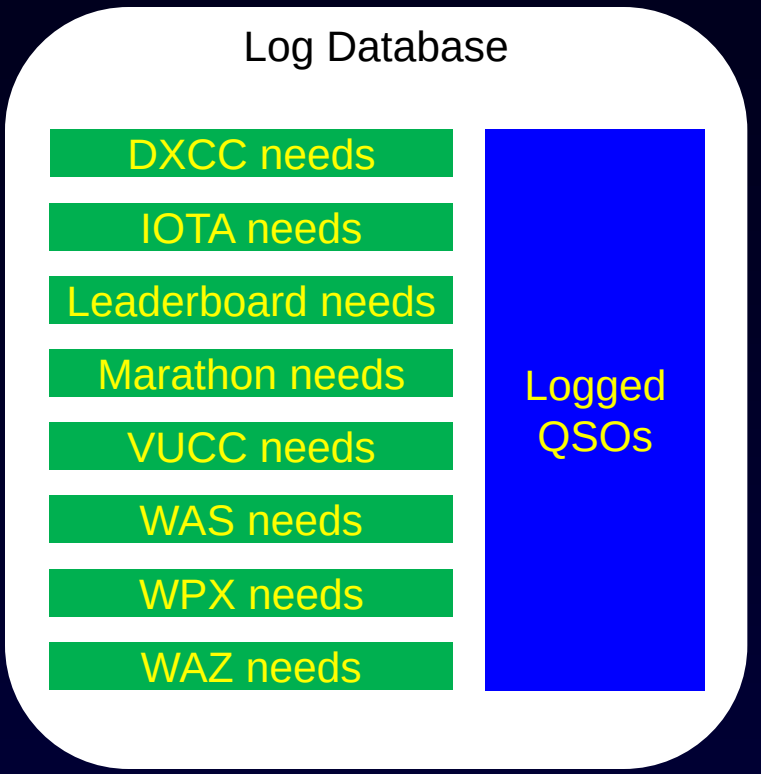
Multiple Views of Active DX



Which DX stations can I likely copy ?

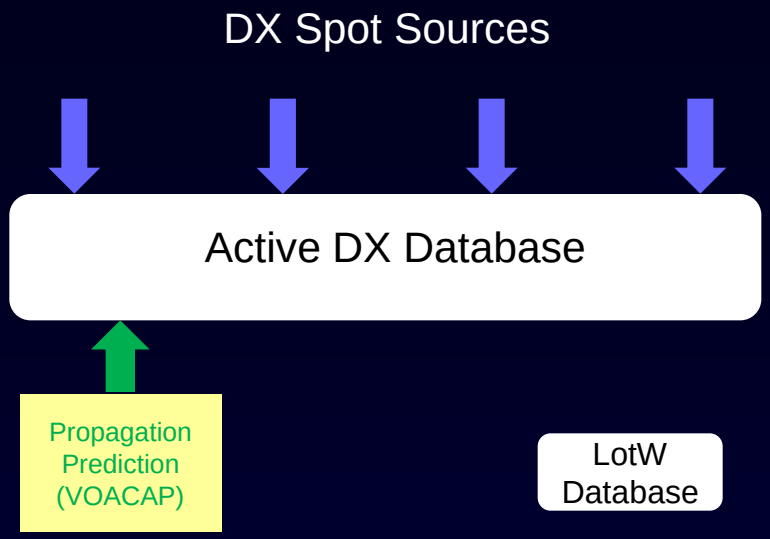
Multiple Views of Active DX



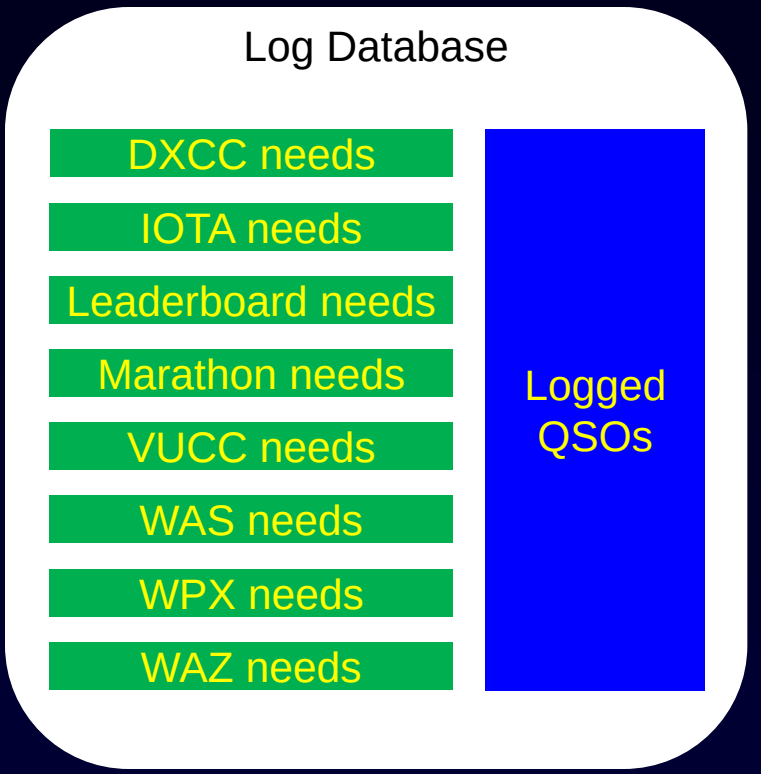


What QSOs and QSLs are “Needed” for the awards I’m pursuing on the bands and modes I’ve specified ?

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

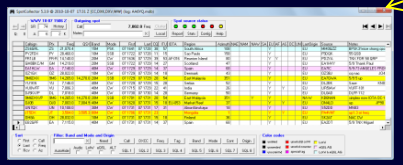
eQSL AG Database

View Generator

Log Database

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

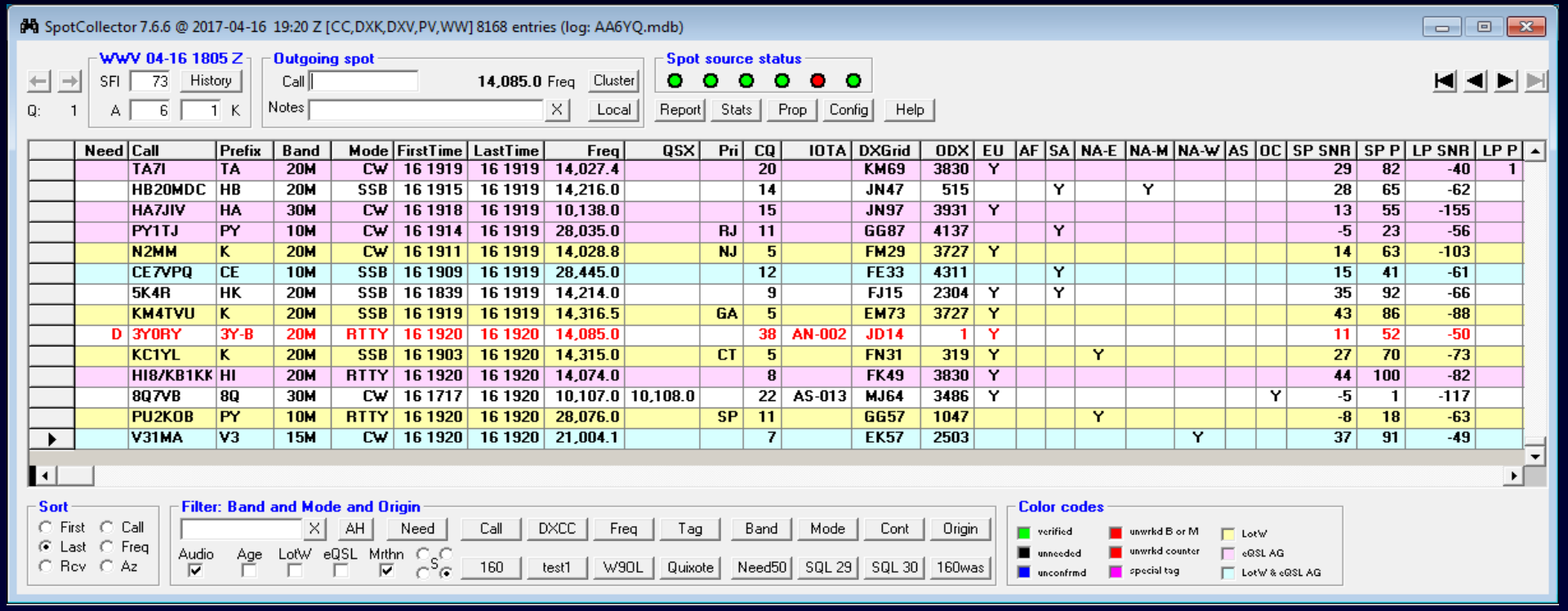
Logged QSOs



Tabular

Tabular View of Active DX

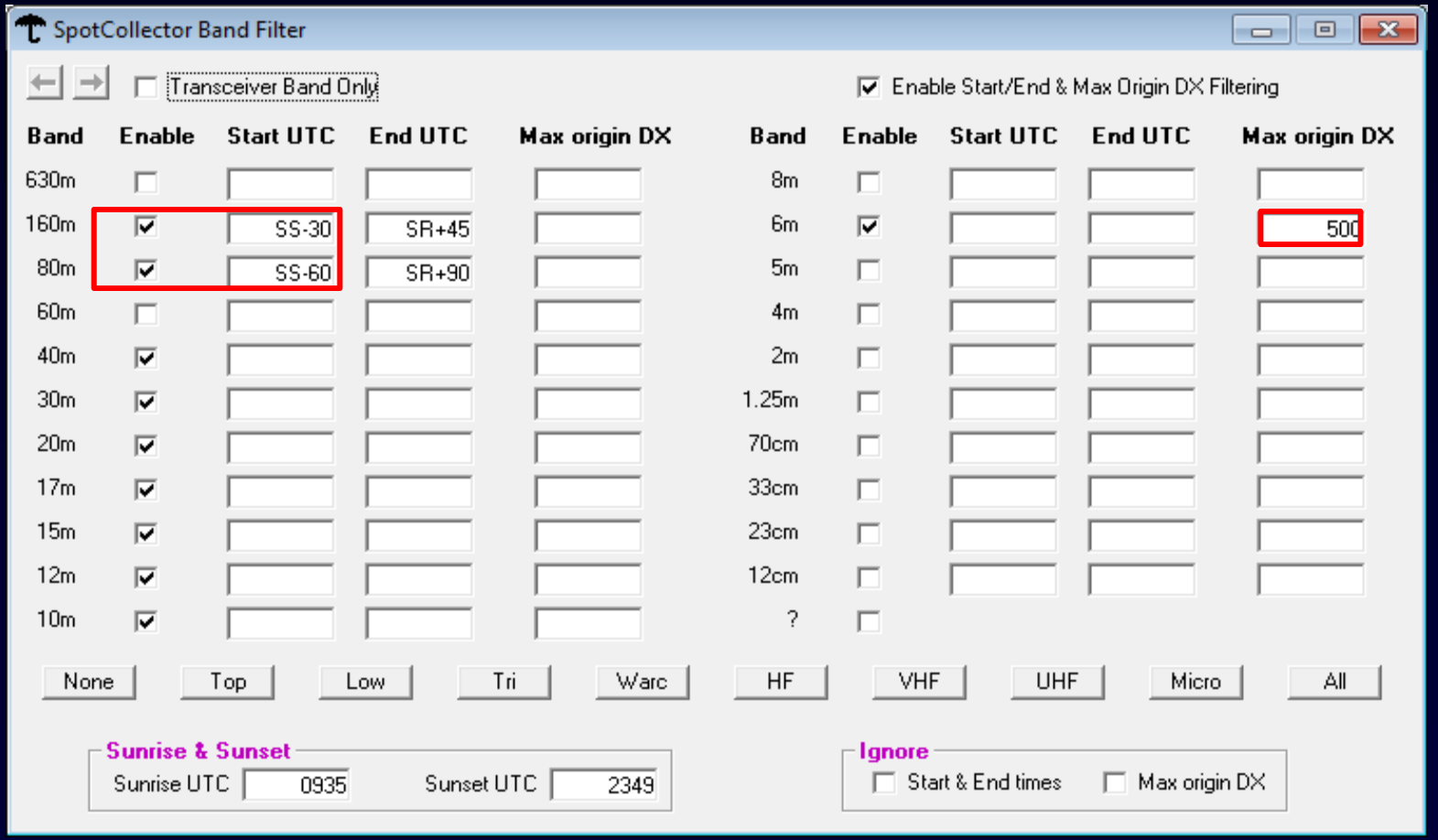
Selected Bands and Modes



Font color indicates “needed” DX stations

Background color indicates LotW and eQSL participation

Band Filter

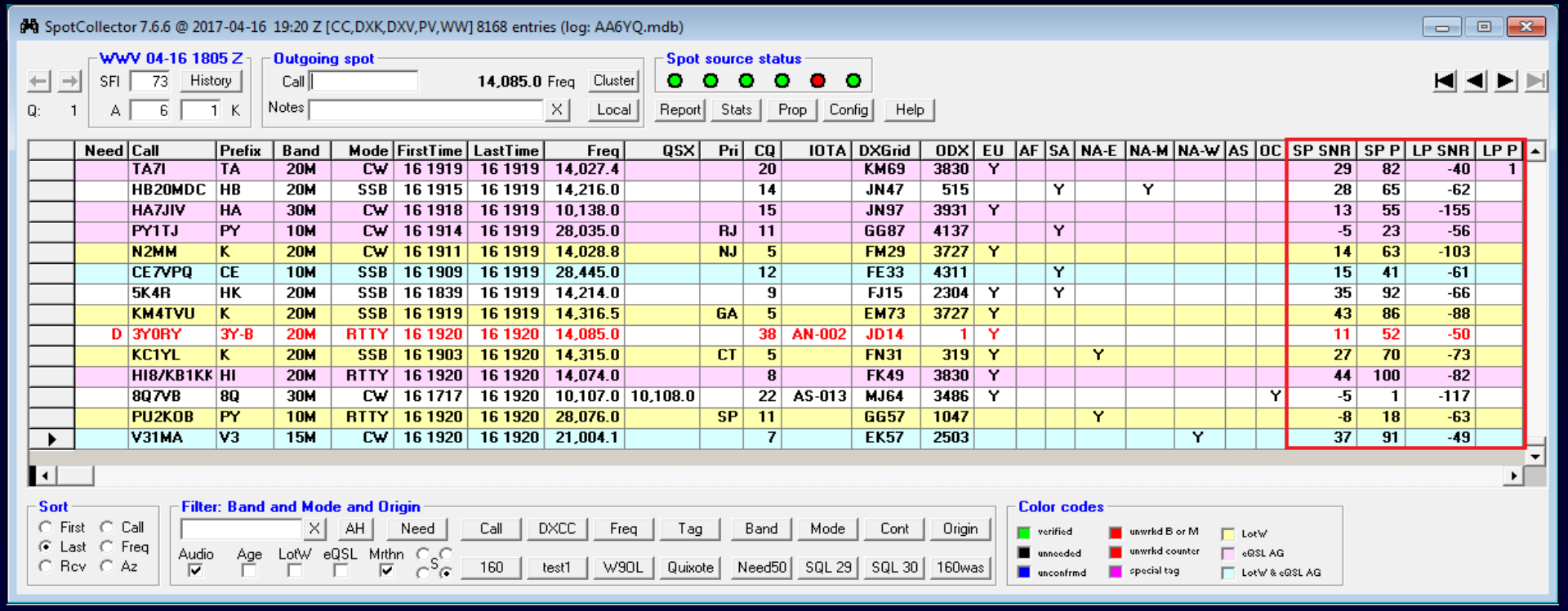

SpotCollector Band Filter
Transceiver Band Only
Enable Start/End & Max Origin DX Filtering
Band
Enable
Start UTC
End UTC
Max origin DX
630m
160m
SS-30
SR+45
80m
SS-60
SR+90
60m
40m
30m
20m
17m
15m
12m
10m
8m
6m
500
5m
4m
2m
1.25m
70cm
33cm
23cm
12cm
?
None
Top
Low
Tri
Warc
HF
VHF
UHF
Micro
All
Sunrise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

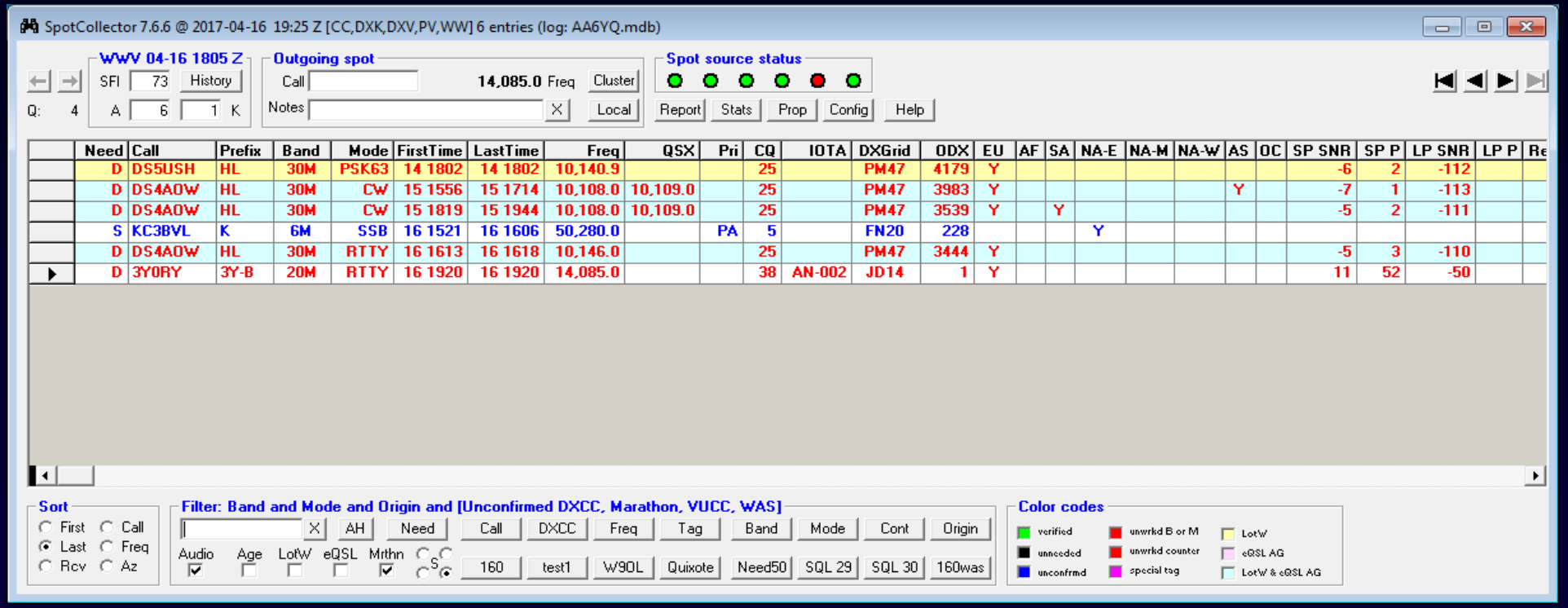


On 80m through 10m, PropView's VOACAP engine computes

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

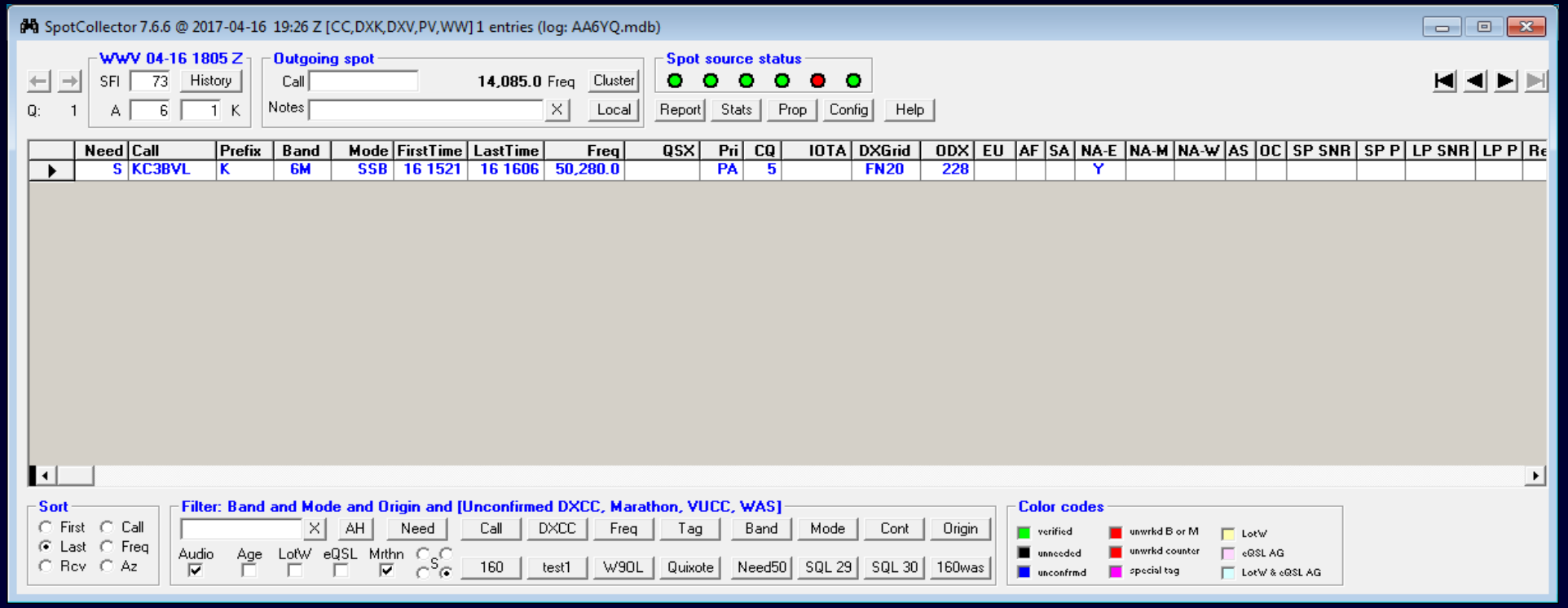
Tabular View of Active DX

Needed DX on Selected Bands and Modes



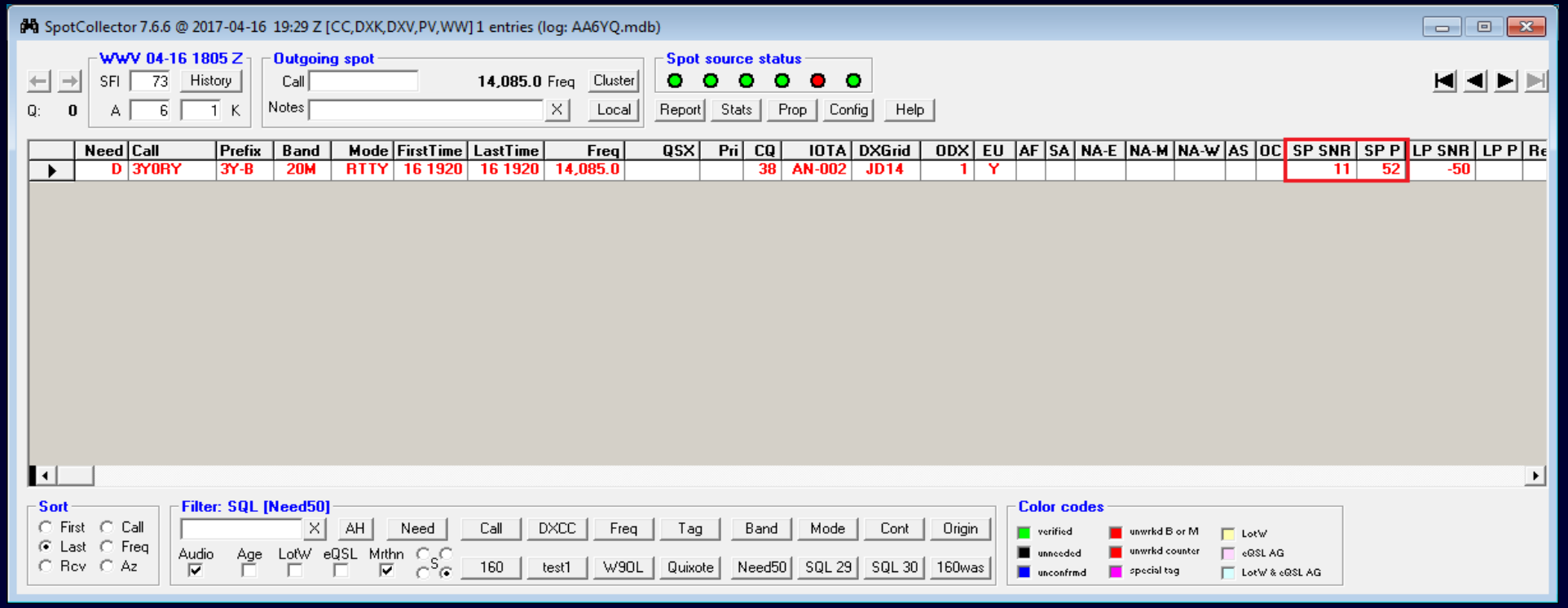
Tabular View of Active DX

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



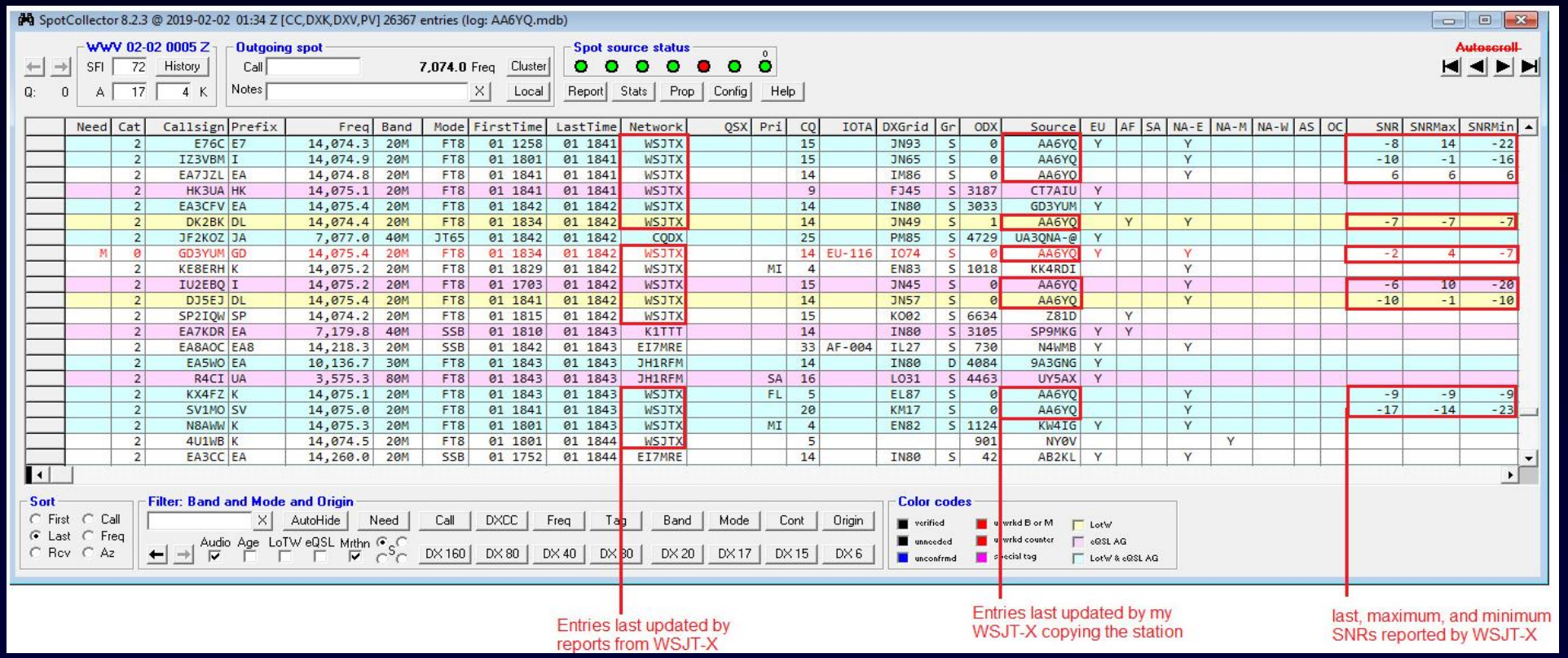
Tabular View of Active DX

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



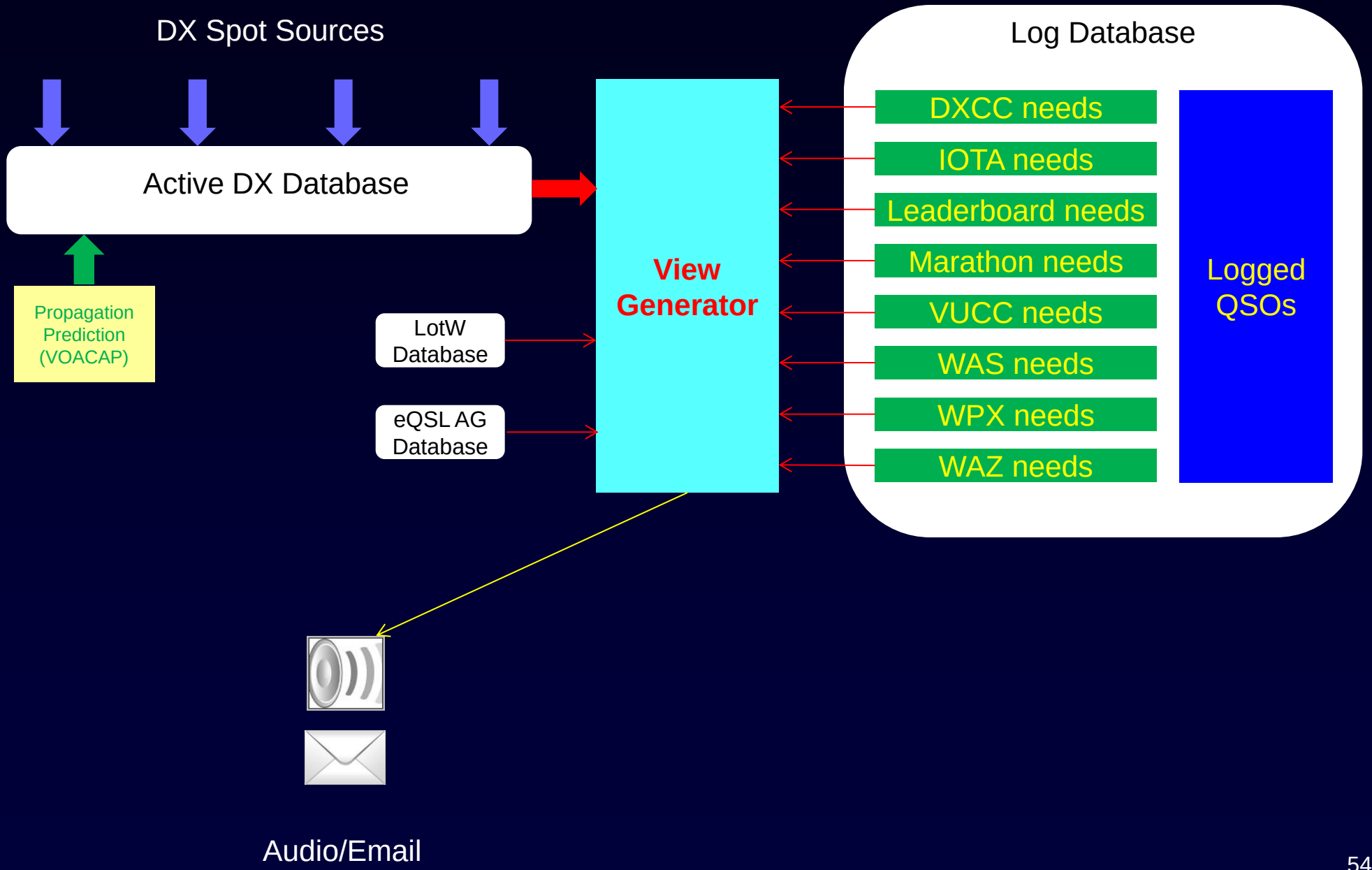
Tabular View of Active DX

in a web browser from anywhere

Tabular View of Active DX

in a web browser from anywhere

Audio and Email Views of Active DX

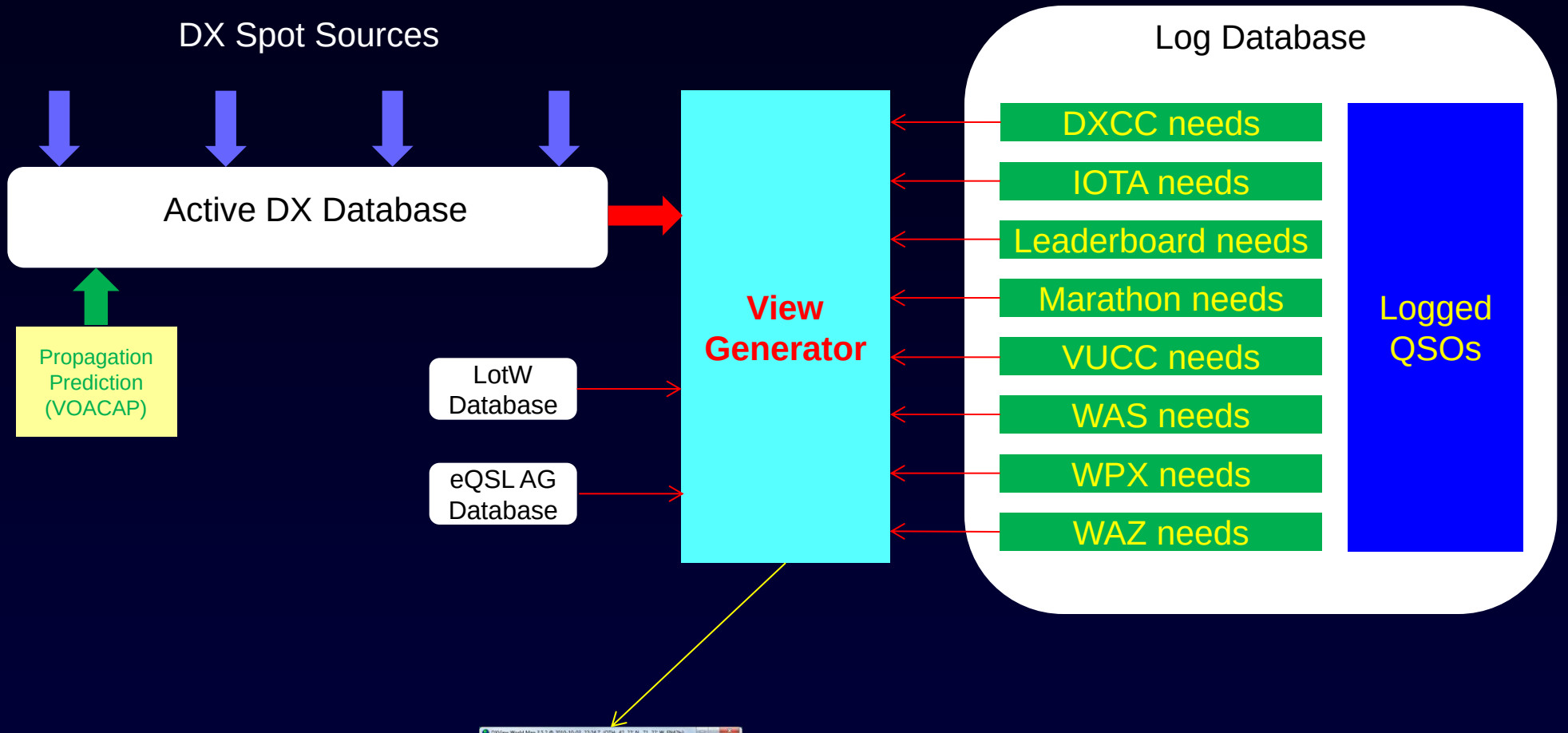


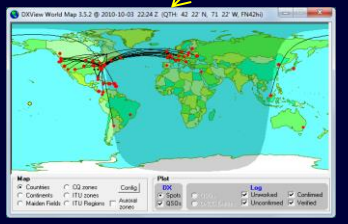
Audio and Email Views of Active DX

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

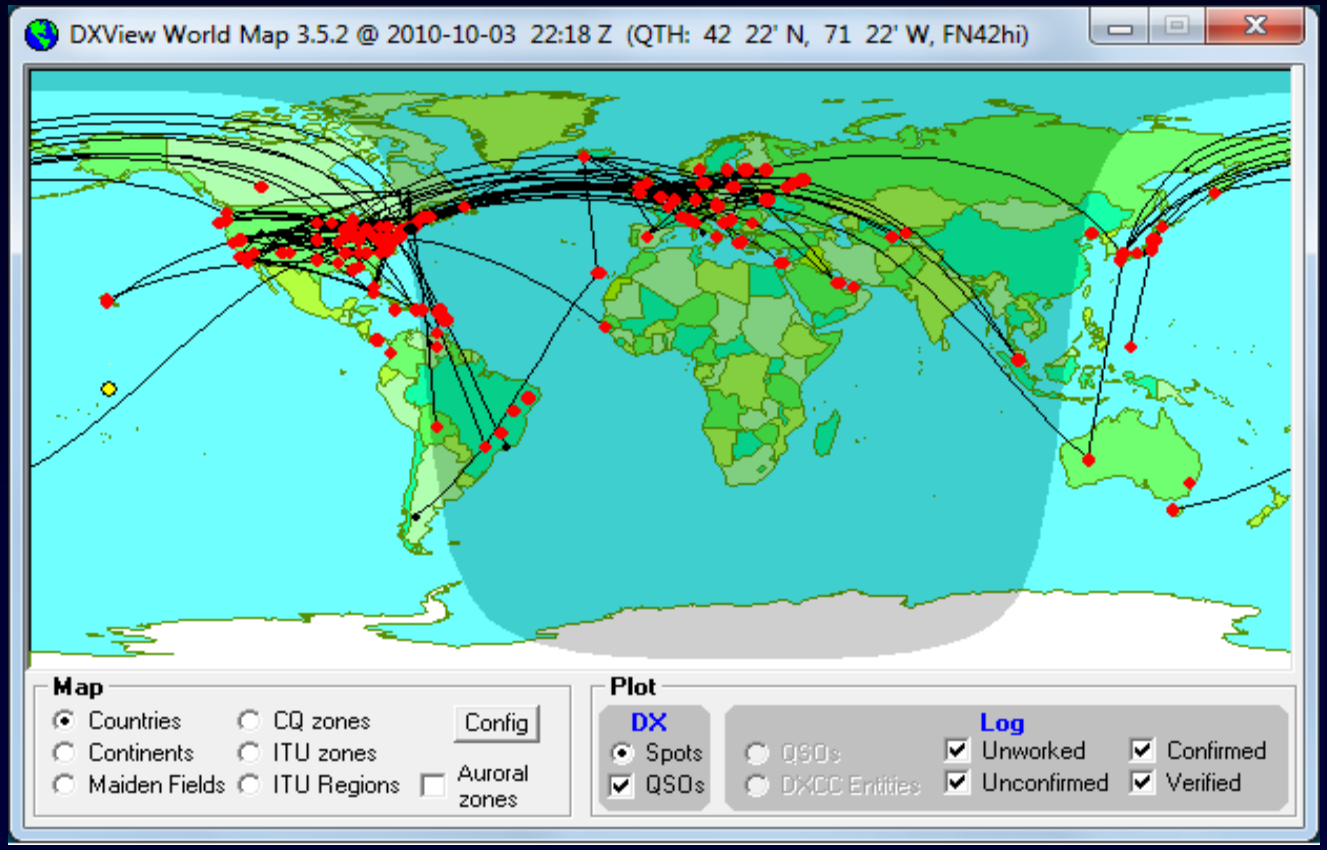




World Map

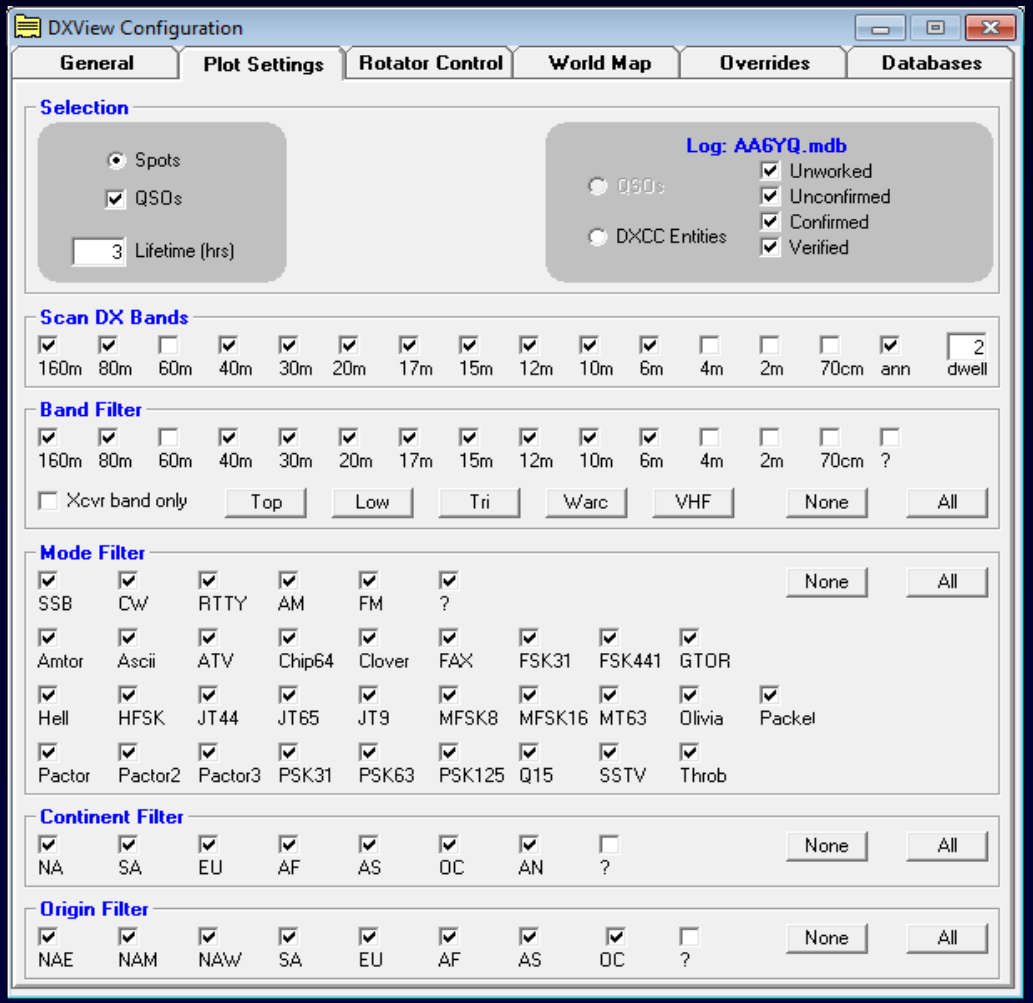
World Map View of Active DX

"Active DX on Selected Bands"



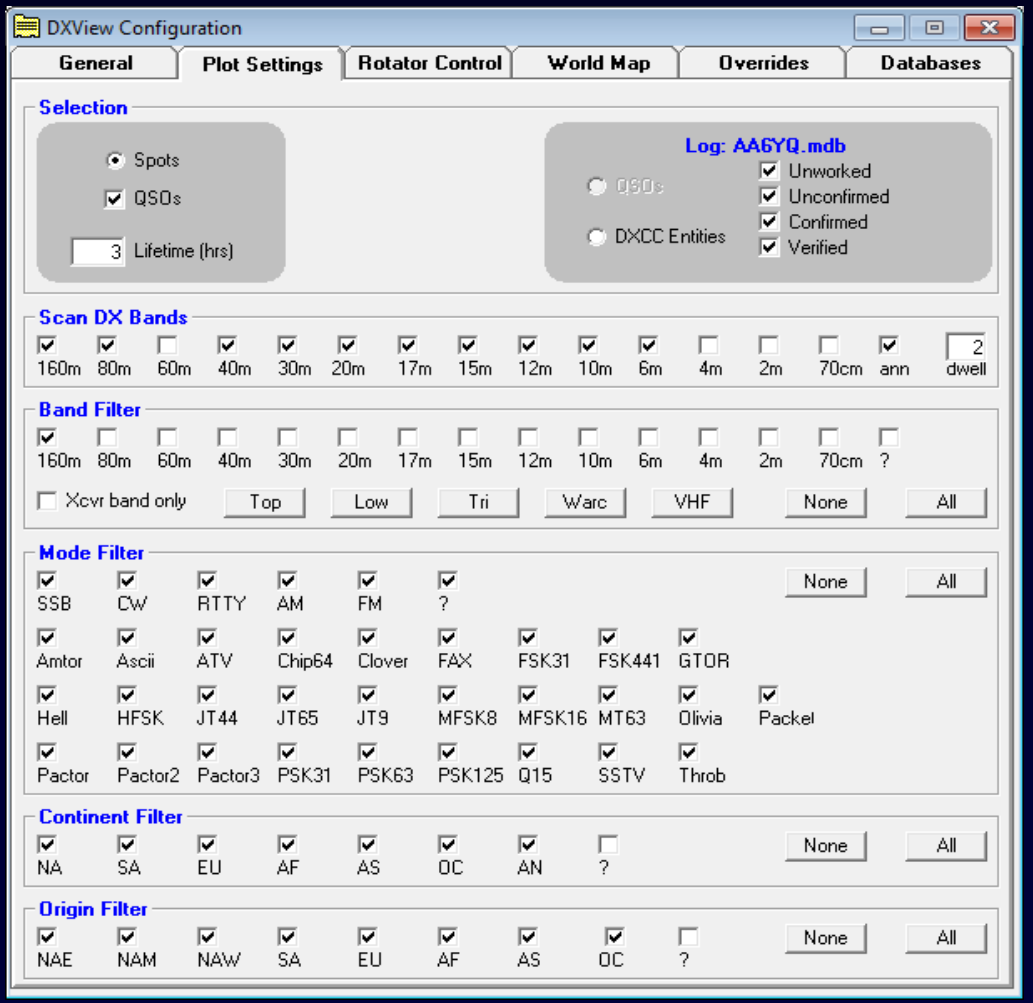
World Map View of Active DX

Controlling the Map View



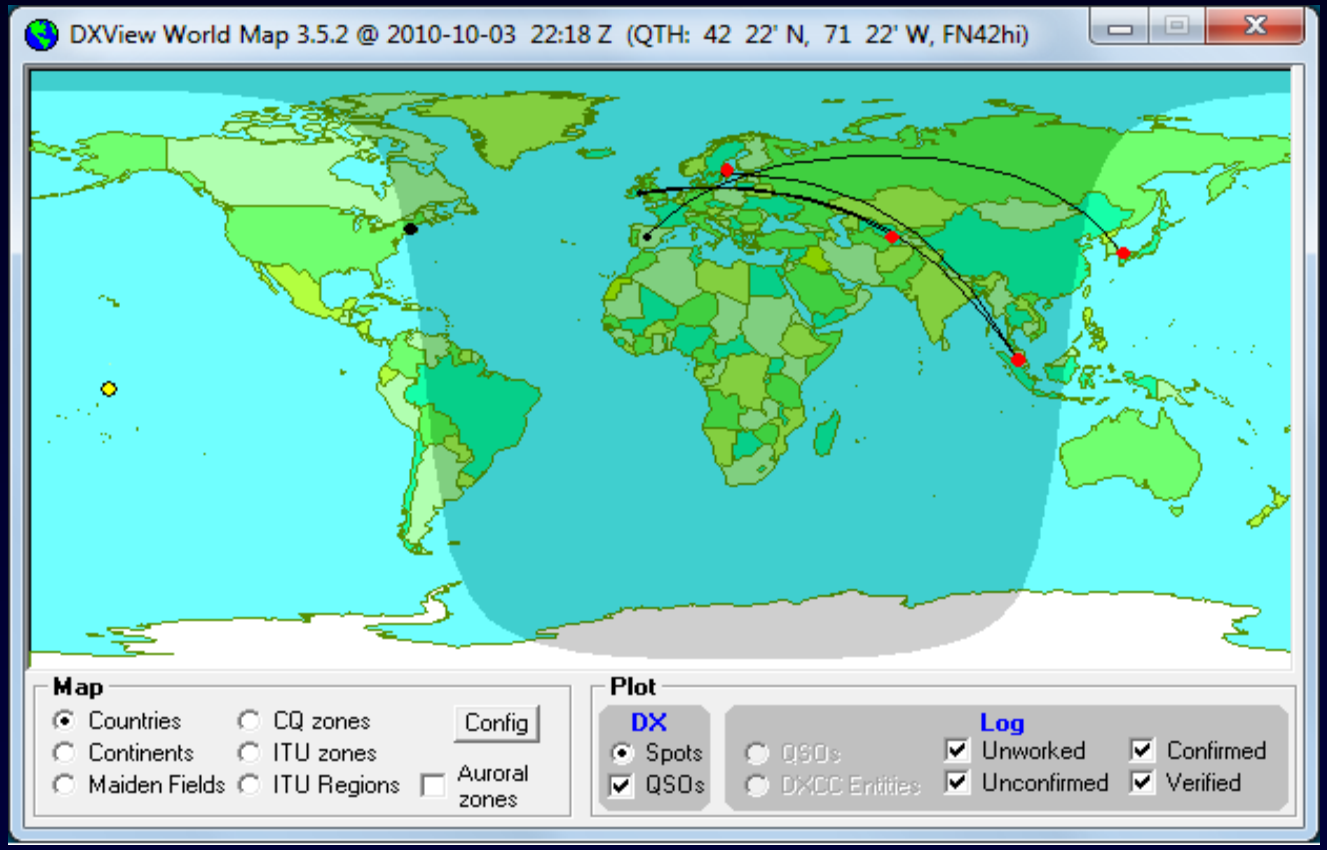
World Map View of Active DX

Controlling the Map View



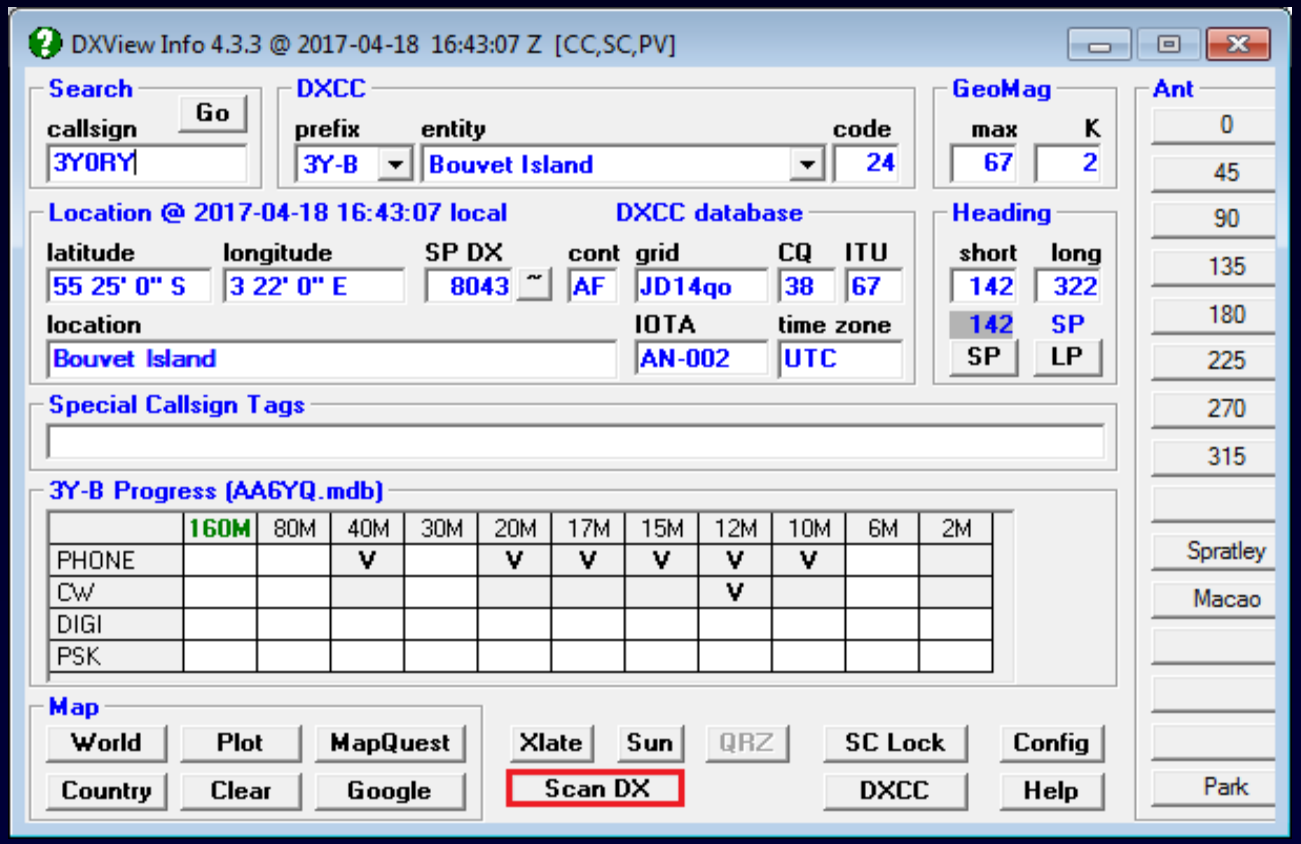
World Map View of Active DX

"160m"



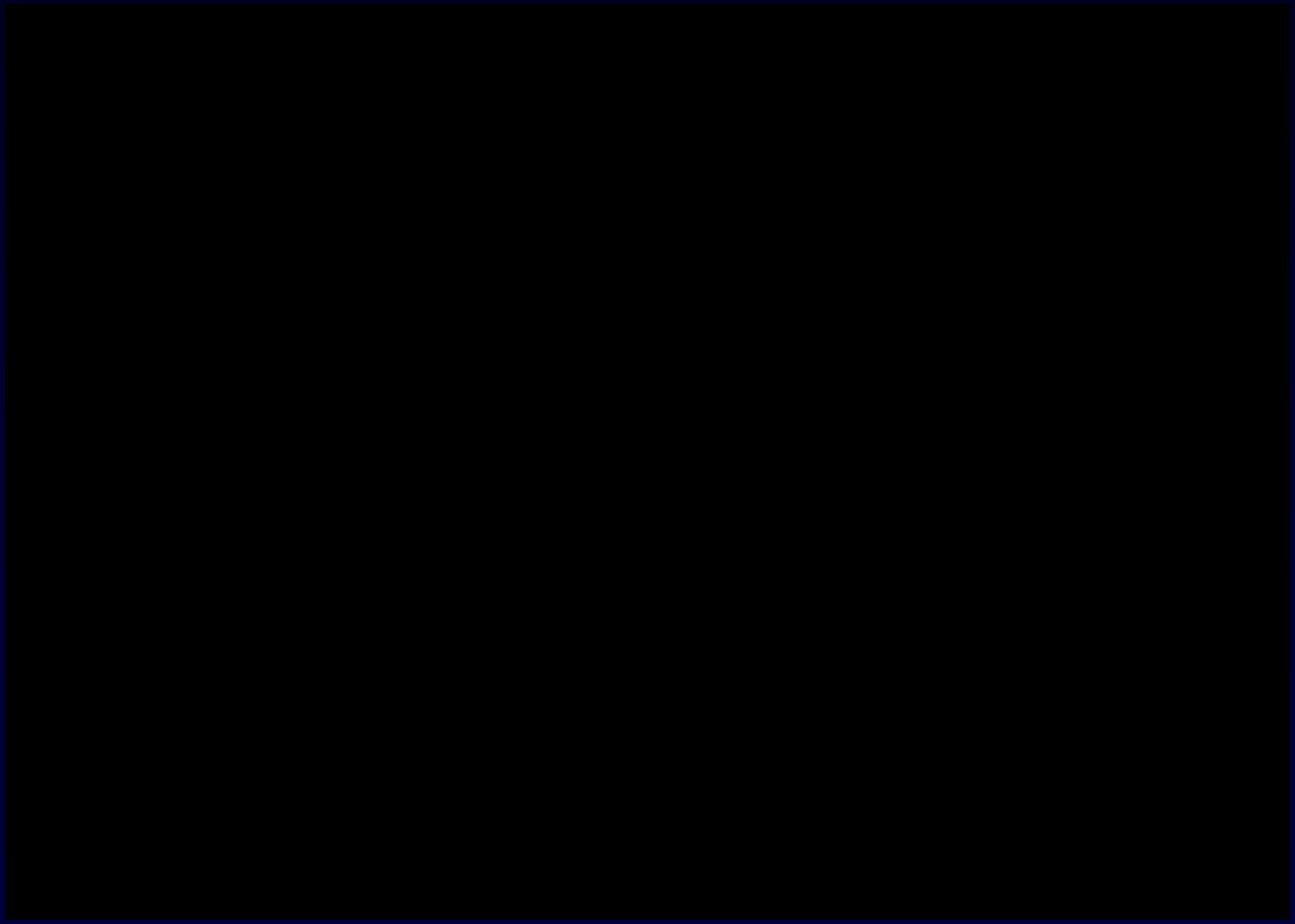
World Map View of Active DX

ScanDX



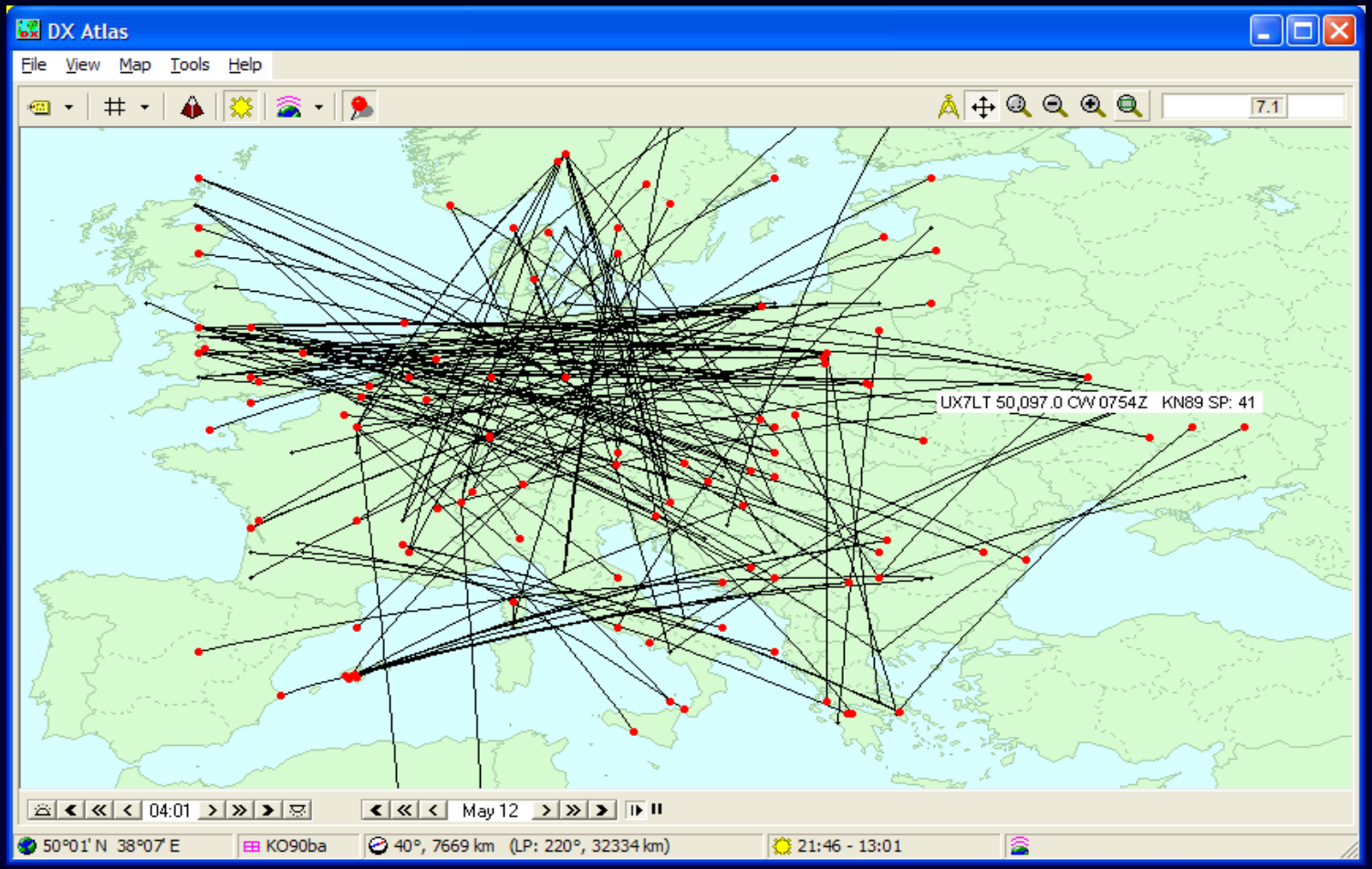
World Map View of Active DX

ScanDX



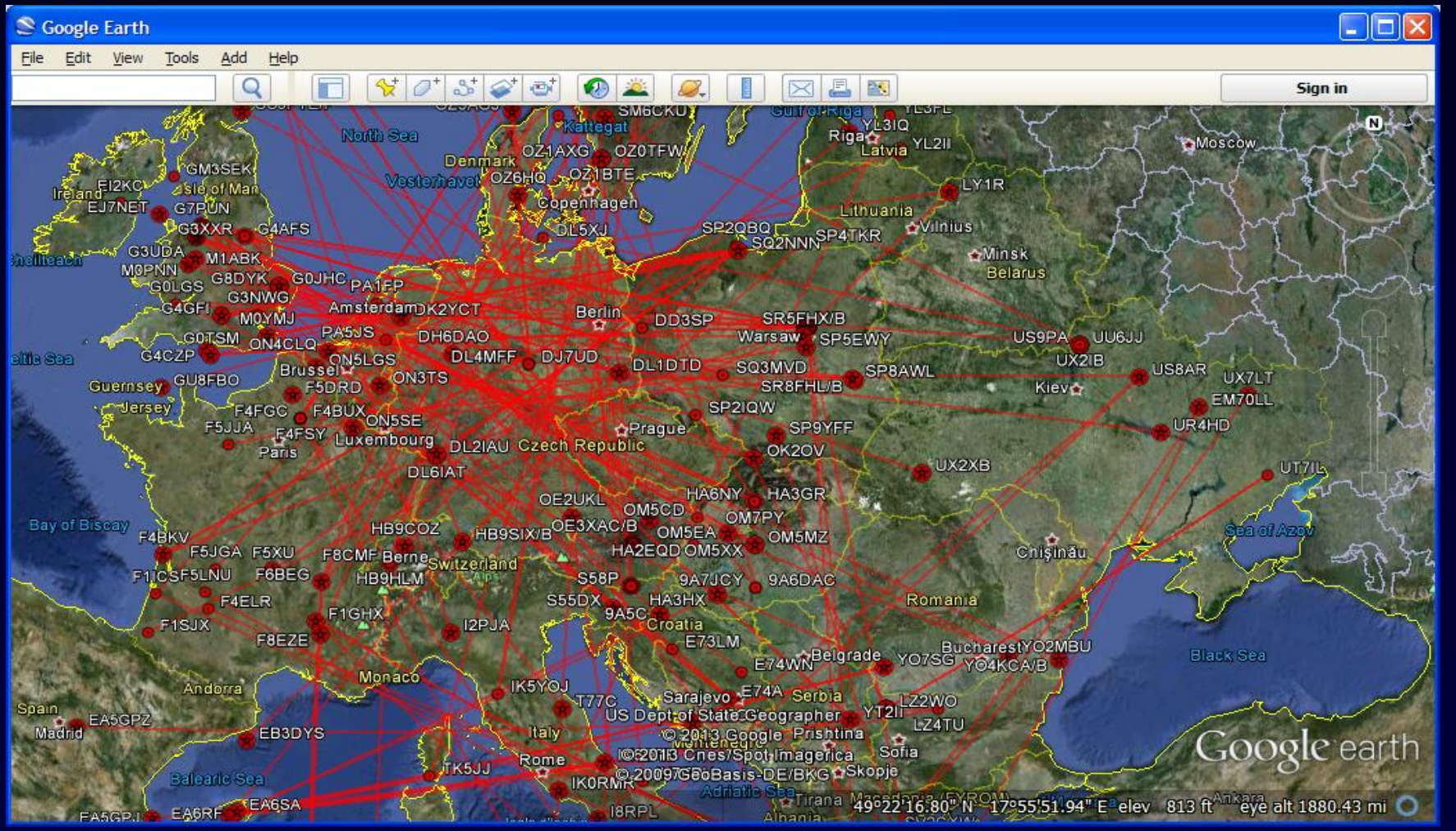
World Map View of Active DX

"6m" on DX Atlas



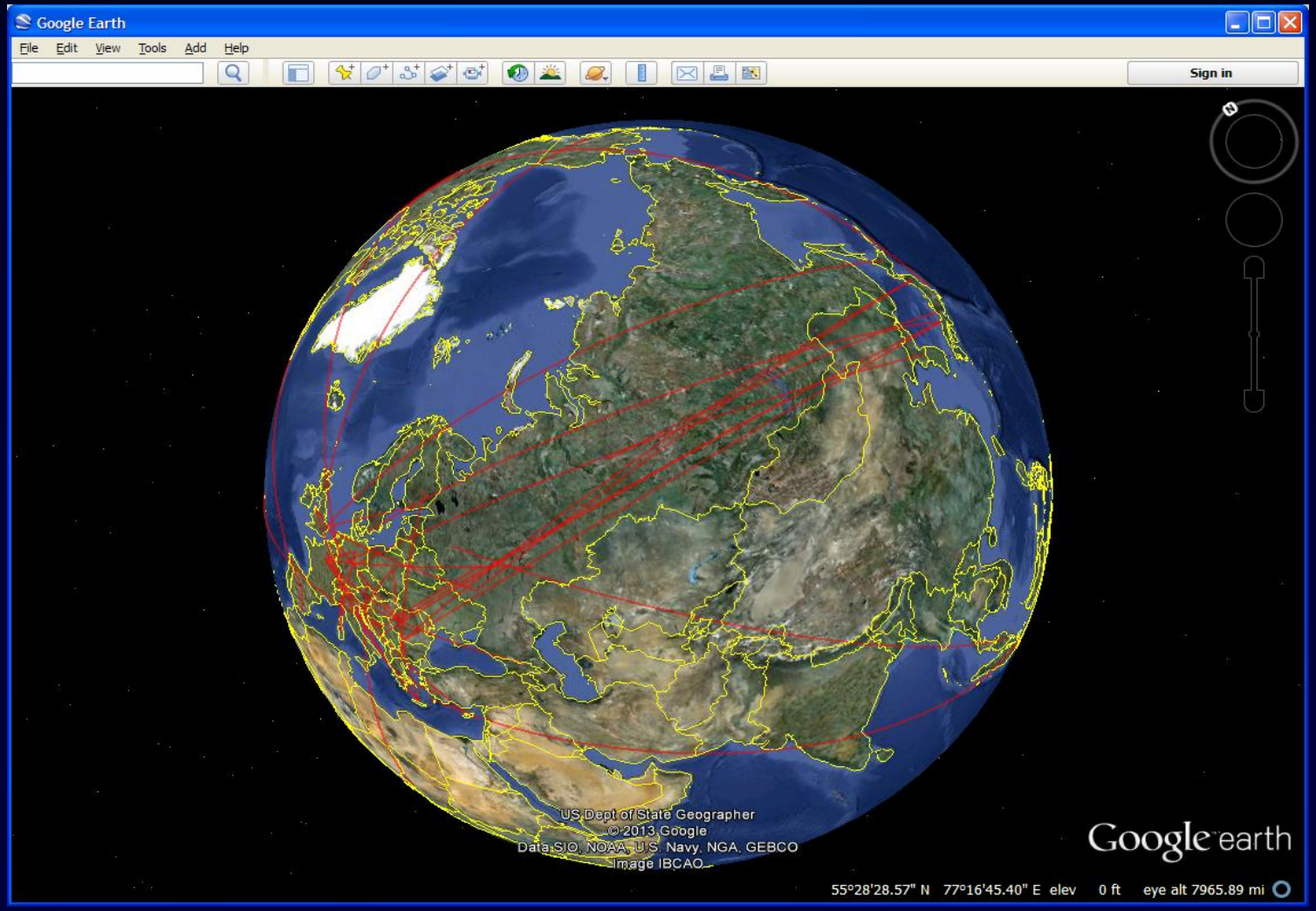
World Map View of Active DX

"6m" on Google Earth

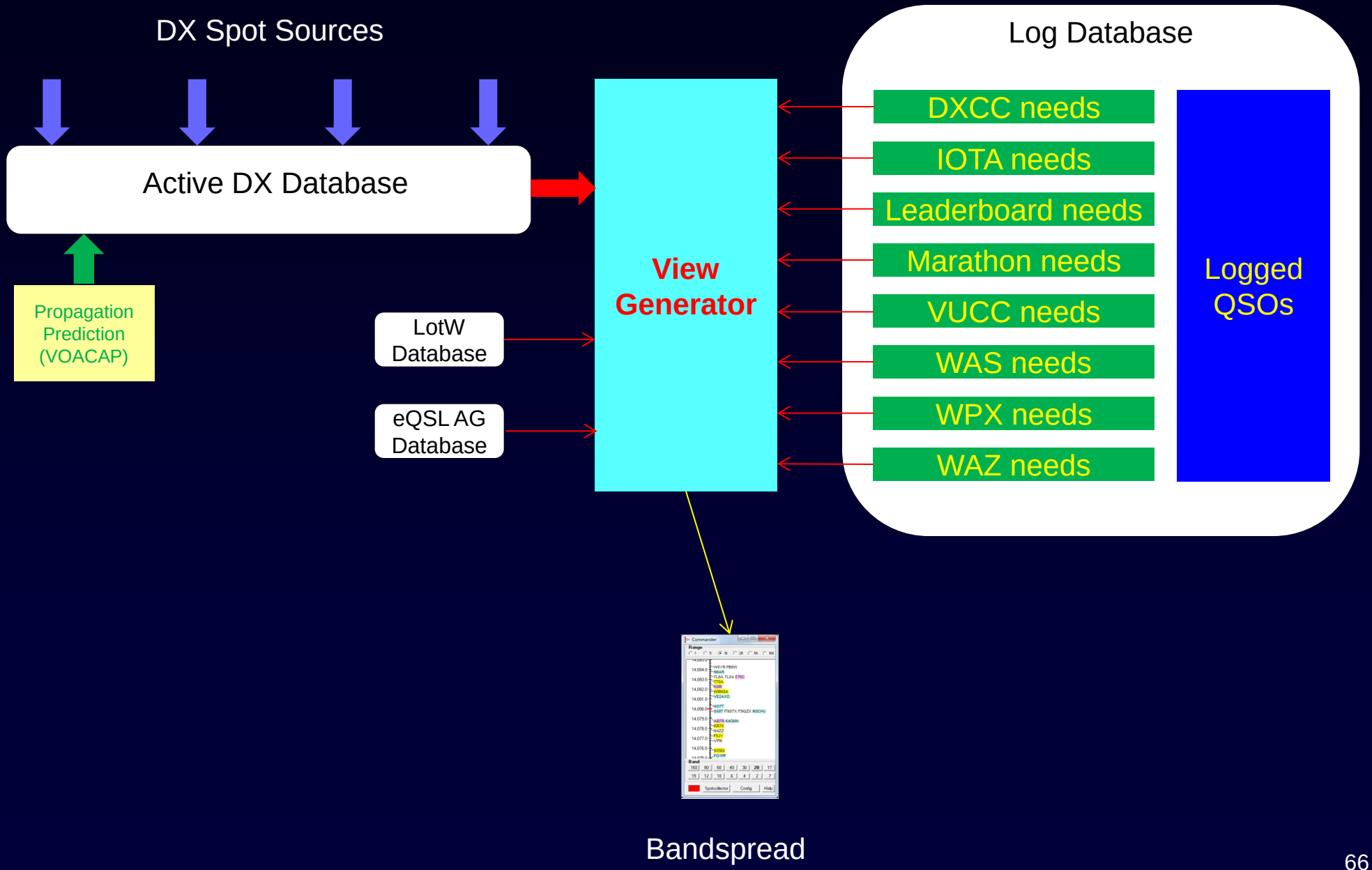


World Map View of Active DX

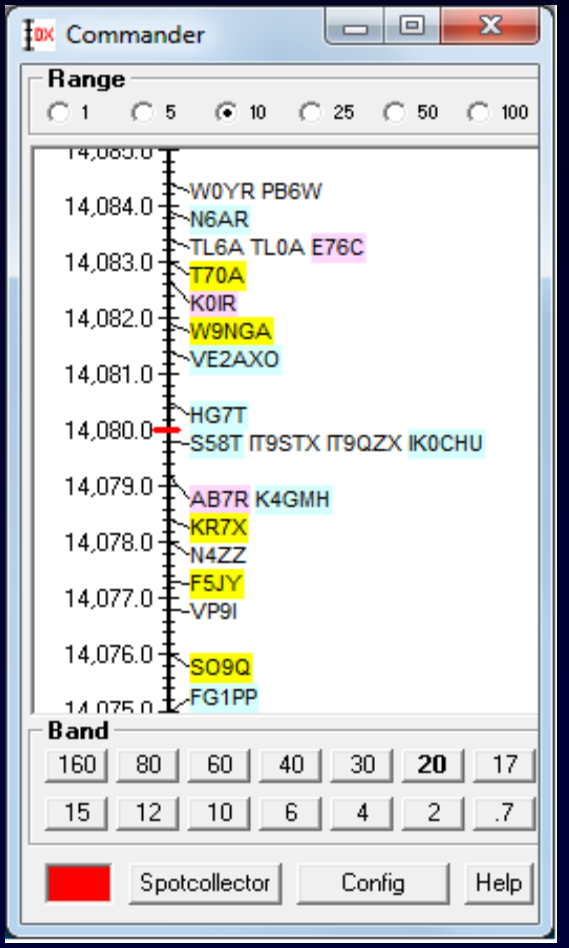
"12m" on Google Earth



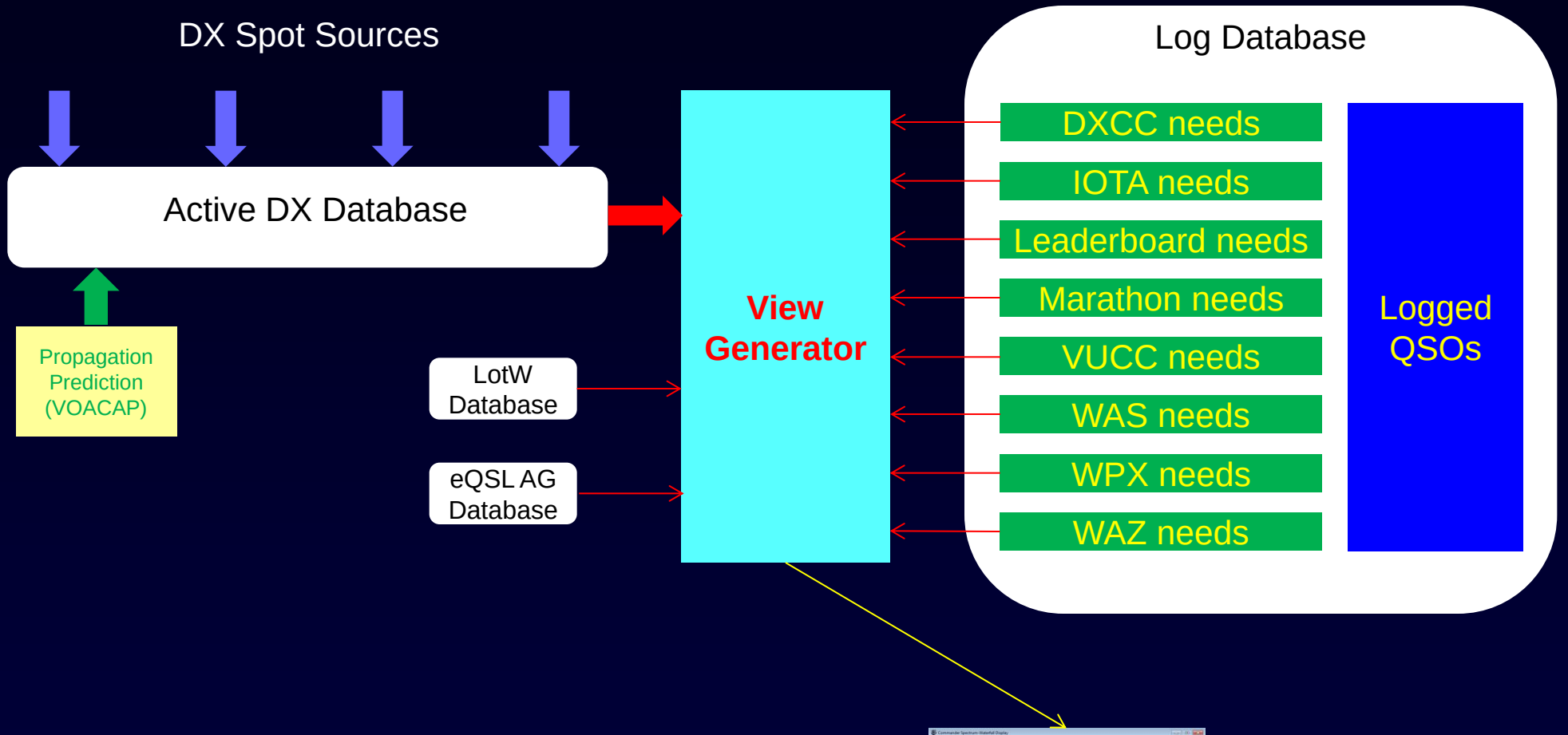
Bandspread View of Active DX

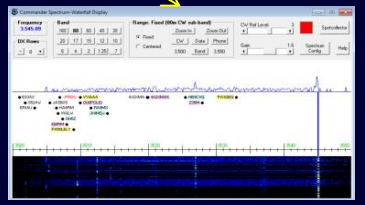


Bandspread View of Active DX



Spectrum-Waterfall View of Active DX

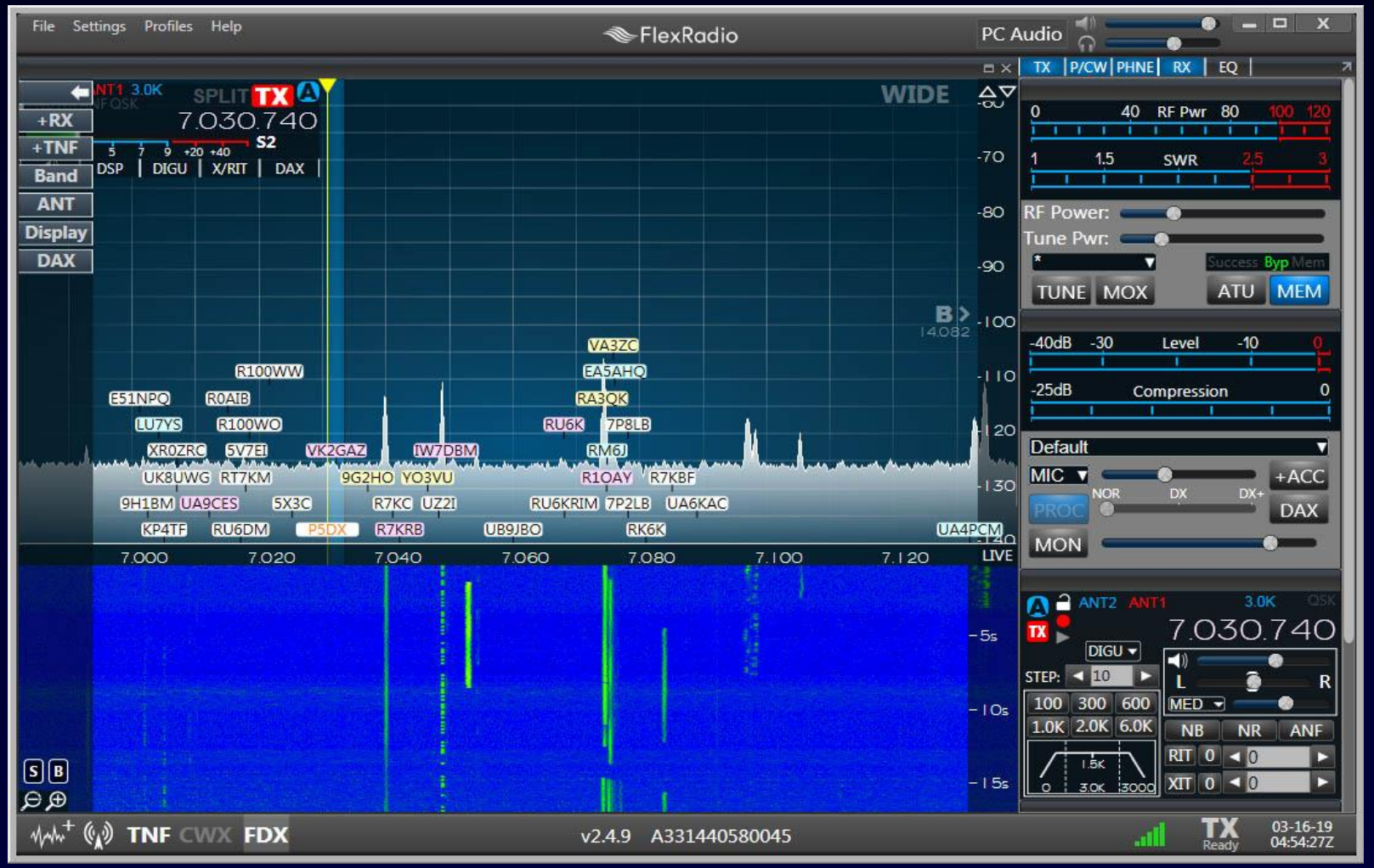




Spectrum

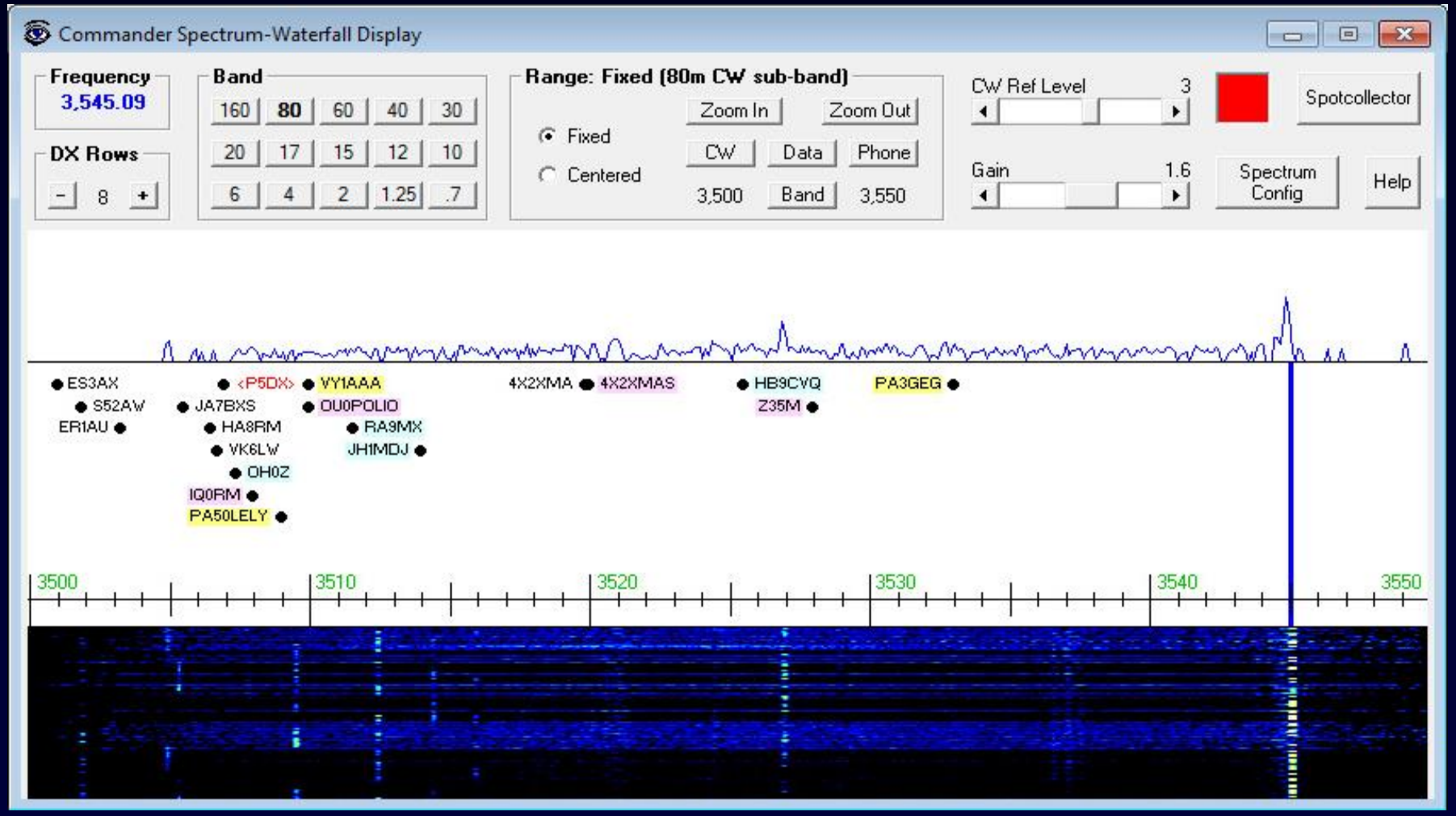
Spectrum-Waterfall View of Active DX

Flex Signature Radios



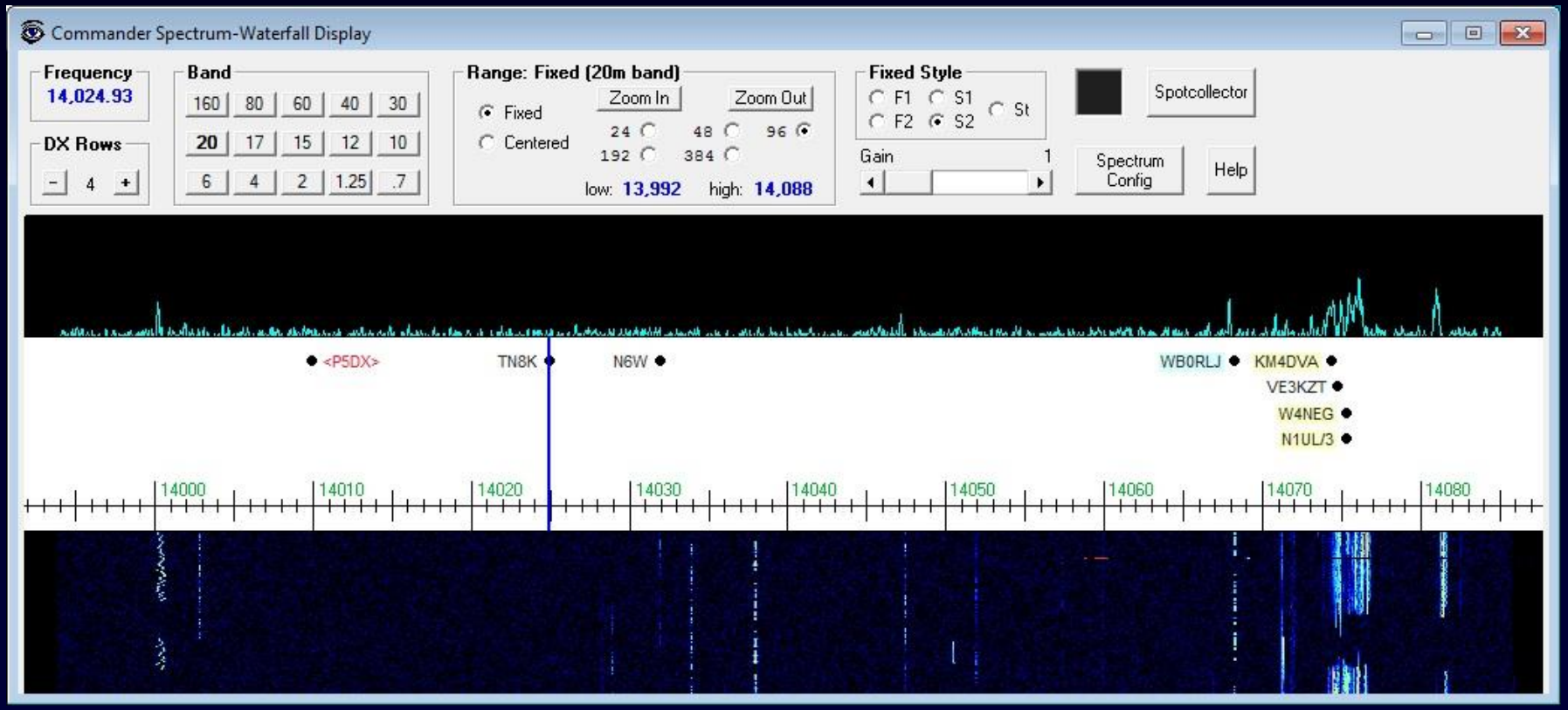
Spectrum-Waterfall View of Active DX

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



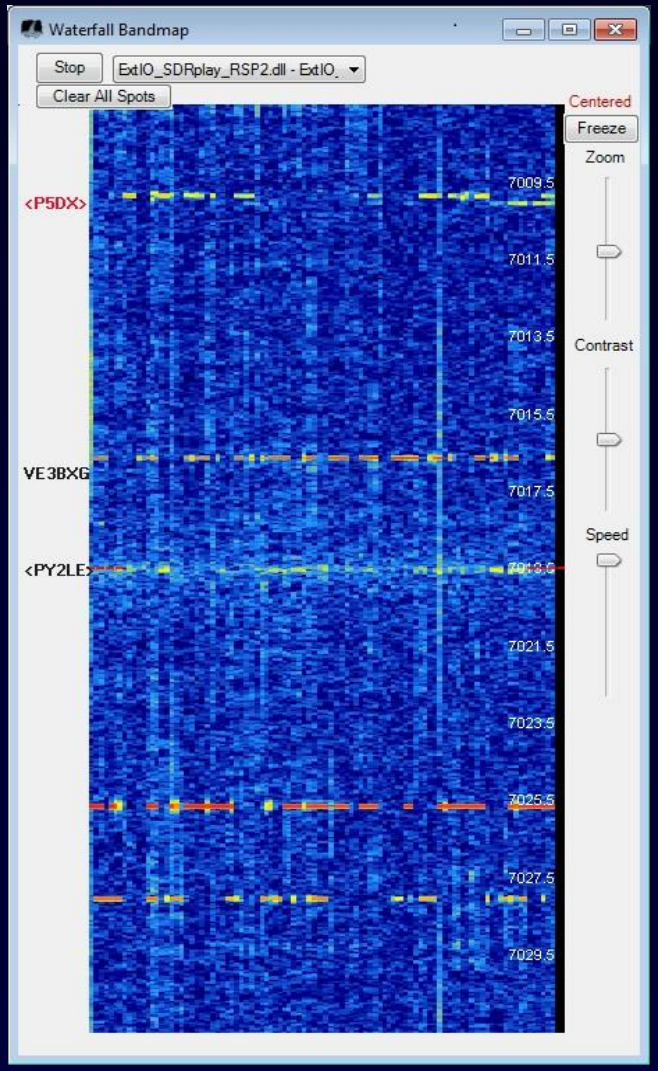
Spectrum-Waterfall View of Active DX

Elecraft K4



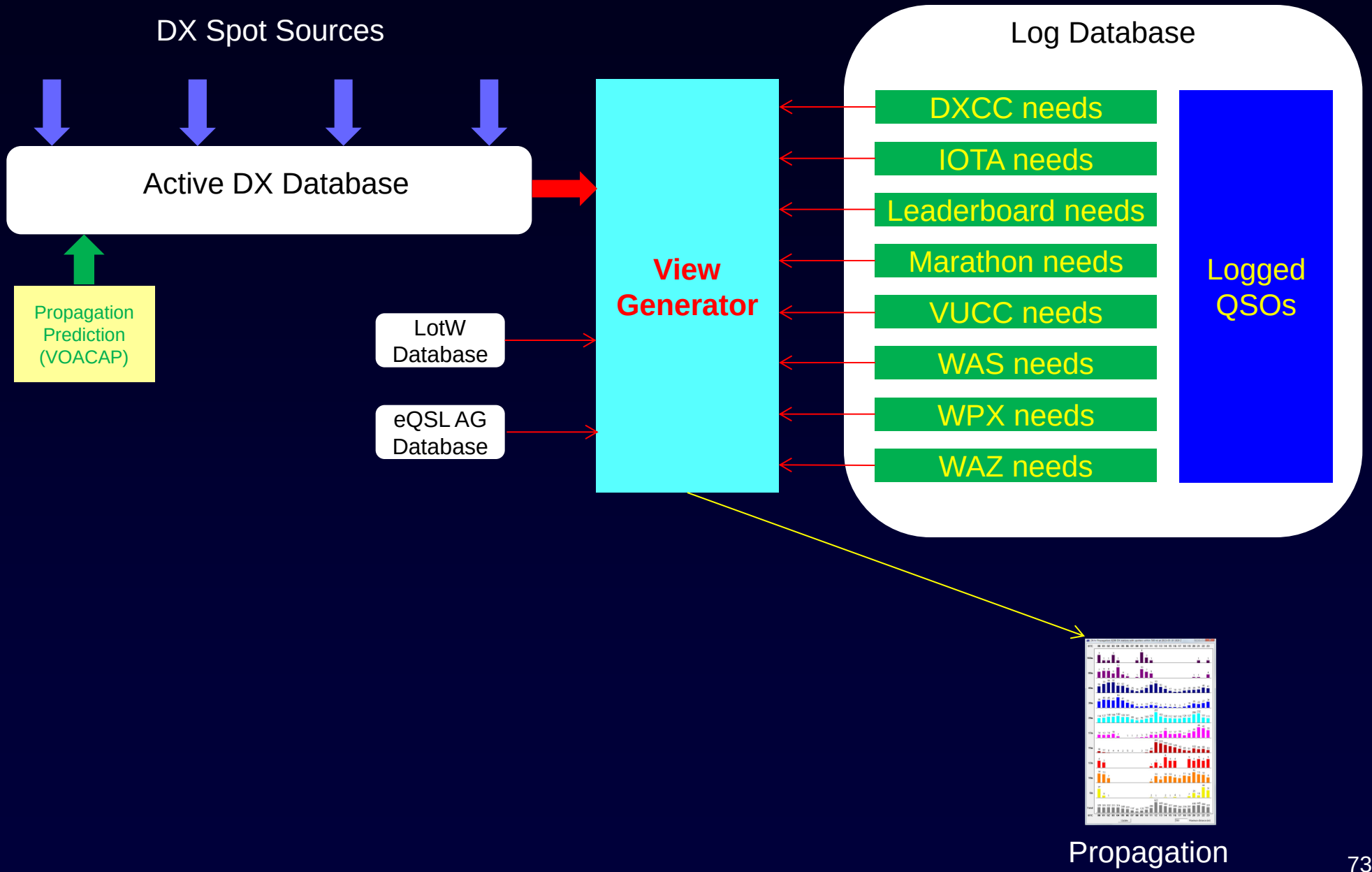
Spectrum-Waterfall View of Active DX

Interoperation with N2IC's Waterfall Bandmap

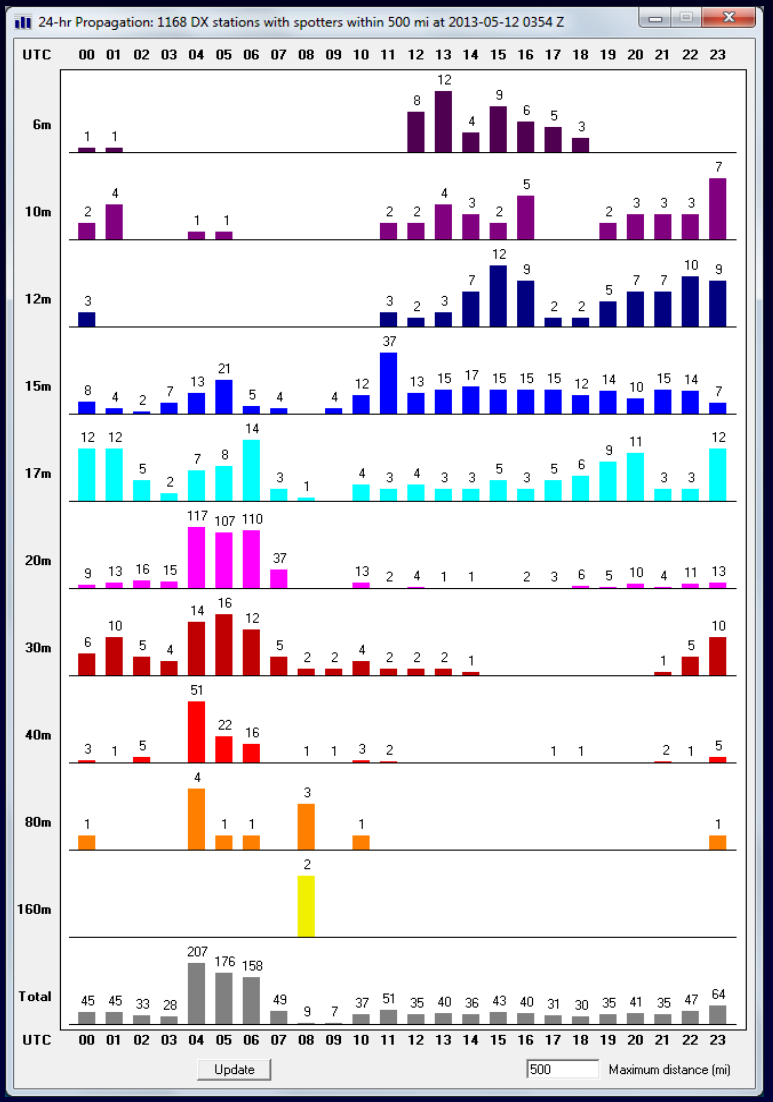


- Supports most SDRs
- RF or IF input

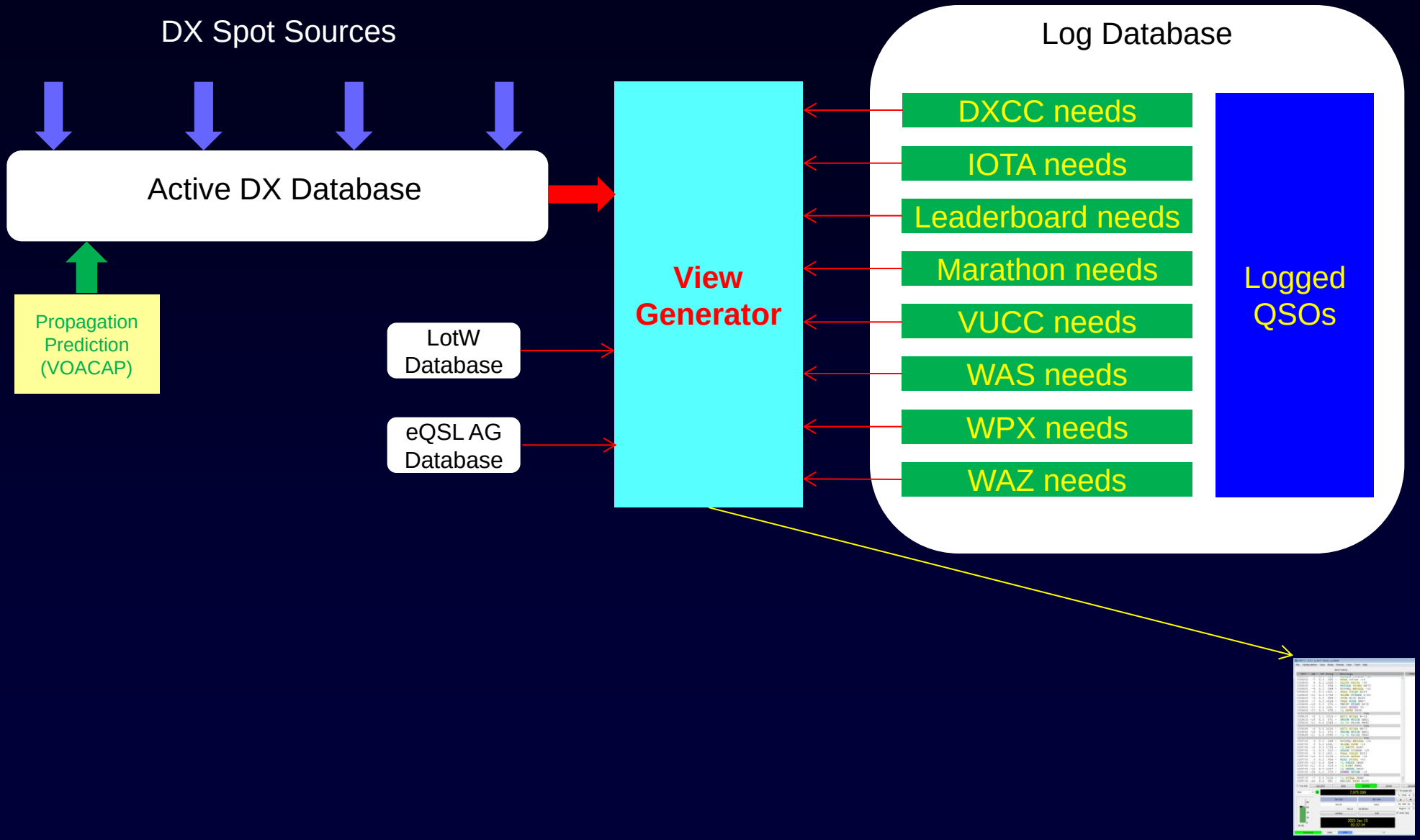
Propagation View of Active DX



Propagation View of Active DX

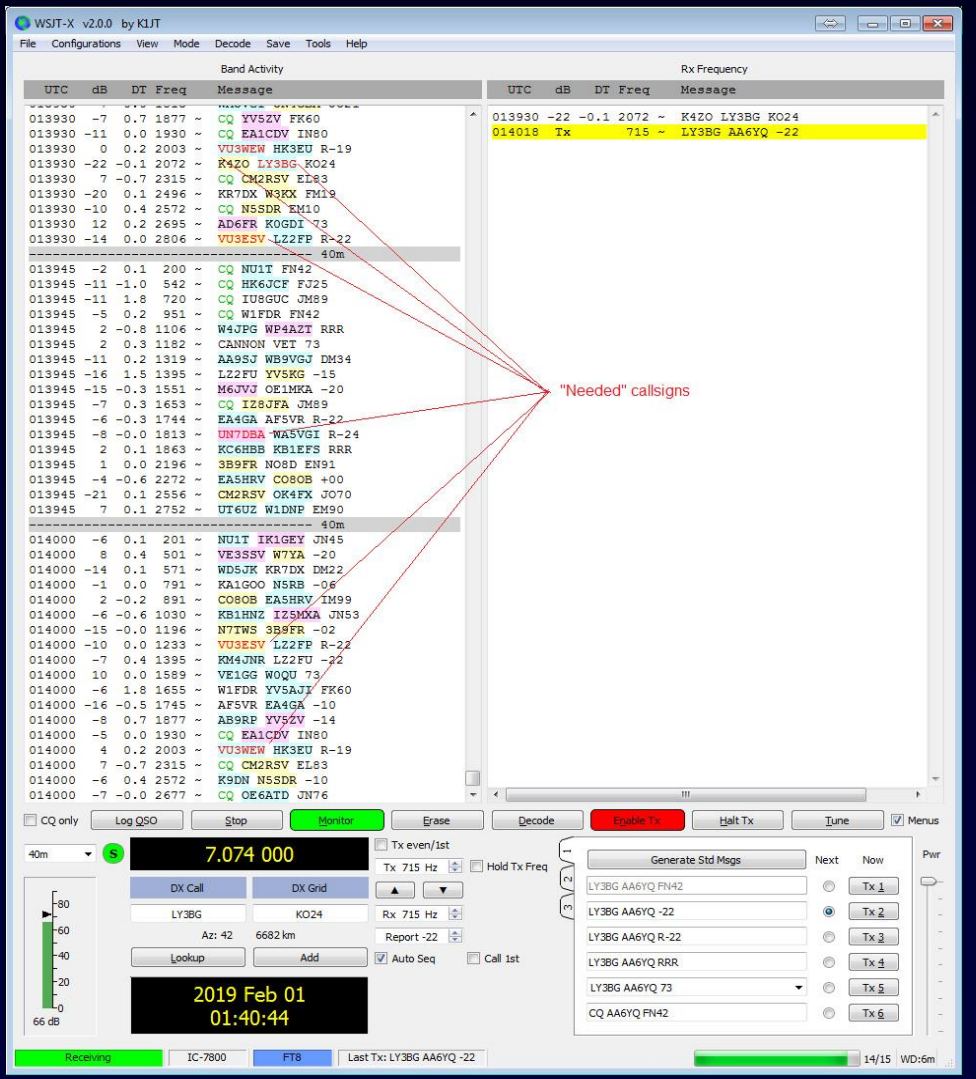


WSJT-X View of Active DX



WSJT-X View of Active DX

Log Database



Multiple Views of Active DX

DX Spot Sources

Active DX Database

Propagation Prediction (VOACAP)

LotW Database

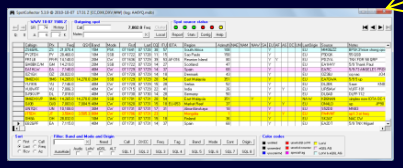
eQSL AG Database

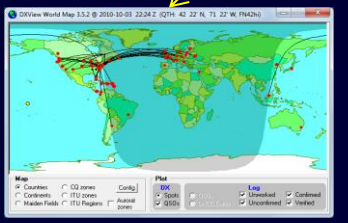
View Generator

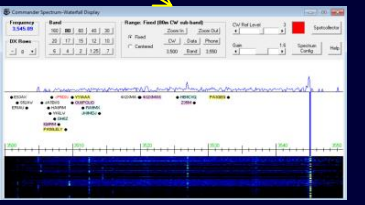
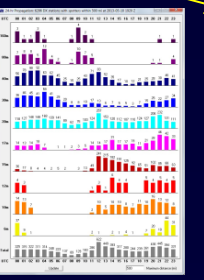
Log Database

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

Logged QSOs



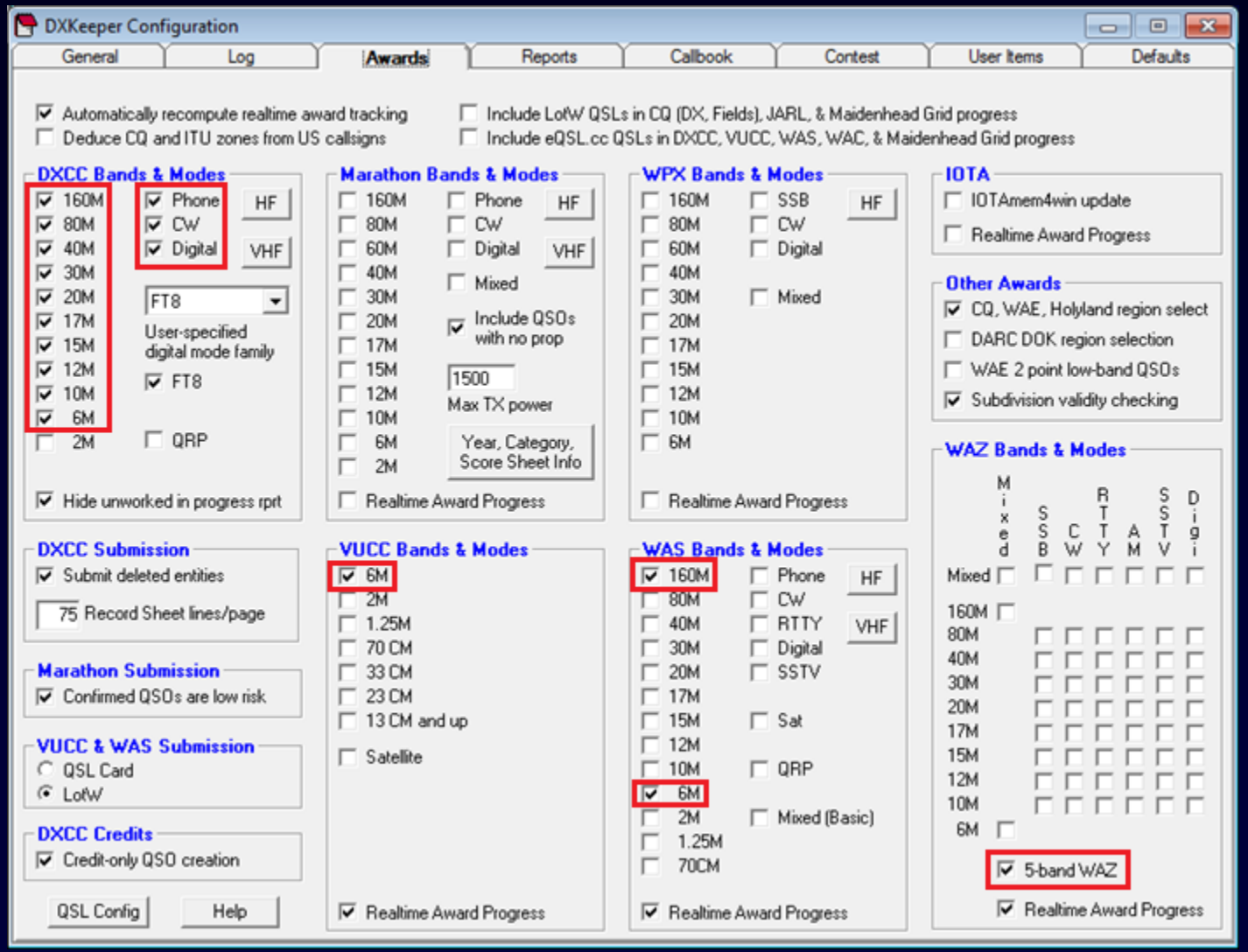

Tabular | Audio/Email | World Map | Bandspread | Spectrum | Propagation | WSJT-X

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

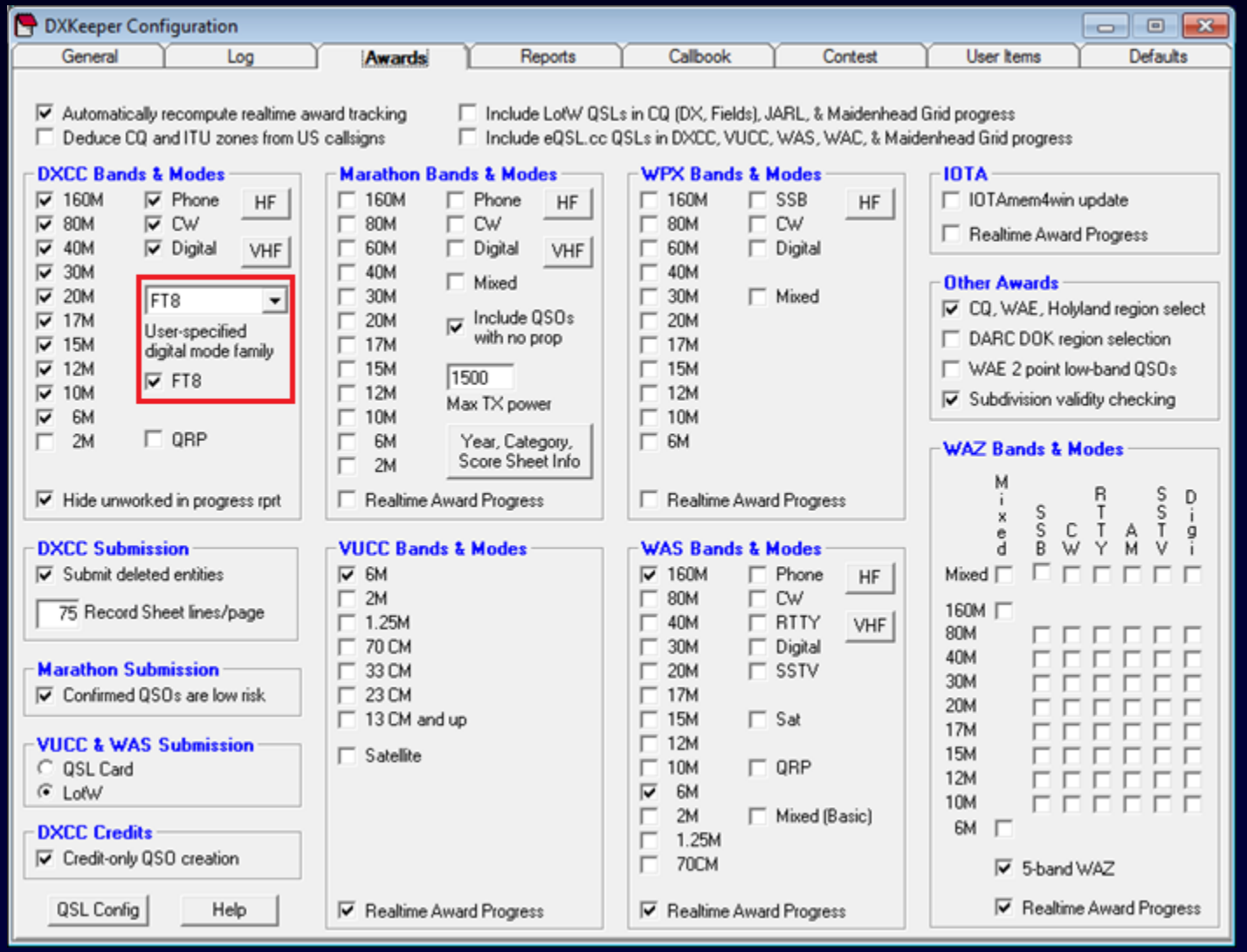
Finding and Working Needed DX

My DXing Objectives: DXCC, VUCC, WAS, WAZ



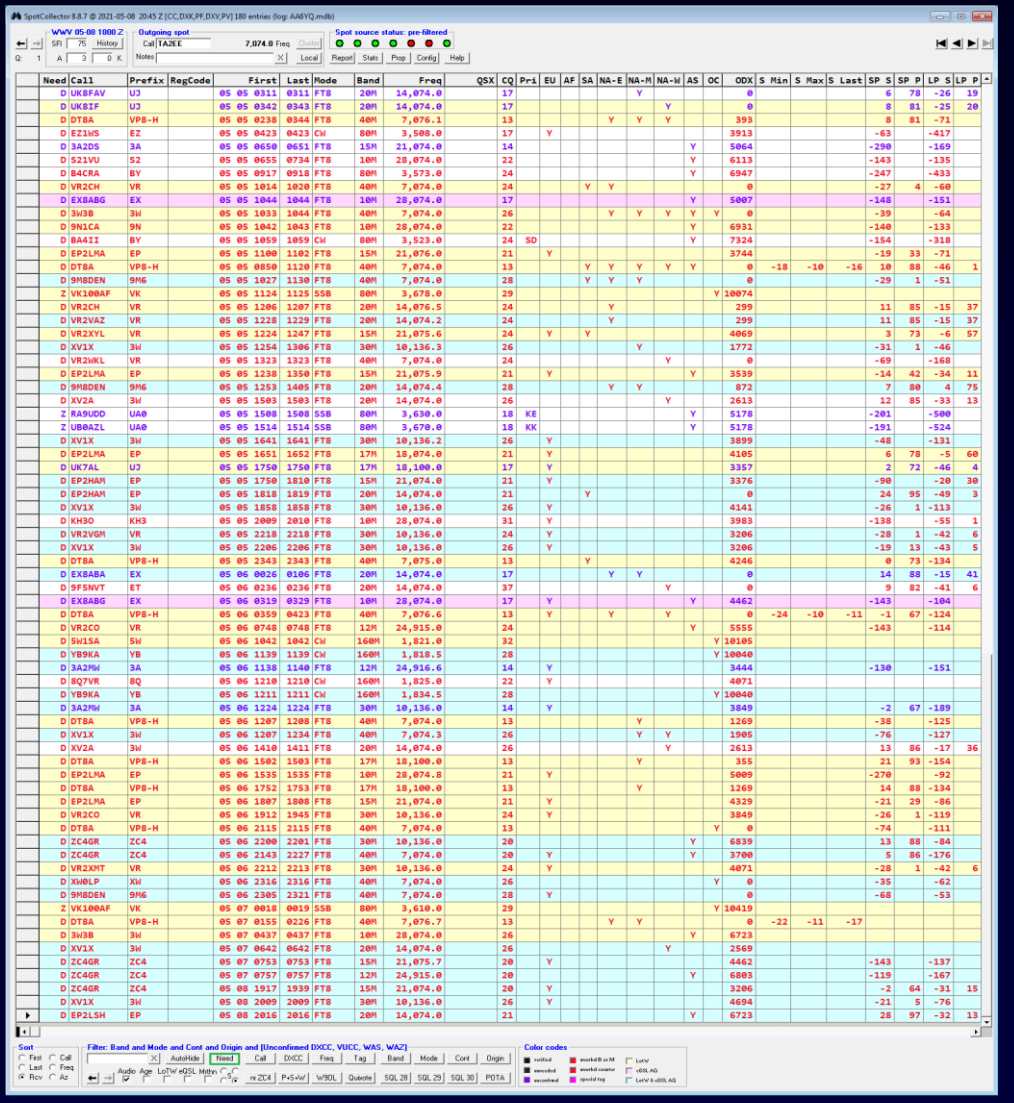
Finding and Working Needed DX

I'm also pursuing all DXCC Entities in FT8



Finding and Working Needed DX

What is QRV that I Need?



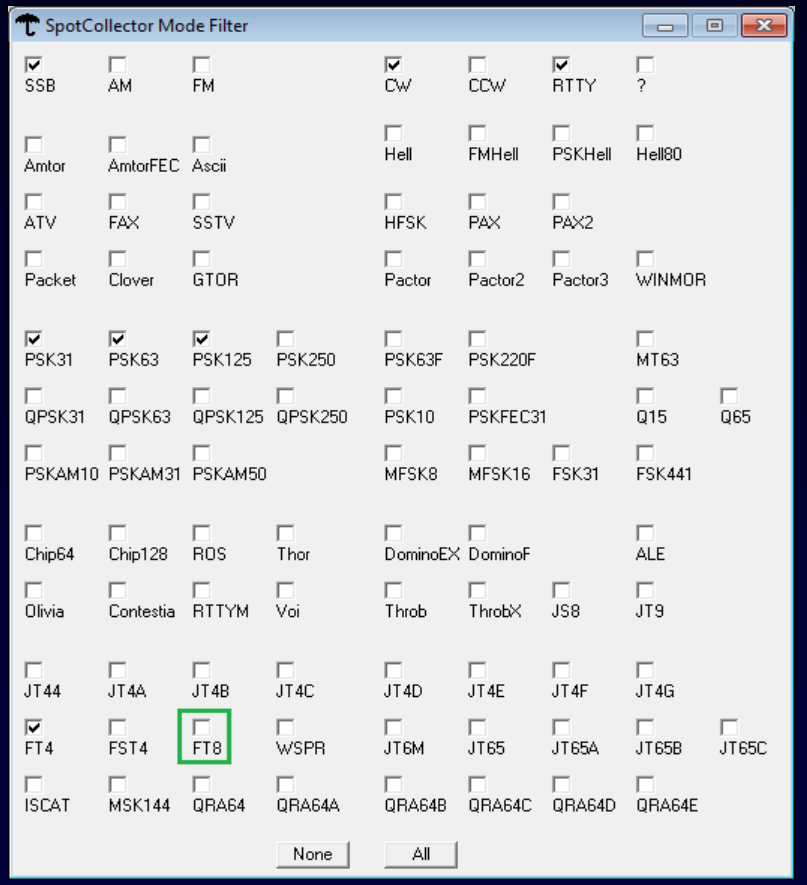
Interesting Targets

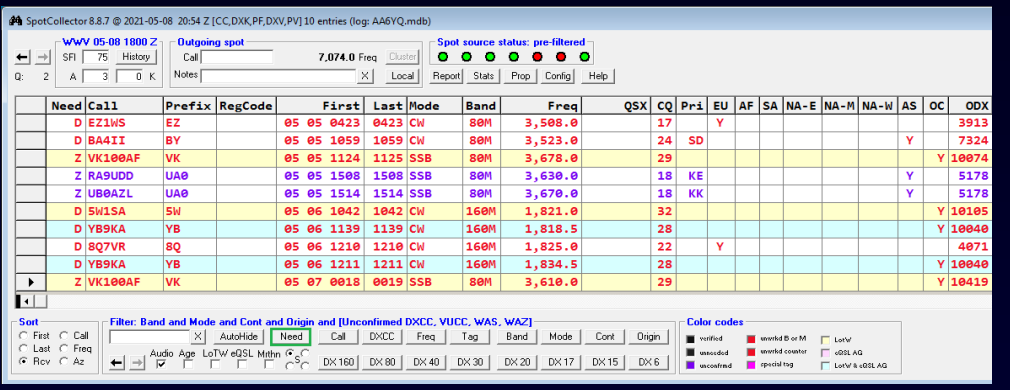
- 3W
- 5W
- 9M8
- 9N
- BA
- EP2LMA
- KH3O
- VP8-H
- VR
- XV
- YB
- ZC4

Almost All FT8 !

Finding and Working Needed DX

What is QRV in other than FT8 that I Need?

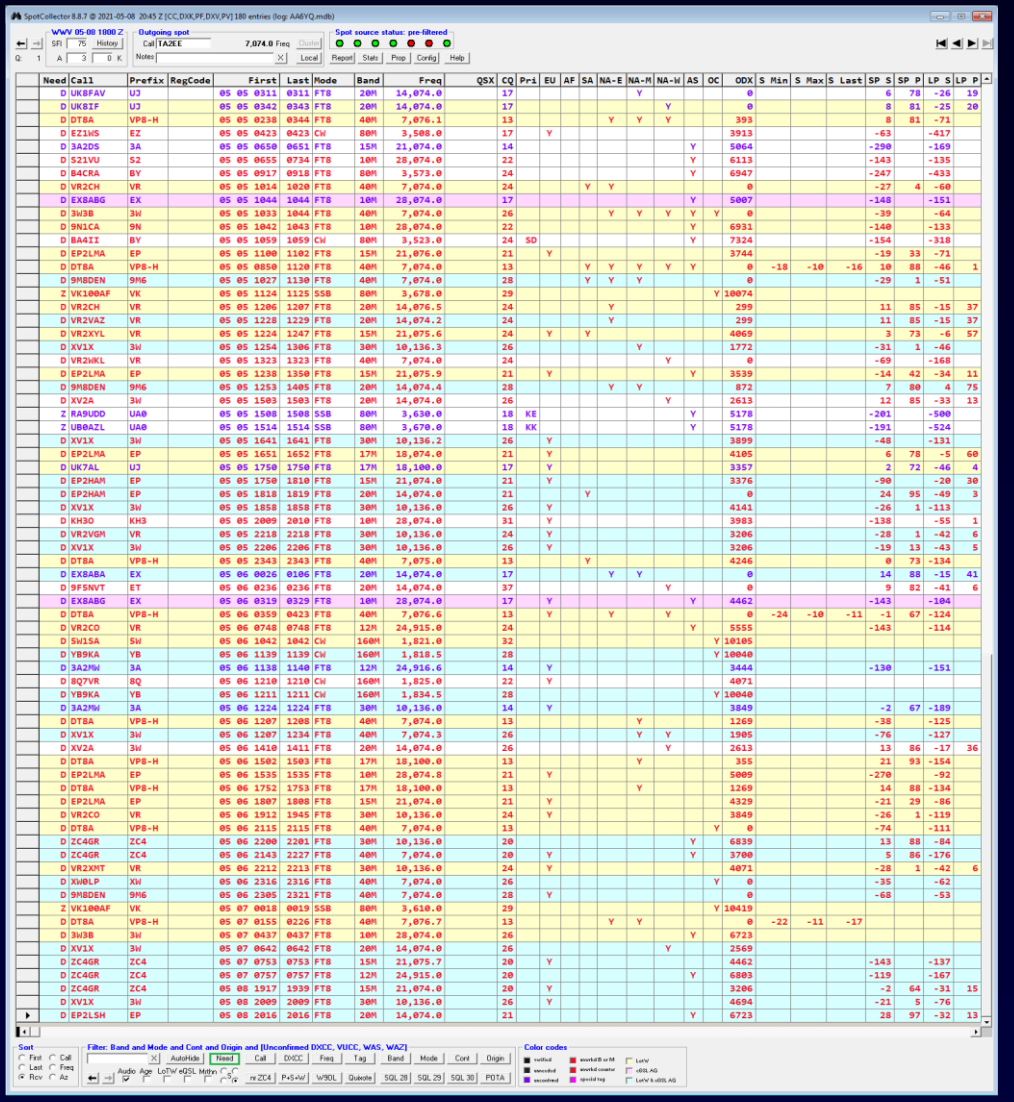




- Stations on 160m and 80m
  - EZ1WS not valid for DXCC
  - VK1000AF is in SSB, and is only needed for WAZ
  - The rest were spotted after my 1030Z sunrise

Finding and Working Needed DX

What is QRV that I Need?

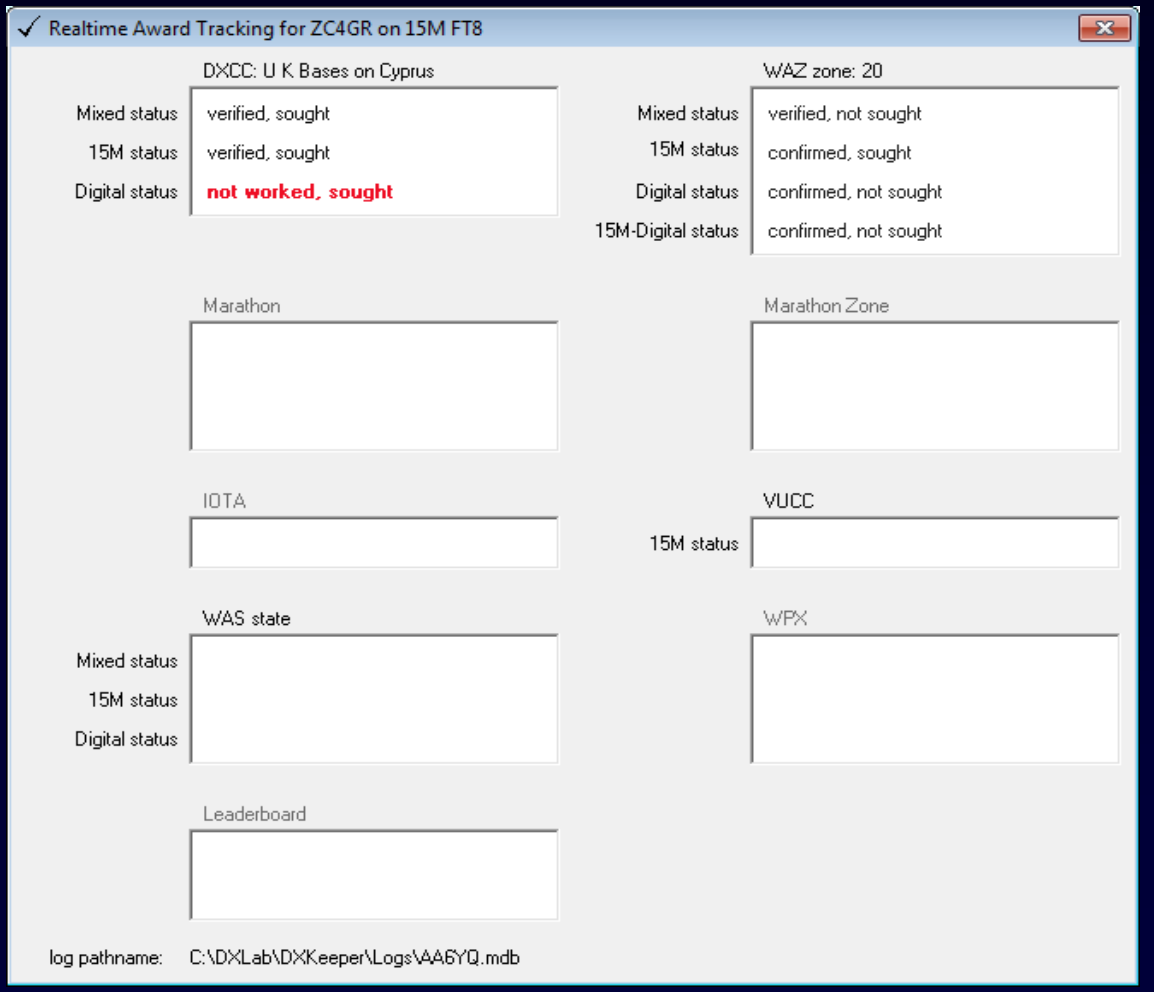


Interesting Targets

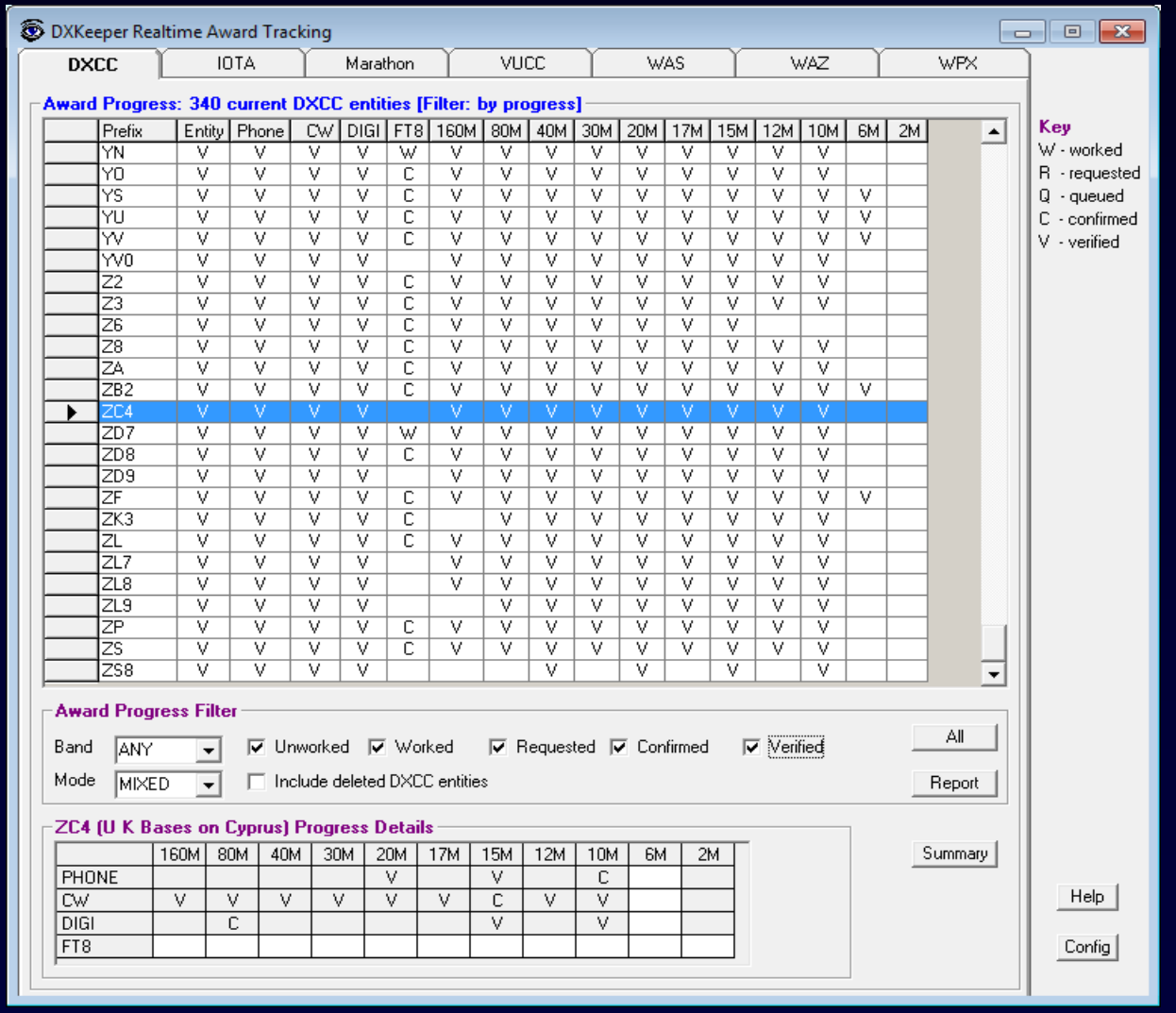
- 3W
- 5W
- 9M8
- 9N
- BA
- EP2LMA
- KH3O
- VP8-H
- VR
- XV
- YB
- ZC4

Almost All FT8 !

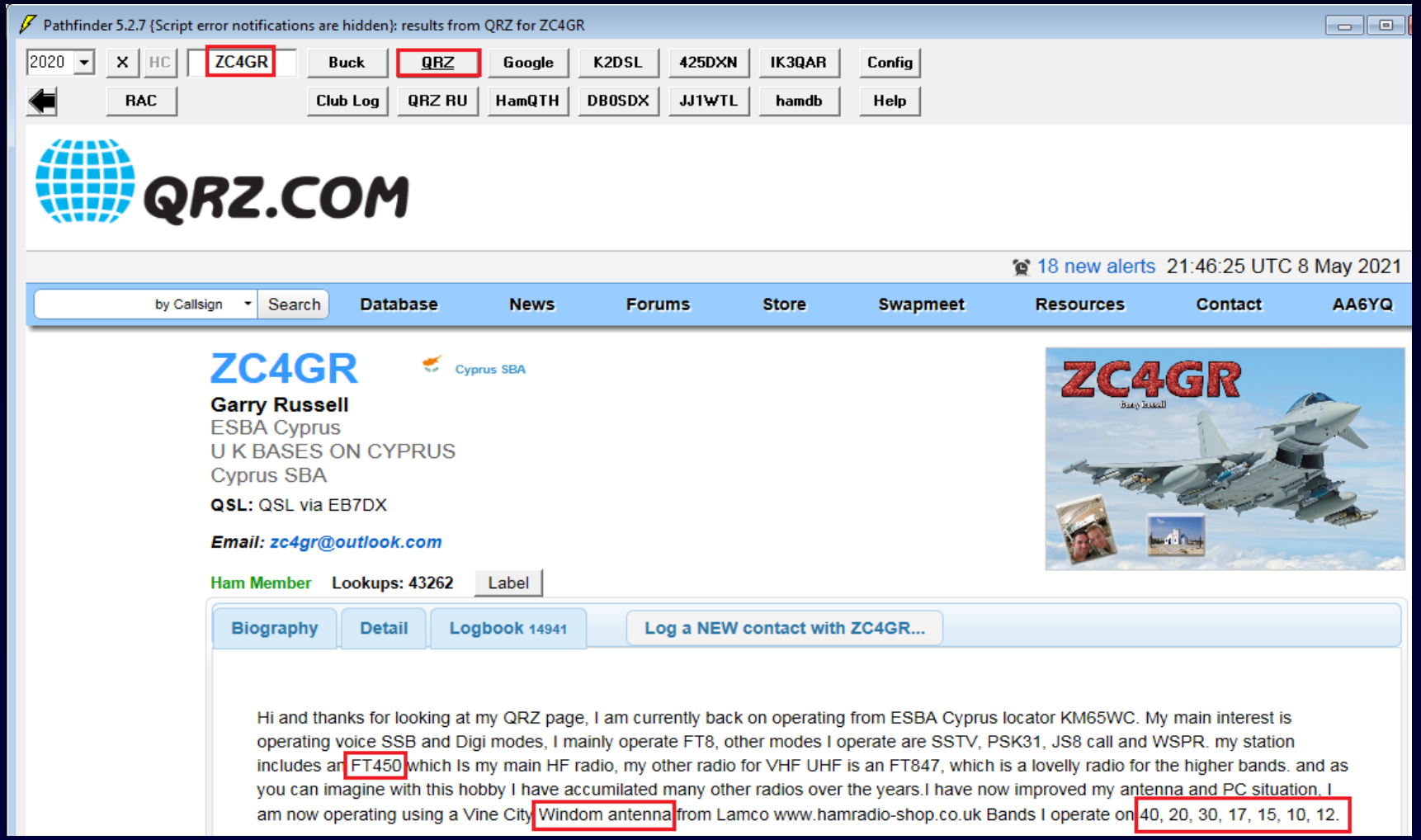
Award Tracking for ZC4GR on 15m FT8



DXCC Award Tracking for ZC4GR

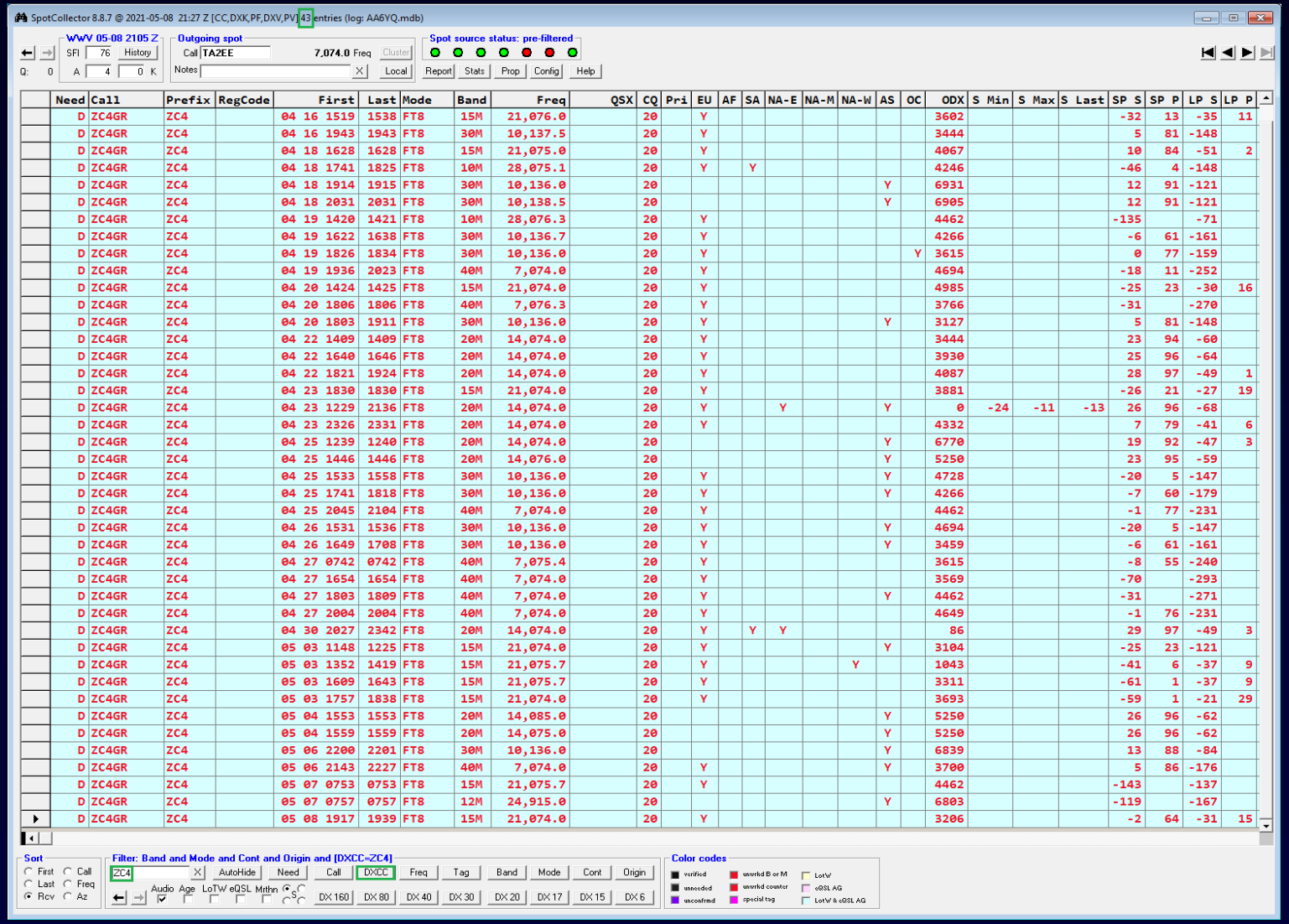


ZC4GR on FT8 Looks Challenging



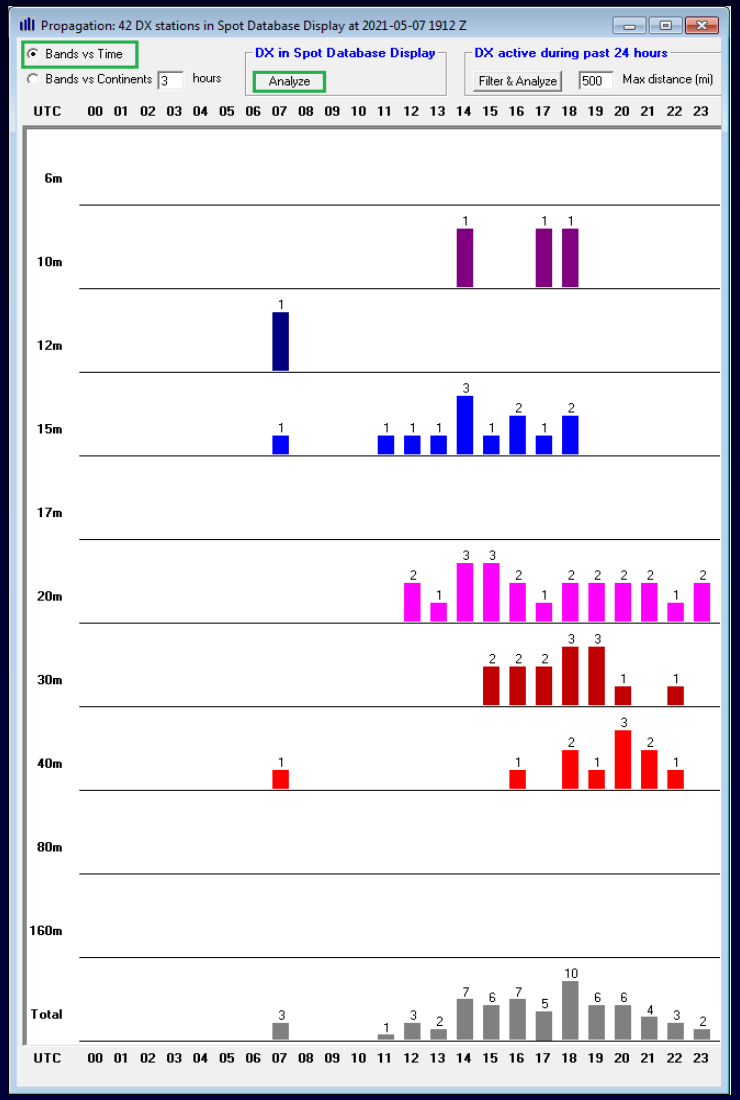
ZC4GR on FT8 Looks Challenging

Check for Recent Activity



Working ZC4GR on FT8

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

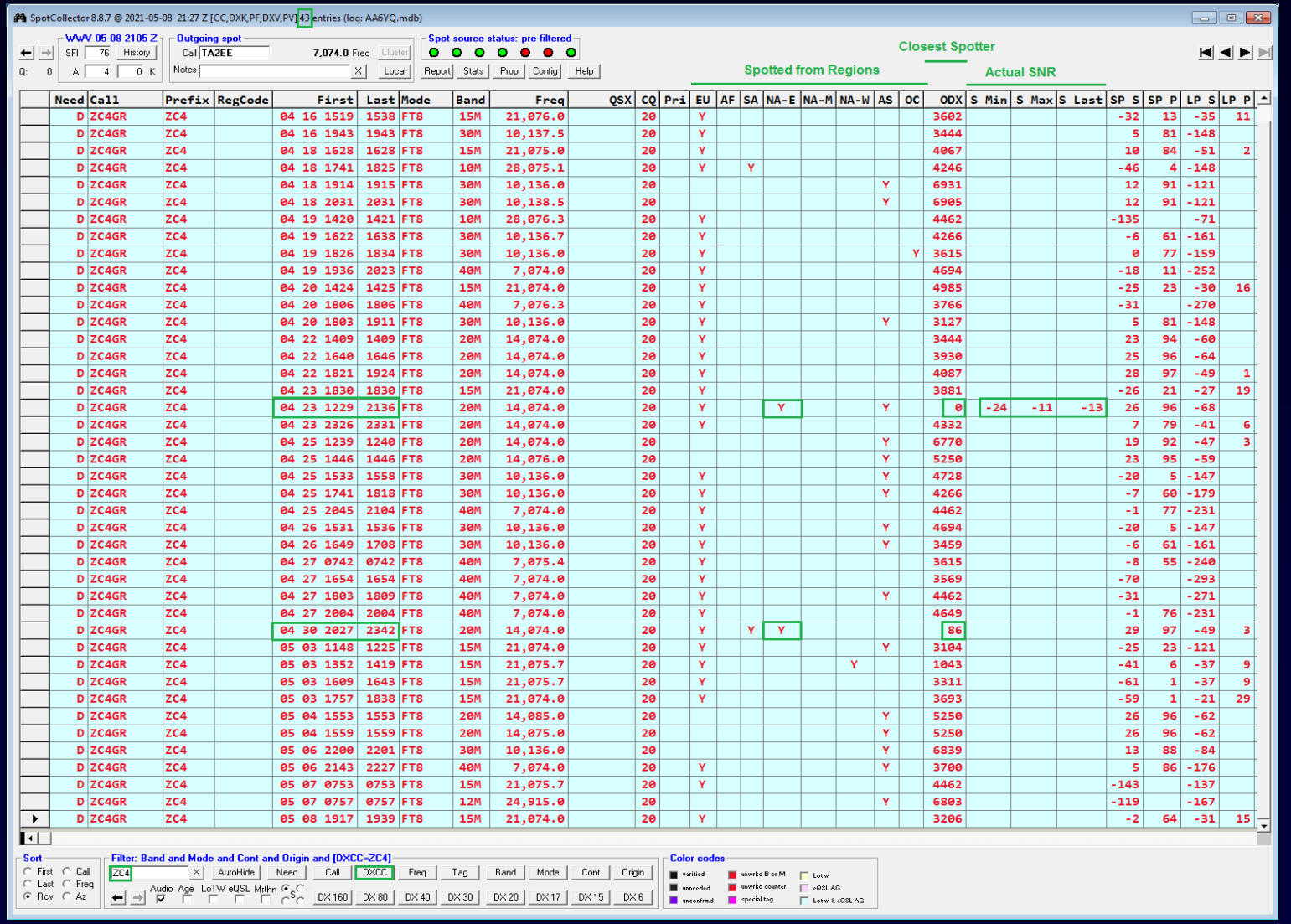


When QRV?

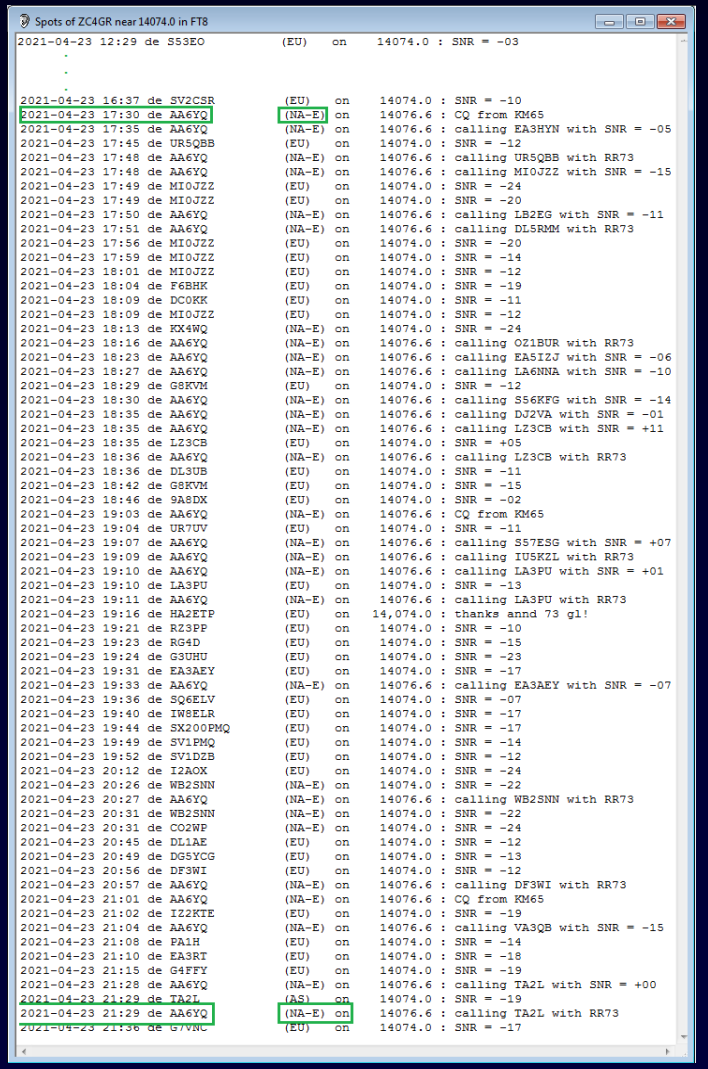
- 15m: 11Z to 18Z
- 20m: 12Z to 23Z
- 30m: 15Z to 20Z
- 40m: 16Z to 21Z

Working ZC4GR on FT8

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

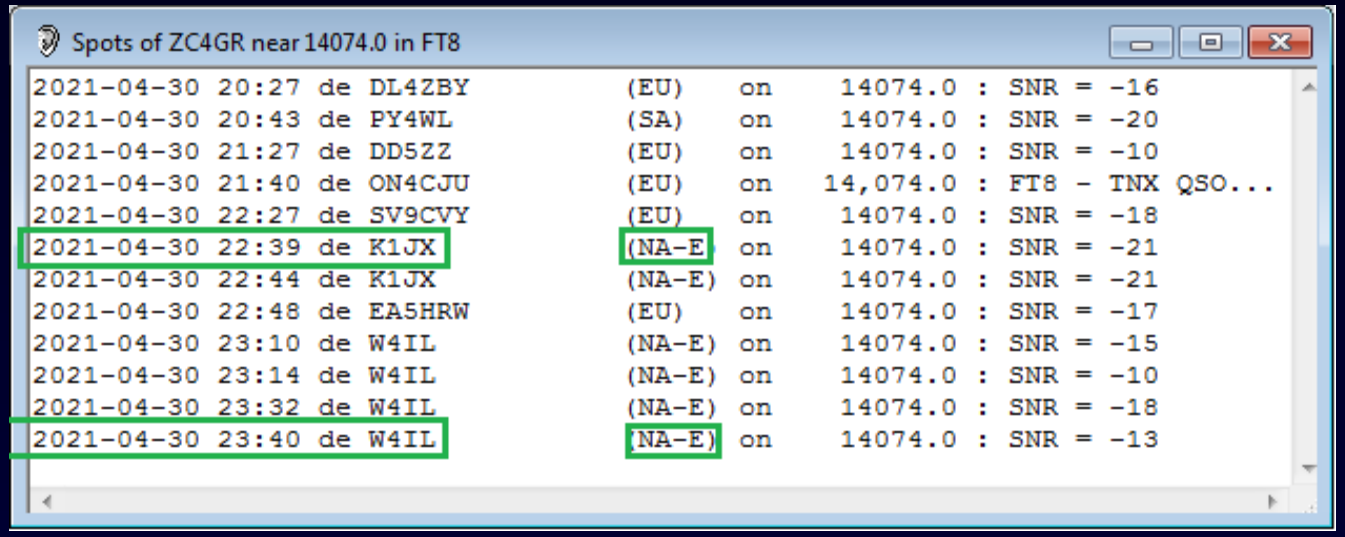


20m ZC4GR Spots on 4/23 @ 1229Z



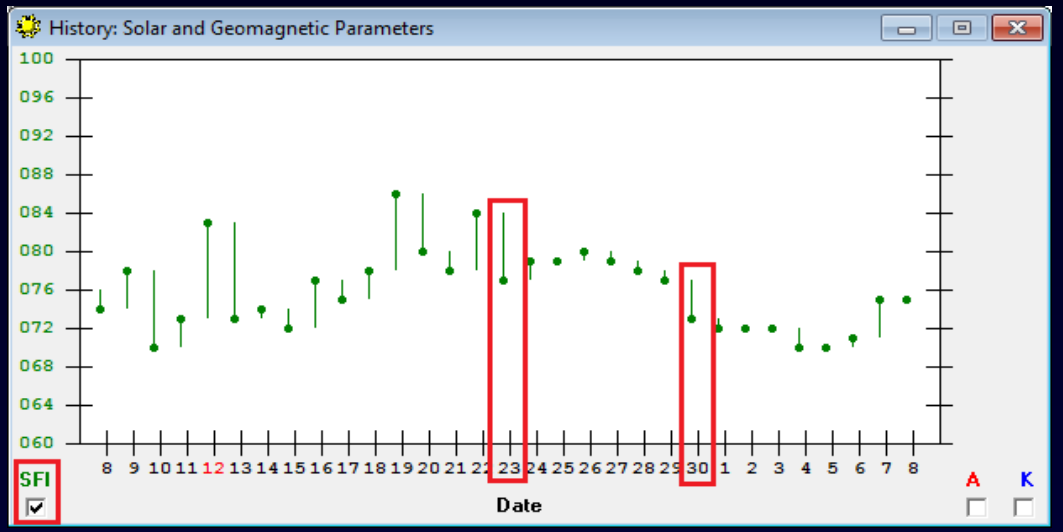
- QRV from 1229Z to 2136Z
- WSJT-X copied from 1730Z to 2129Z

20m ZC4GR Spots on 4/30 @ 2027Z

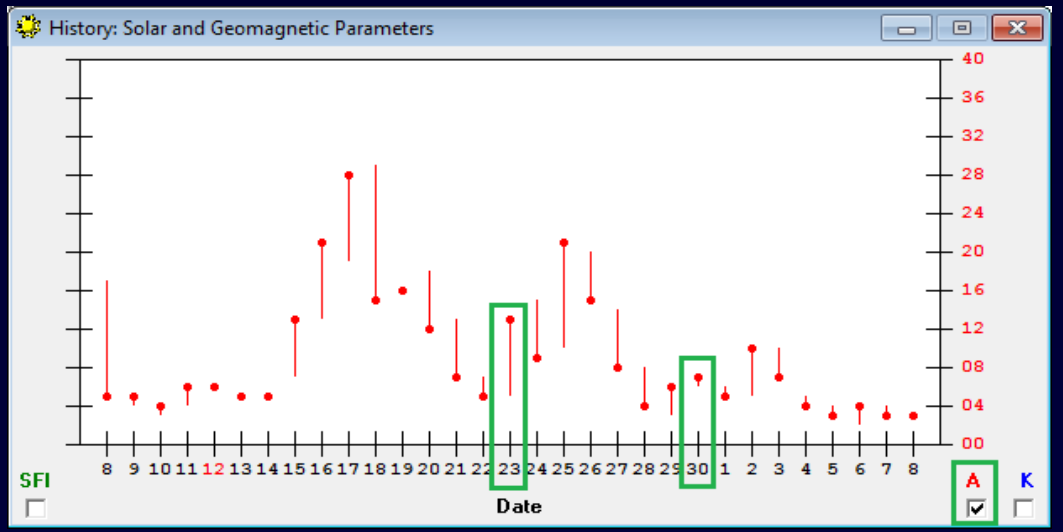


Propagation Conditions

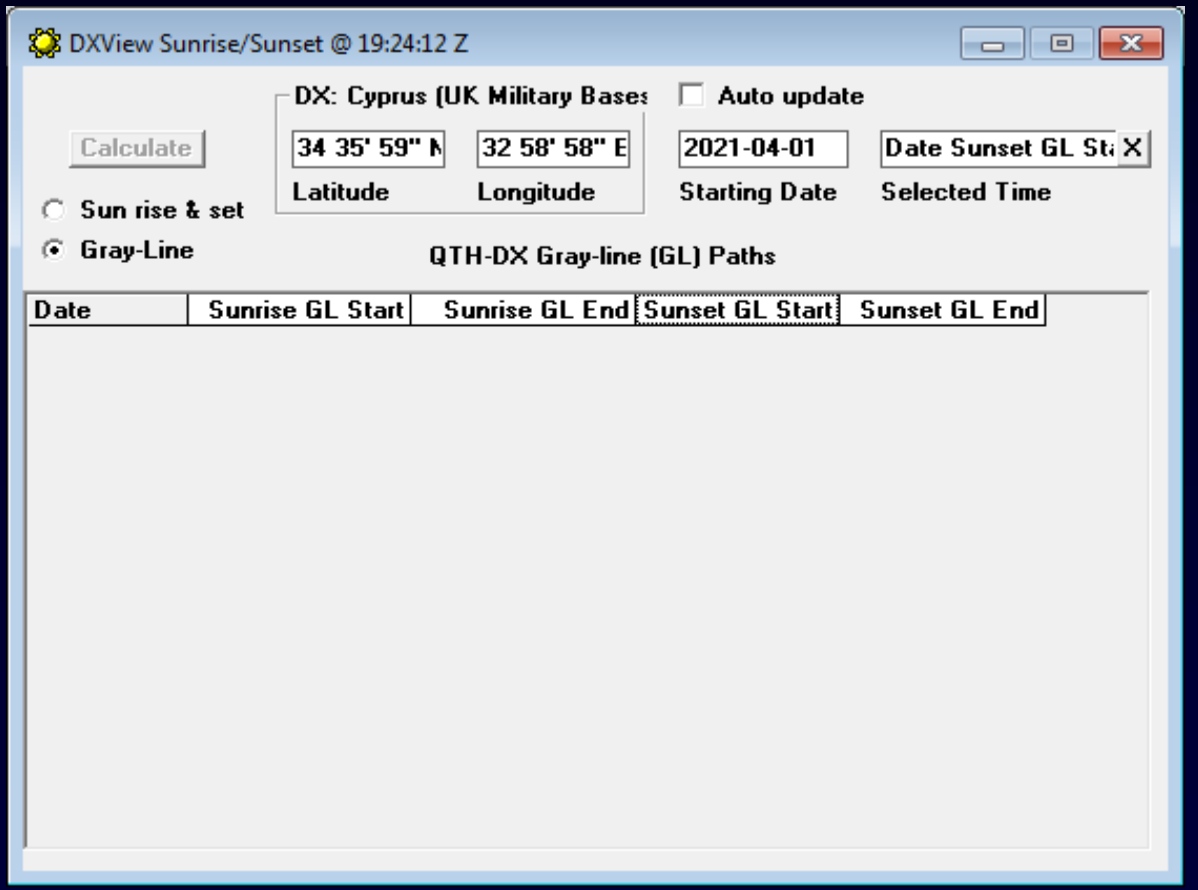
Solar Flux Index



Geogmagnetic A Index



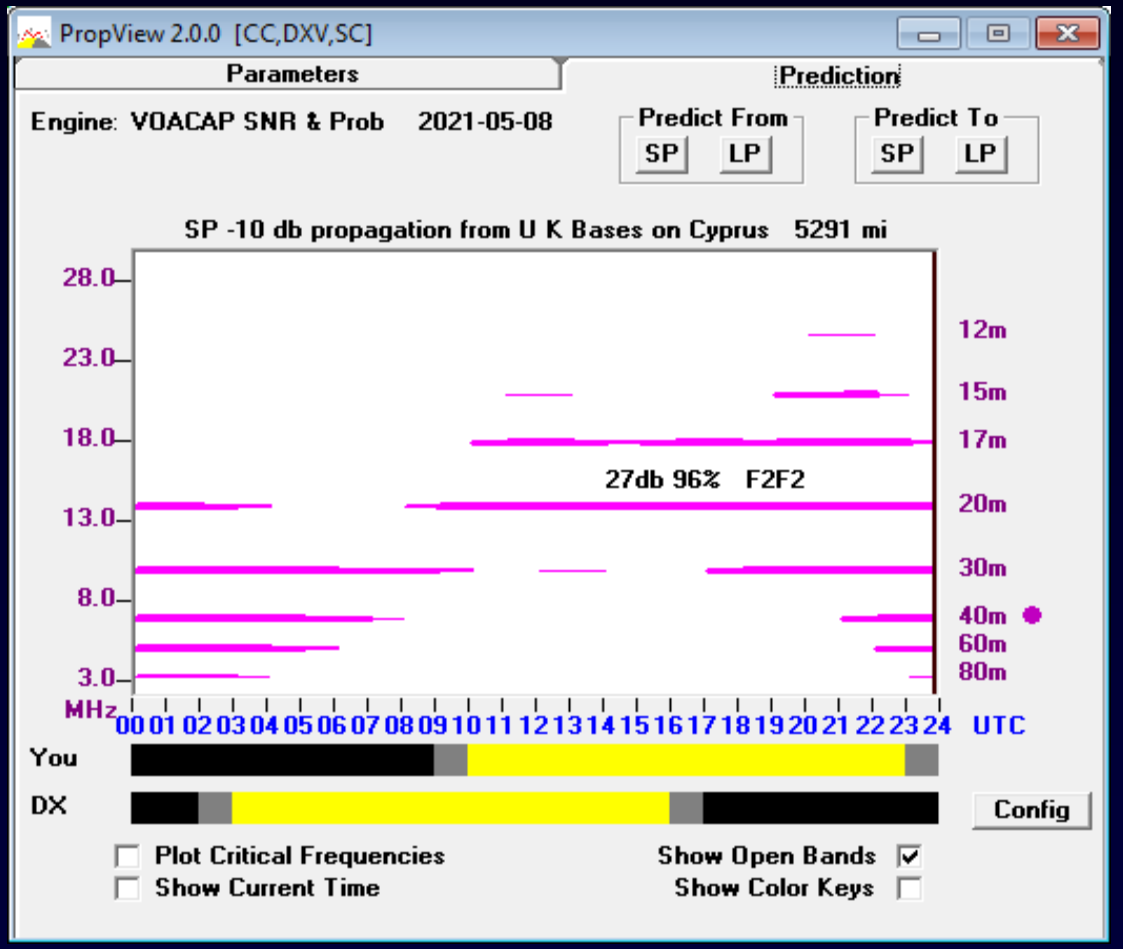
Check for Gray-Line Enhancement



None!

20m Propagation Forecast to ZC4

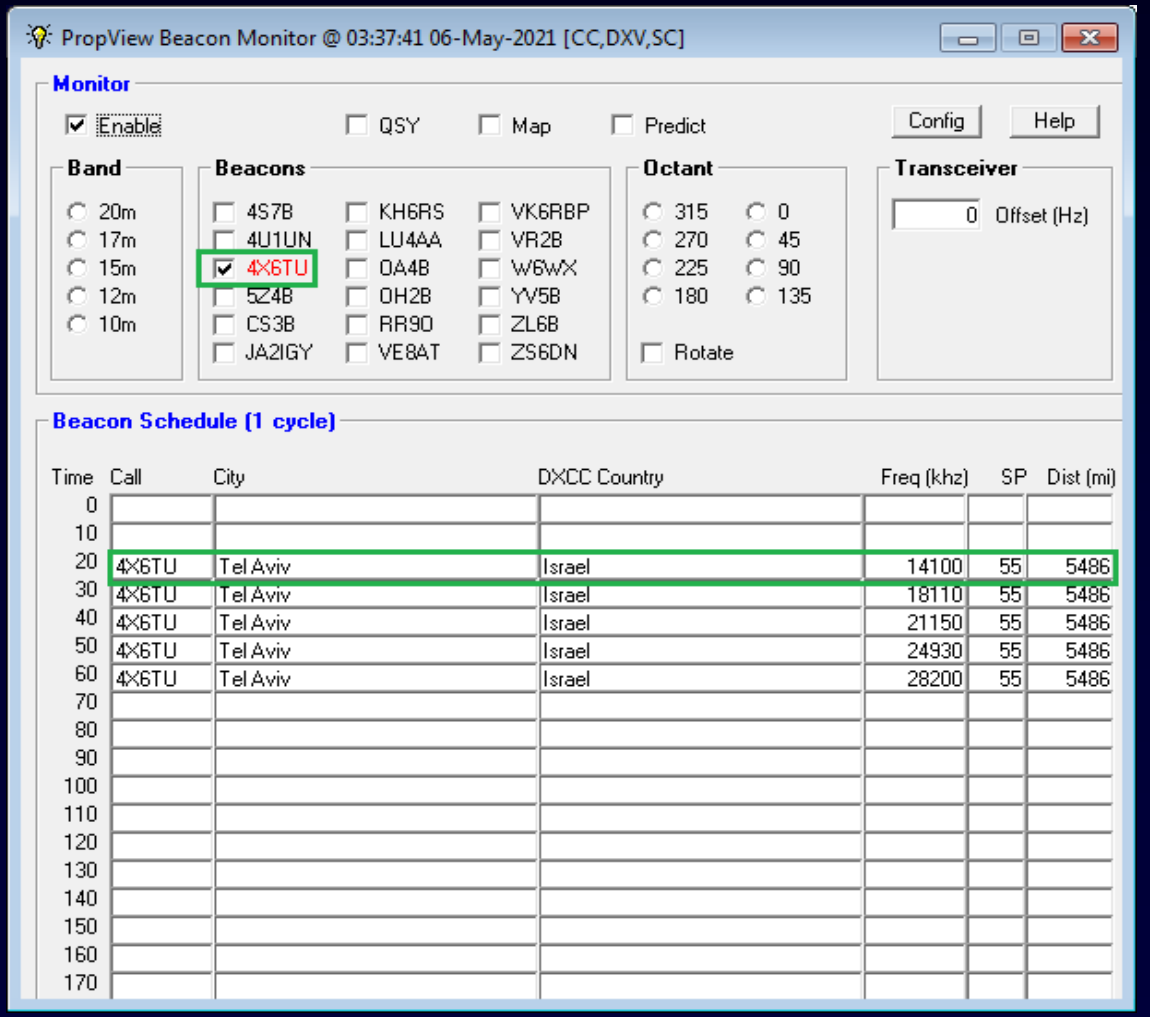
Solar Flux Index = 75, DX running 100 watts



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

Check “Actual” Propagation

NCDXF 4X6TU Beacon is ~230 miles from ZC4



Check “Actual” Propagation

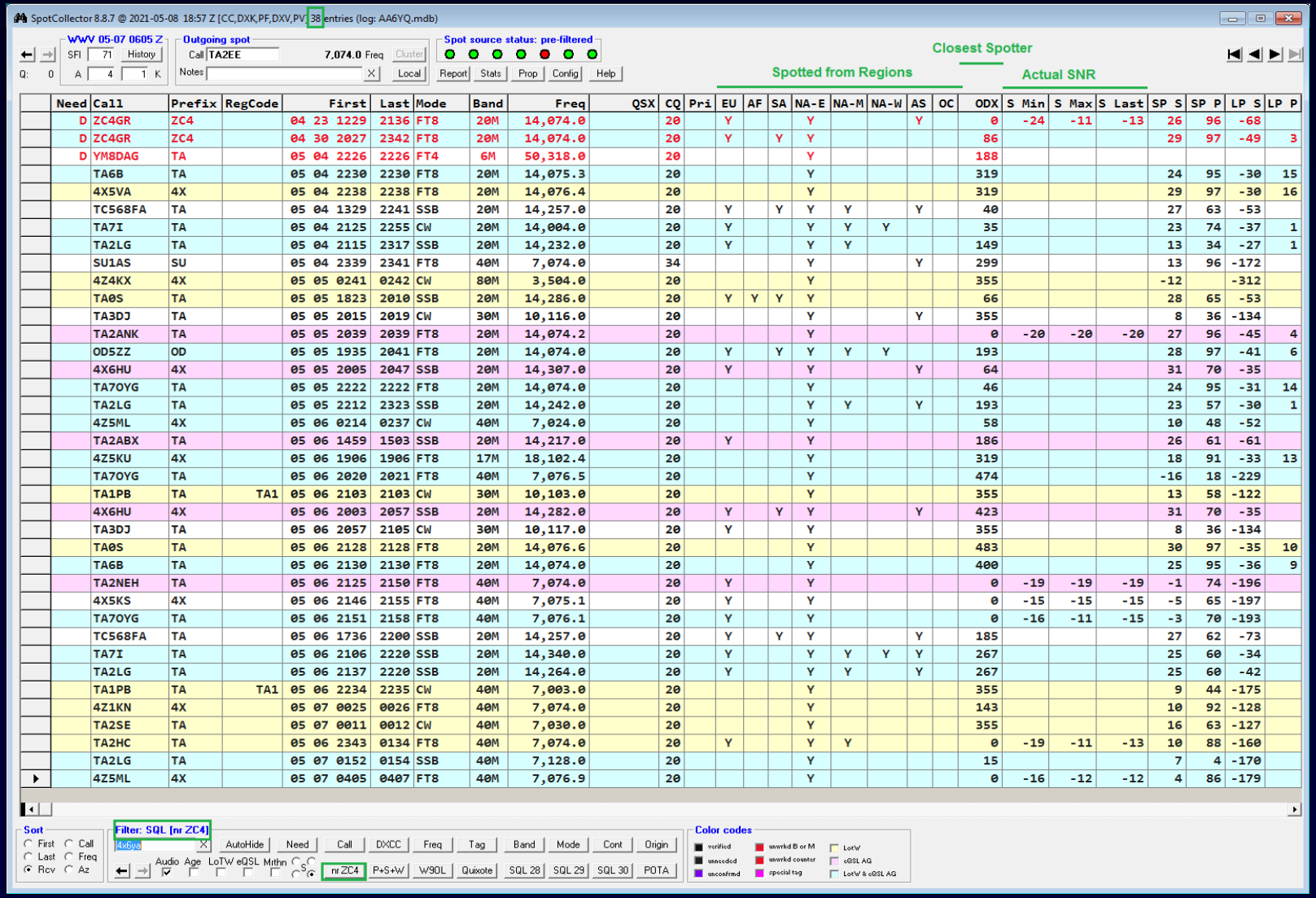
Who Near Me has been Spotting Stations Near ZC4?

Define a “near ZC4” filter to show stations

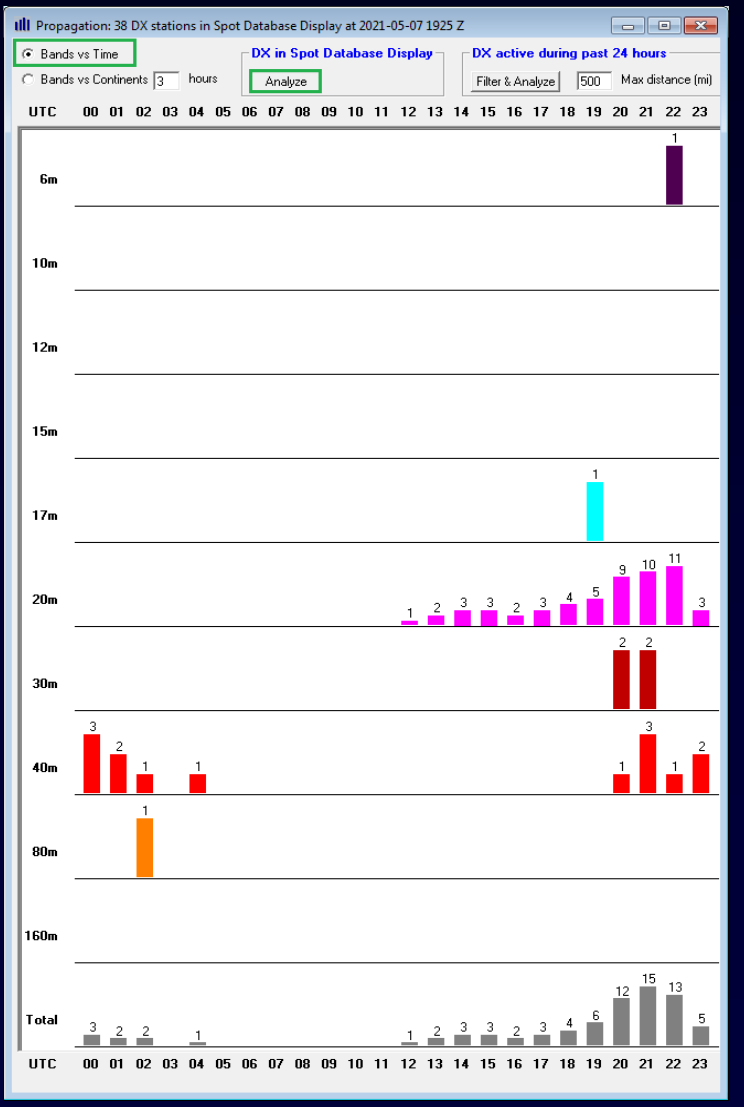
- In ZC4, 5B4, TA, OD, 4X, SU
- spotted by stations less than 500 miles from my QTH

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”

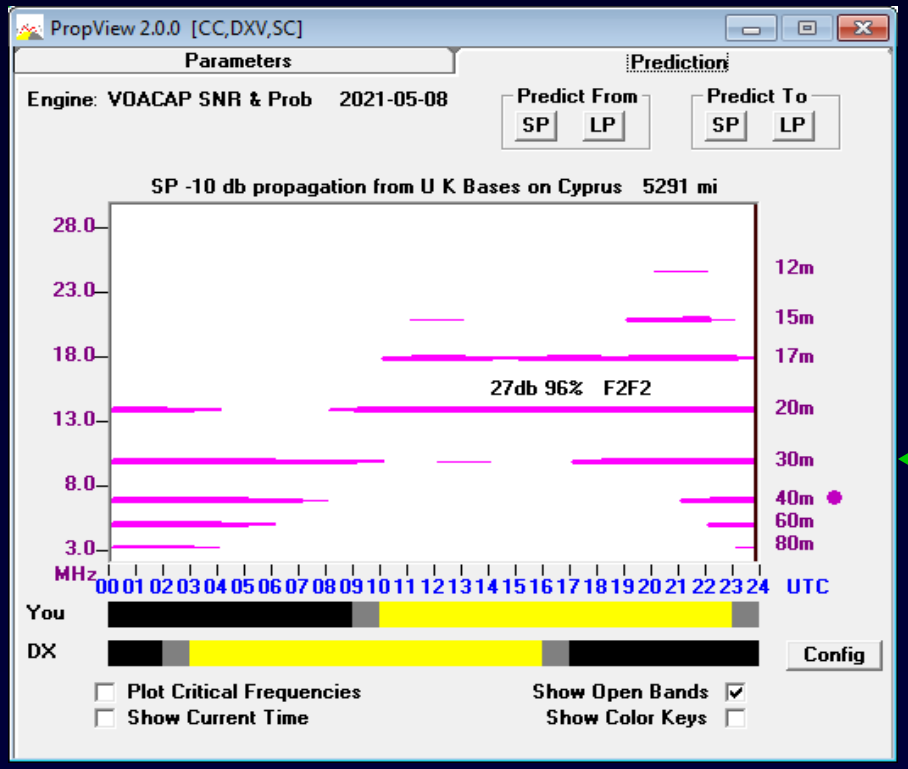


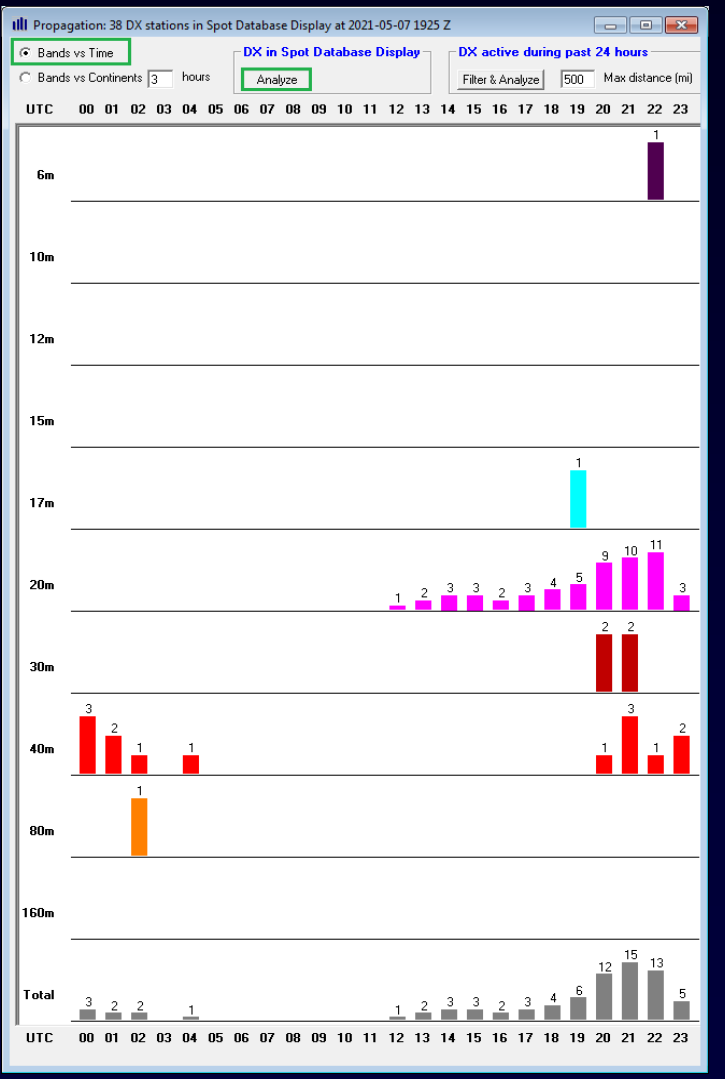
Propagation Openings?

- 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

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
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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

Multiple Views of Active DX

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EU

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- DXCC needs
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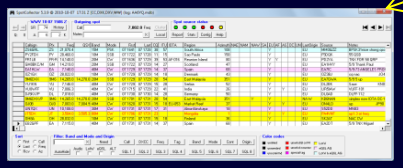
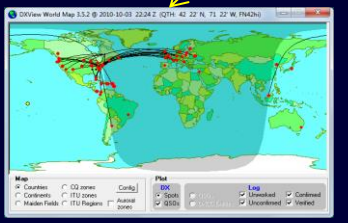
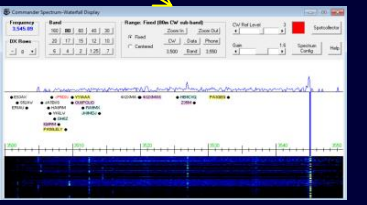
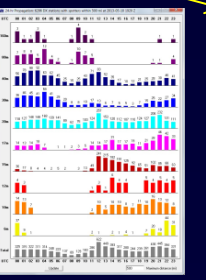
Logged QSOs




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

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
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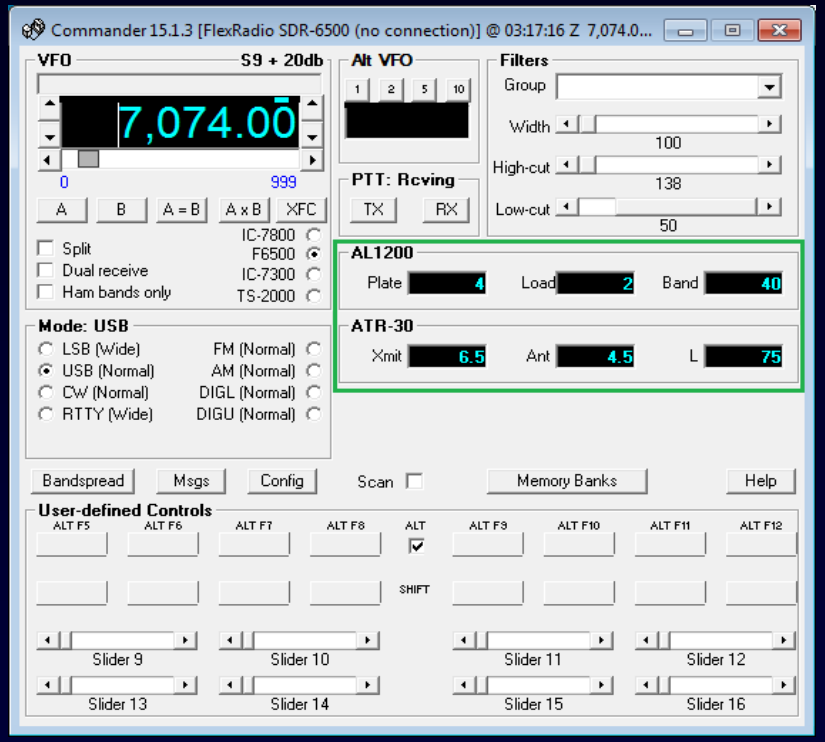
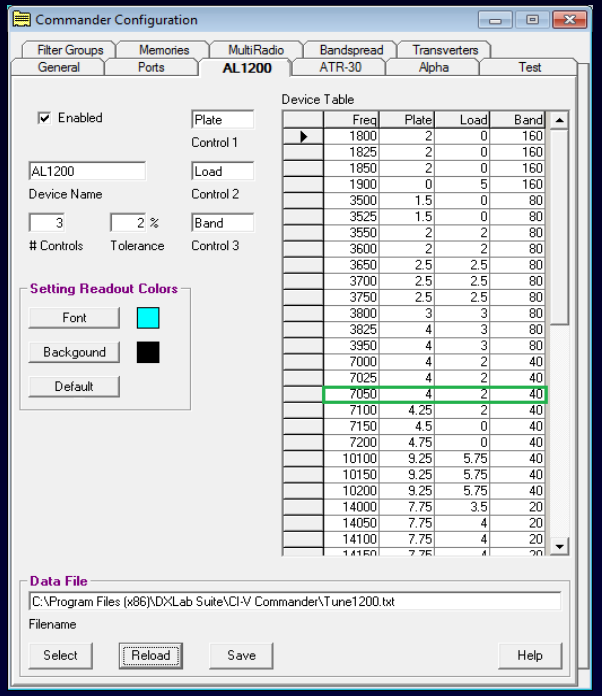
Rapidly Setup Amplifier After QSY





ZC4GR: The Plan

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

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

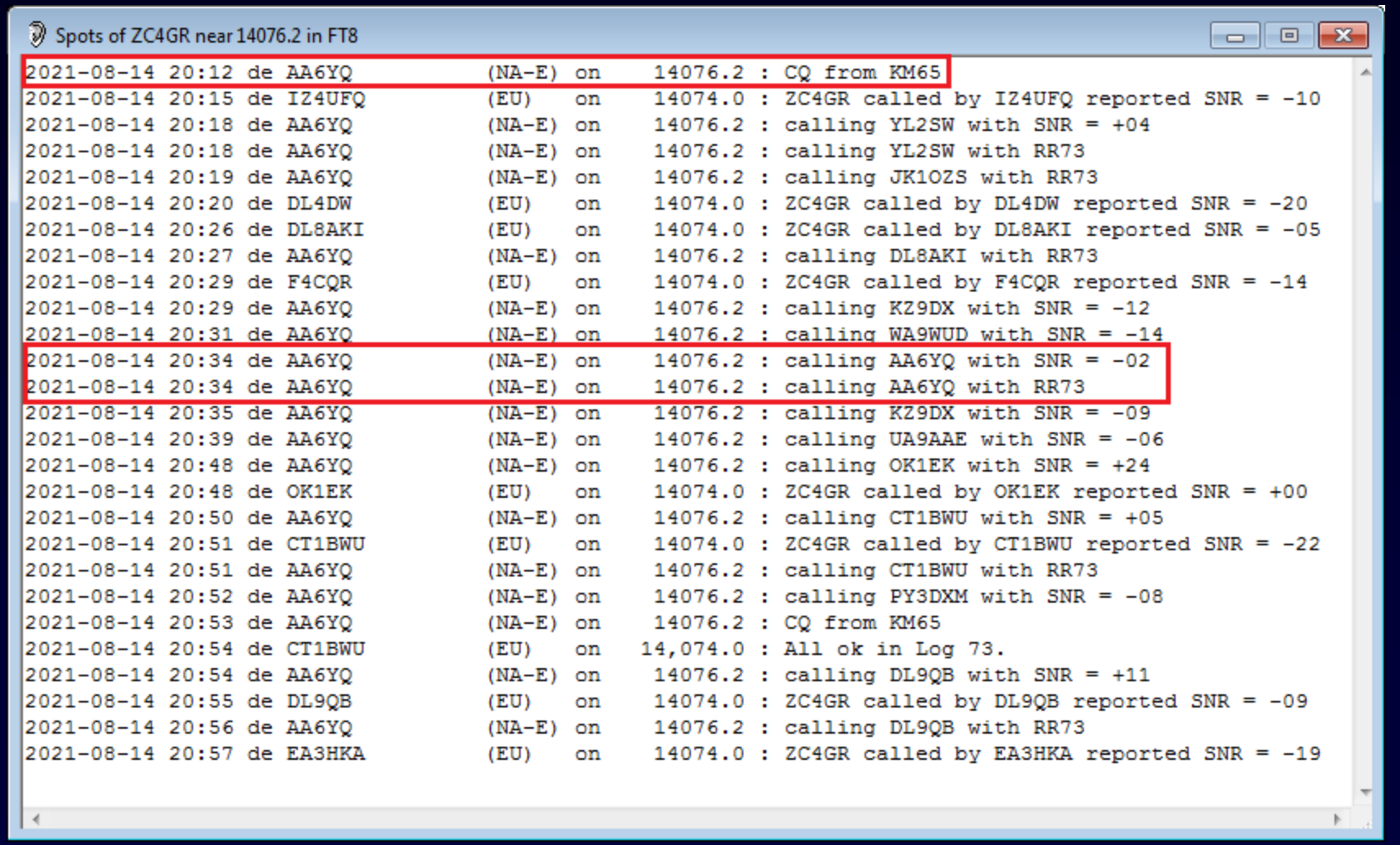
   Propagation Openings?
   - 20m: 12Z to 23Z
   - 30m: 20Z to 21Z
   - 40m: 20Z to 23Z

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

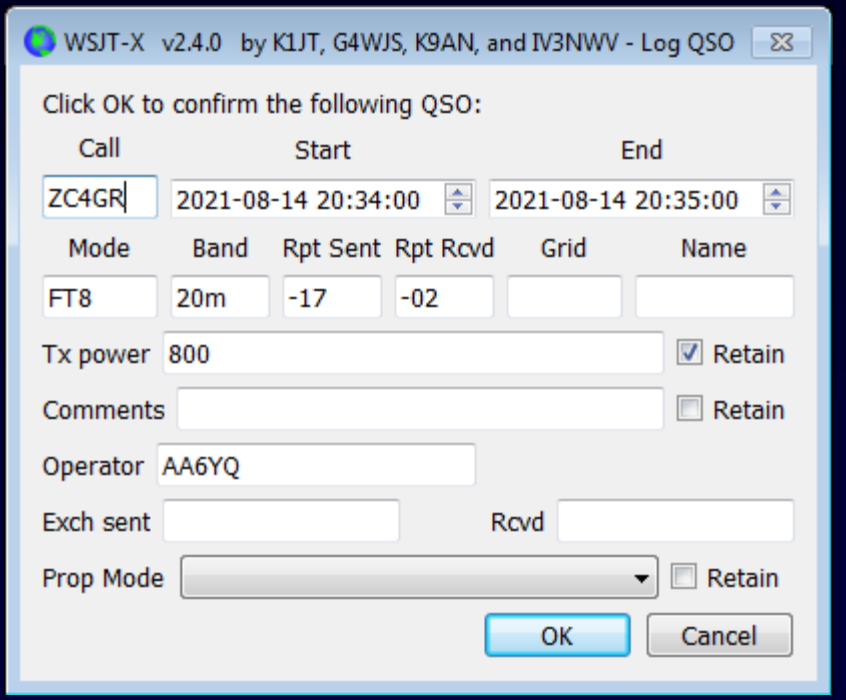
ZC4GR: Success!

20m FT8 @20:12Z

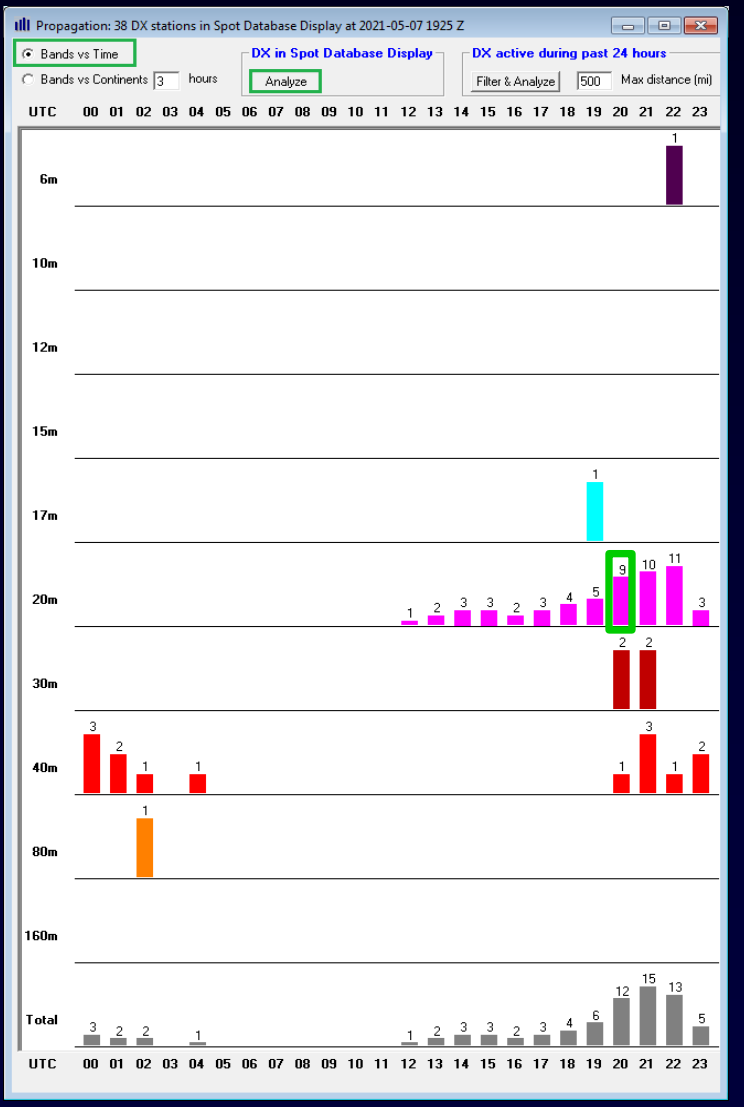


ZC4GR: Success!

```
---------------------------------- 20m
203415 -17  0.3 2193 ~  AA6YQ ZC4GR -02
203415  -6  0.3  500 ~  CQ HB9LBC JN47
203415  -4  0.4 2922 ~  PJ4EVA 5X3R 73
203415  15  0.3 2565 ~  CQ HA7TM JN97
203415 -10  0.3  659 ~  SM5FQQ PF1B R-01
203415 -16  0.3  203 ~  PY2BMX 2E0ELA -20
203415  12  0.3 2414 ~  LU6XQB OG2A KP11
203415   2  0.5 1275 ~  5B4AHL F5RRS -06
203415   3  0.6 1491 ~  K4FW PA3EPP -14
203415  -2  0.3  398 ~  5B4AHL EB3JT JN01
203415   4  0.6  976 ~  KS3F IT9SSI 73
203415  -9  0.4  606 ~  MW7FRN LA3BUA JP77
203415  -7  0.3 1639 ~  PC2K EA3EDU R-21
203415 -15  0.7  810 ~  6Y5DW N0DOW EN26
203415  -2  0.4  745 ~  GJ0KYZ KA2NFG R-03
203415   4  0.7 1998 ~  AA6YQ UA3LSX KO65
203415  -7  0.7 1145 ~  HA1RB IK8BDA JM78
203415 -10  0.3 2279 ~  G3VMW KN4CNU EM75
203415  -5  0.4 1426 ~  CQ SV2STE KN00
203415  -3 -1.7 1834 ~  KP4JFR RC1C 73
203415  -1  0.3 1761 ~  K4MM W4HKJ R-11
203415 -15  0.2  333 ~  CQ 9A7PBV JN85
203415  -7  1.3 2084 ~  CQ UW5KW KO30
---------------------------------- 20m
203445 -13  0.3 2193 ~  AA6YQ ZC4GR RR73
203445  -8  0.4  500 ~  CQ HB9LBC JN47
203445   4  0.5 1491 ~  K4FW PA3EPP RR73
203445  -8  0.4  606 ~  MW7FRN LA3BUA R-15
203445  -5  0.5 2922 ~  K6VVK 5X3R -12
203445  -7  0.3  659 ~  SM5FQQ PF1B 73
203445  17  0.3 2565 ~  CQ HA7TM JN97
203445  -8  0.3 2084 ~  PP5TI UW5KW KO30
203445  -6  0.7 1144 ~  HA1RB IK8BDA JM78
203445  13  0.3 2415 ~  LU6XQB OG2A KP11
203445  -8  0.3 1639 ~  PC2K EA3EDU 73
203445  -1  0.3  398 ~  5B4AHL EB3JT JN01
203445   5  0.6  976 ~  CQ IT9SSI JM78
203445 -16  0.3  202 ~  PY2BMX 2E0ELA -20
203445   0  0.3 1703 ~  SV9RGI N5OB -15
203445 -18  0.5  871 ~  <KP4JFR> TK/F4HVZ/P
203445  -8  0.3  748 ~  5B4AHL PA1EL JO22
203445   1  0.5 1275 ~  5B4AHL F5RRS RR73
```



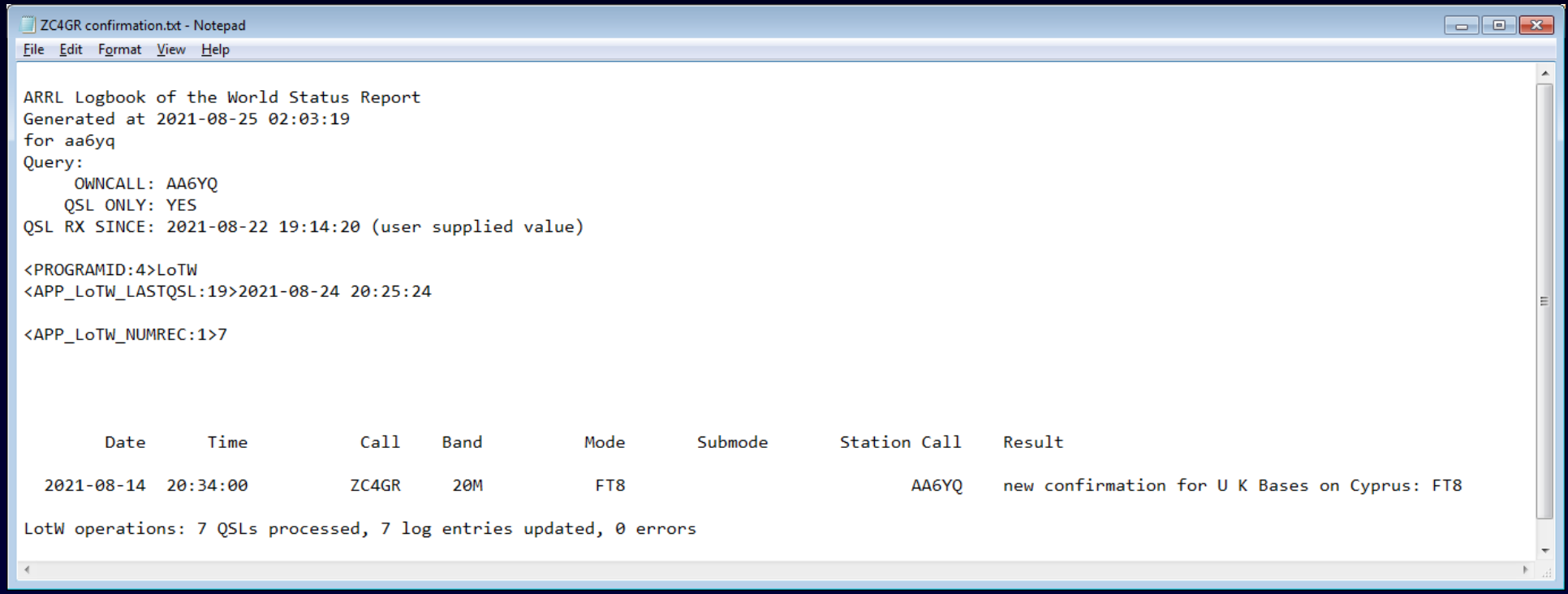
ZC4GR: Success!



Propagation Openings?

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

ZC4GR: Success!


ZC4GR confirmation.txt - Notepad

File Edit Format View Help

```
ARRL Logbook of the World Status Report
Generated at 2021-08-25 02:03:19
for aa6yq
Query:
     OWNCALL: AA6YQ
    QSL ONLY: YES
QSL RX SINCE: 2021-08-22 19:14:20 (user supplied value)

<PROGRAMID:4>LoTW
<APP_LoTW_LASTQSL:19>2021-08-24 20:25:24

<APP_LoTW_NUMREC:1>7



        Date       Time           Call     Band          Mode       Submode       Station Call    Result

  2021-08-14  20:34:00          ZC4GR      20M           FT8                           AA6YQ    new confirmation for U K Bases on Cyprus: FT8

LotW operations: 7 QSLs processed, 7 log entries updated, 0 errors
```

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

View Generator

Log Database

- DXCC needs
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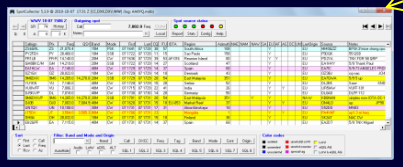
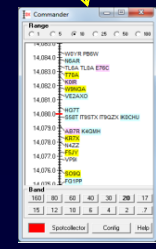
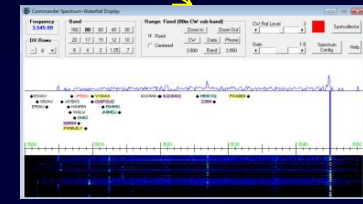
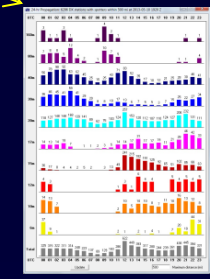
- WAZ needs

Logged QSOs



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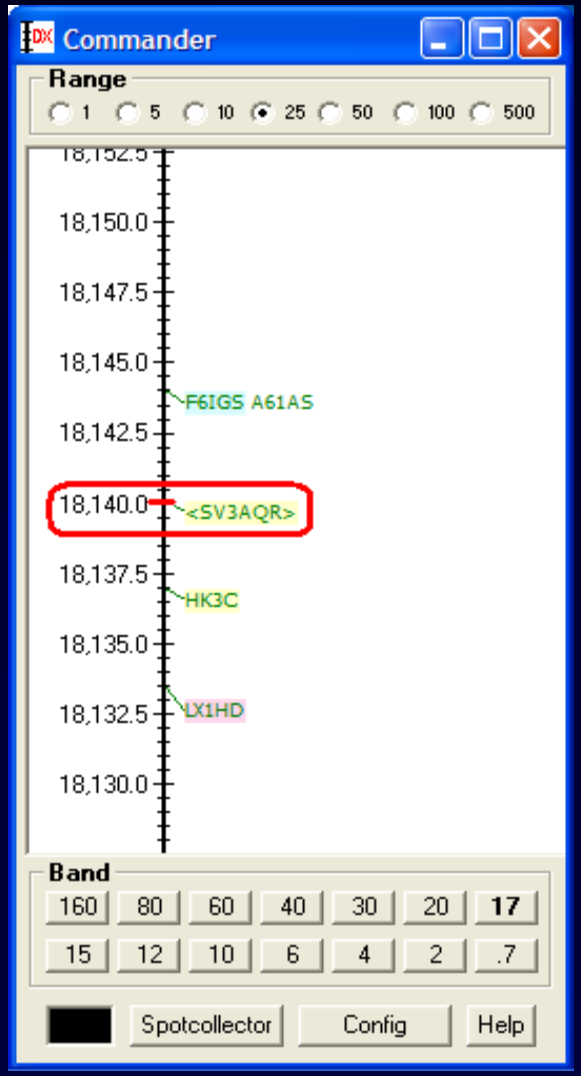
Blueprinting the Band

"Locally Spot" Every Station You Identify



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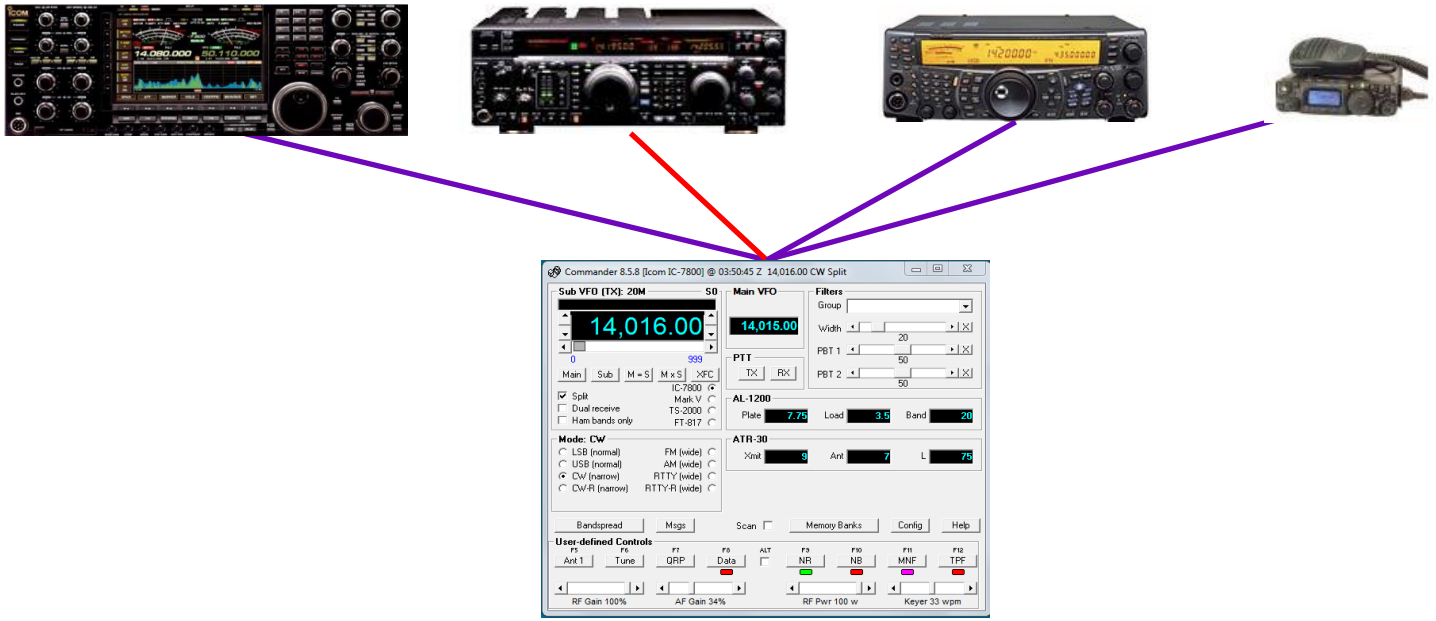
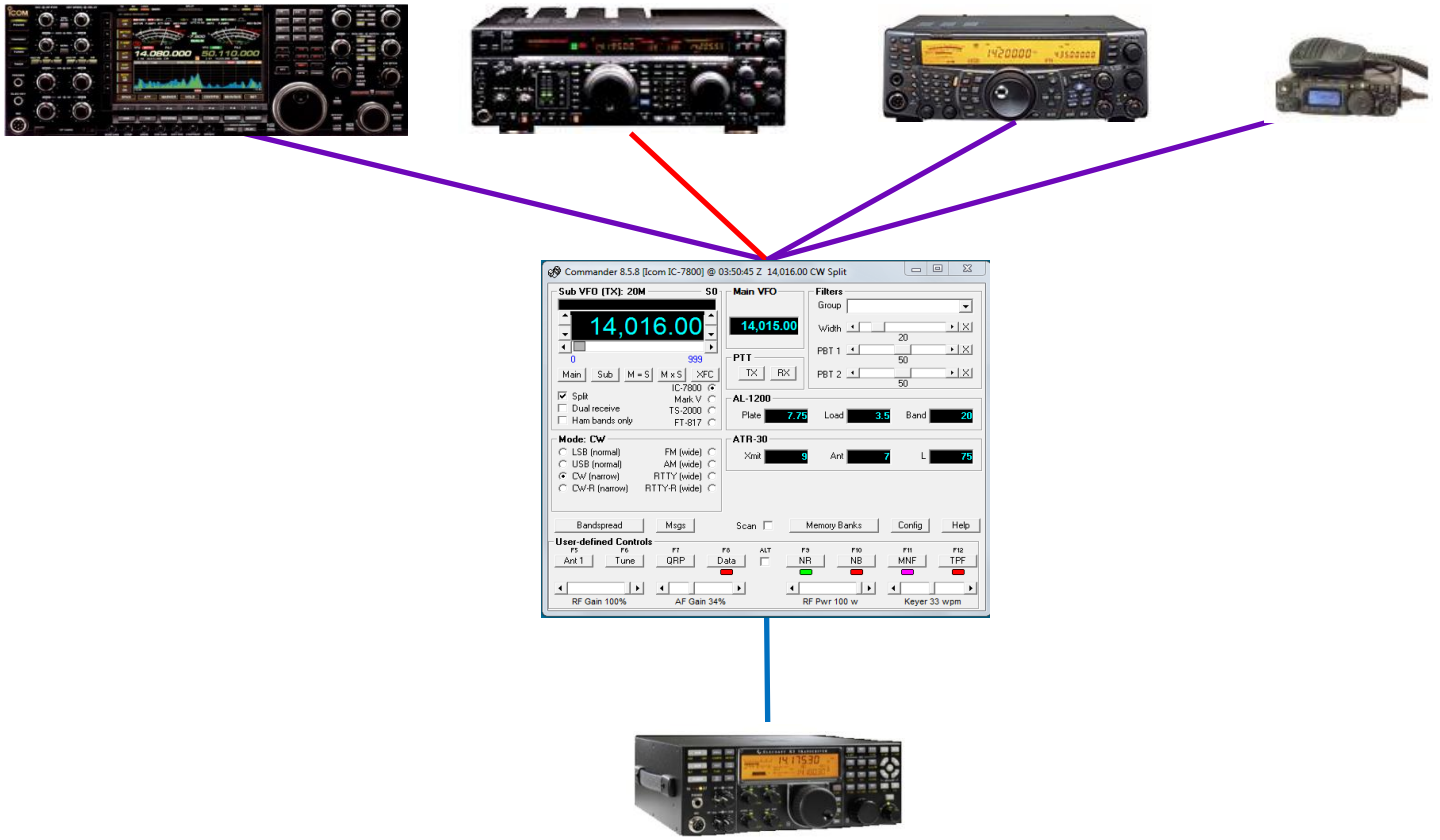
Commander: Multiple Radio Support



Select one of four *primary* radios

- By button click
- Automatically as a function of frequency

Commander: Multiple Radio Support

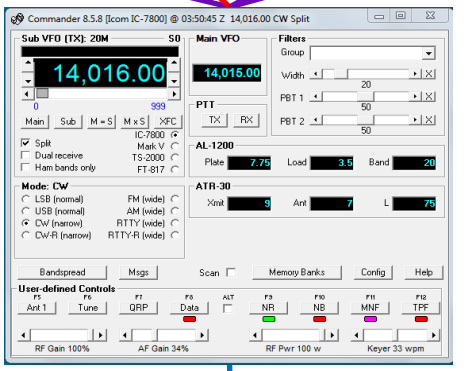


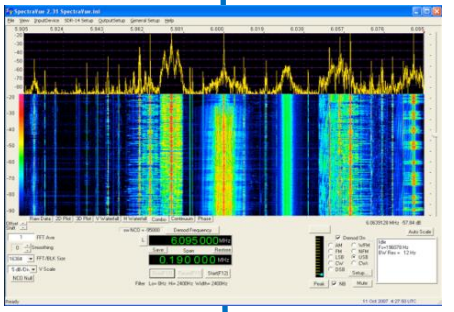
The *Secondary* radio can

- 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

www.dxlabsuite.com

DXLab

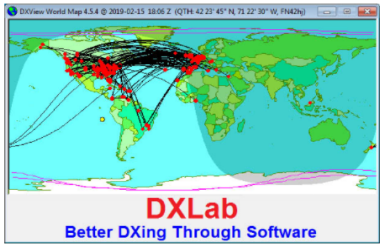
dxlabsuite.com

Commander | DXView | DXKeeper | Launcher | Pathfinder | PropView | SpotCollector | WinWarbler

Download

DXLab Overview

Getting Started with DXLab



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($), DX Atlas($)

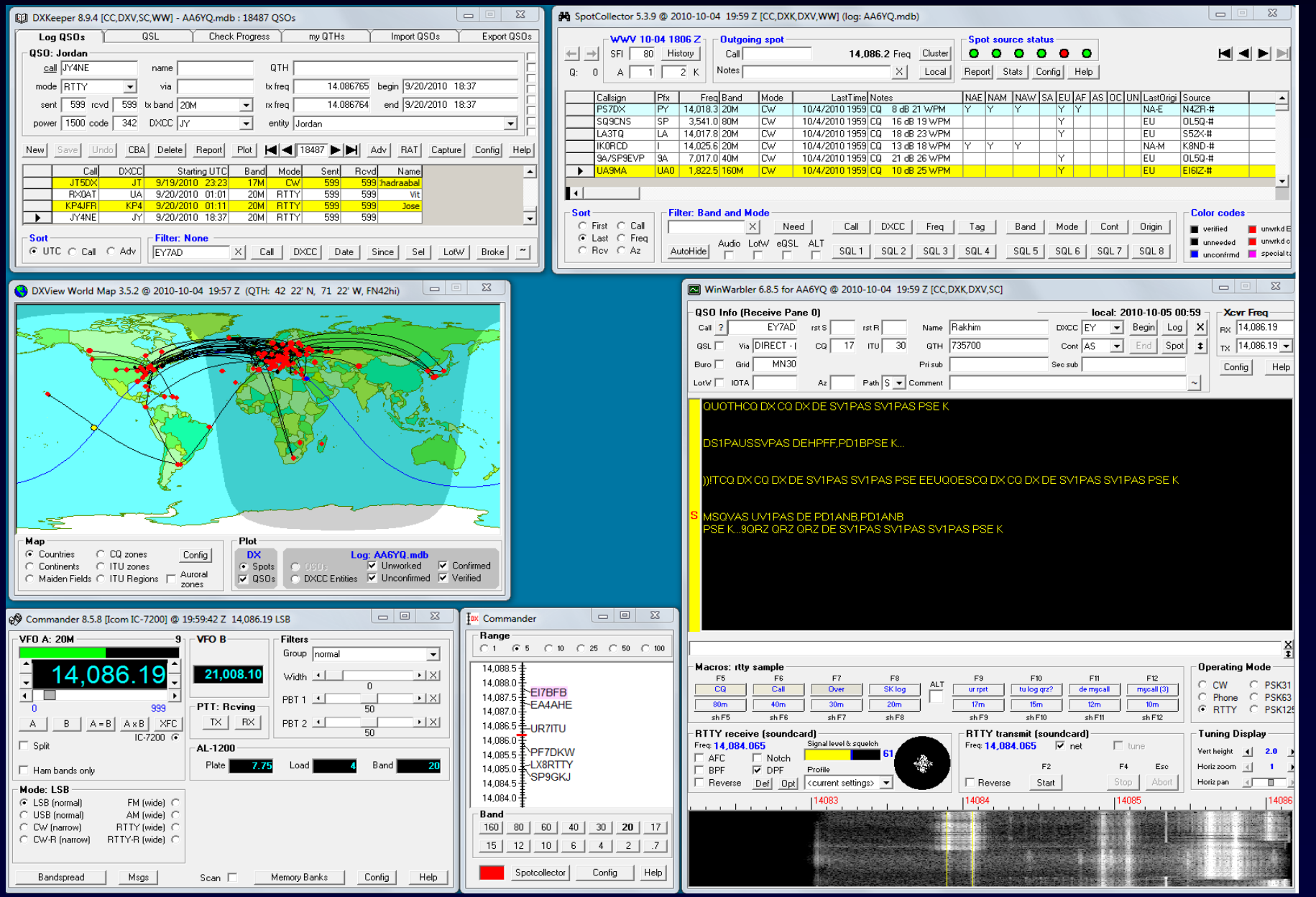
Questions and suggestions are welcome in the DXLab Group, an open forum that you are encouraged to join.

807353

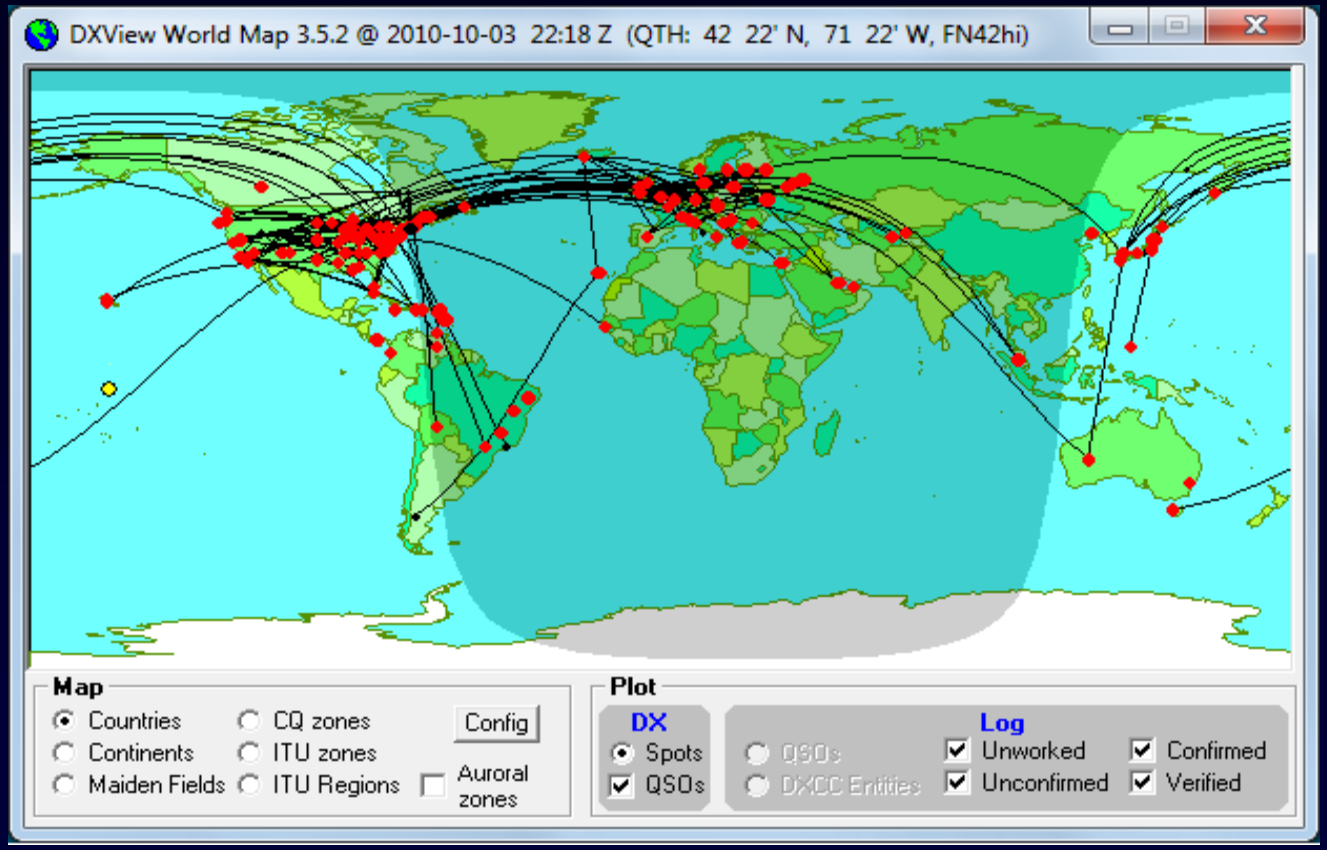
Web hosting donated by Jamie Punderson W2QO and Networks & More! Inc. (http://www.k12usa.com & http://www.isboss.com)

www.dxlabsuite.com

Better DXing Through Software



DXing with DXLab



Better DXing Through Software