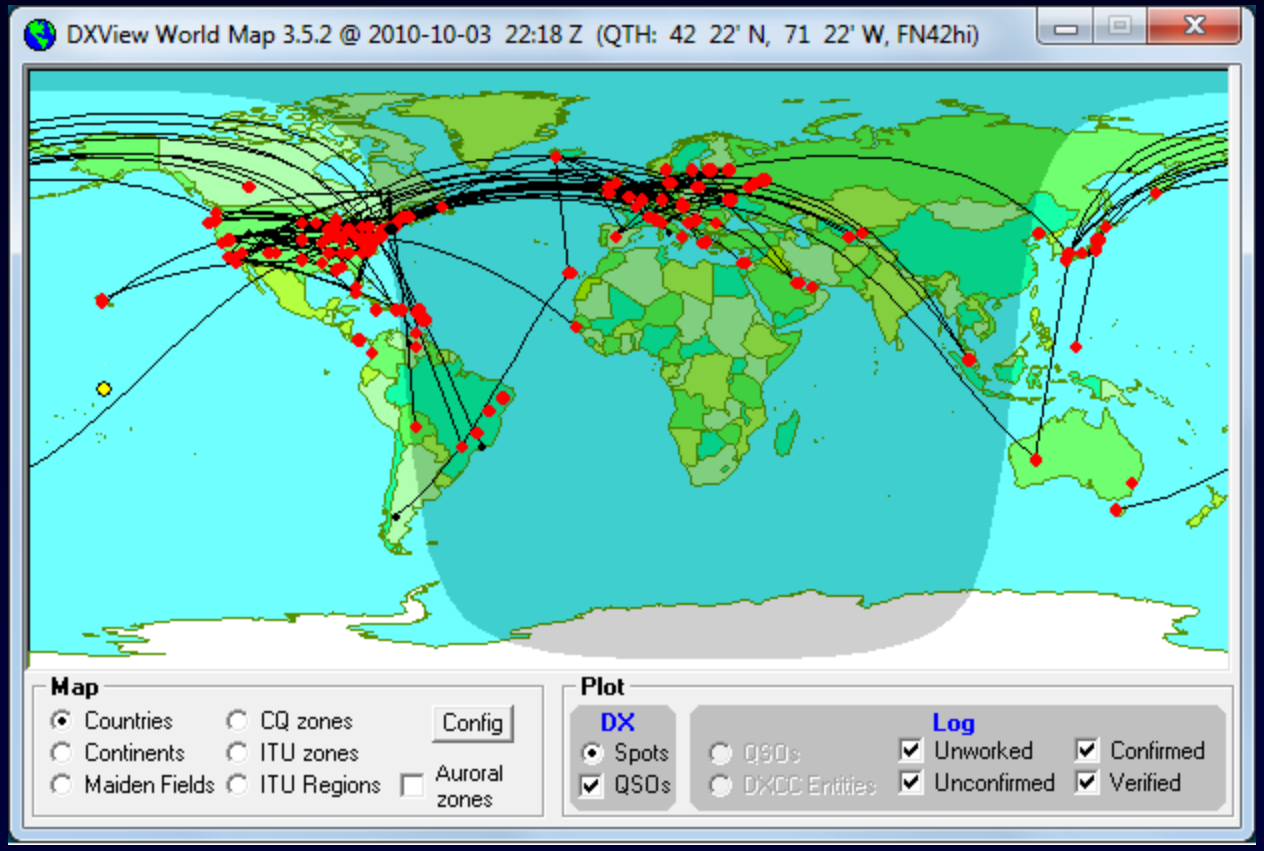
DXing with DXLab

v2.1 2016-05-05



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

“Paperwork”

- Finding QSL routes
- Requesting confirmation via QSL cards, LotW, eQSL.cc
- Tracking confirmation requests
- Updating objectives as confirmations are received
- Submitting confirmations for Award Credit

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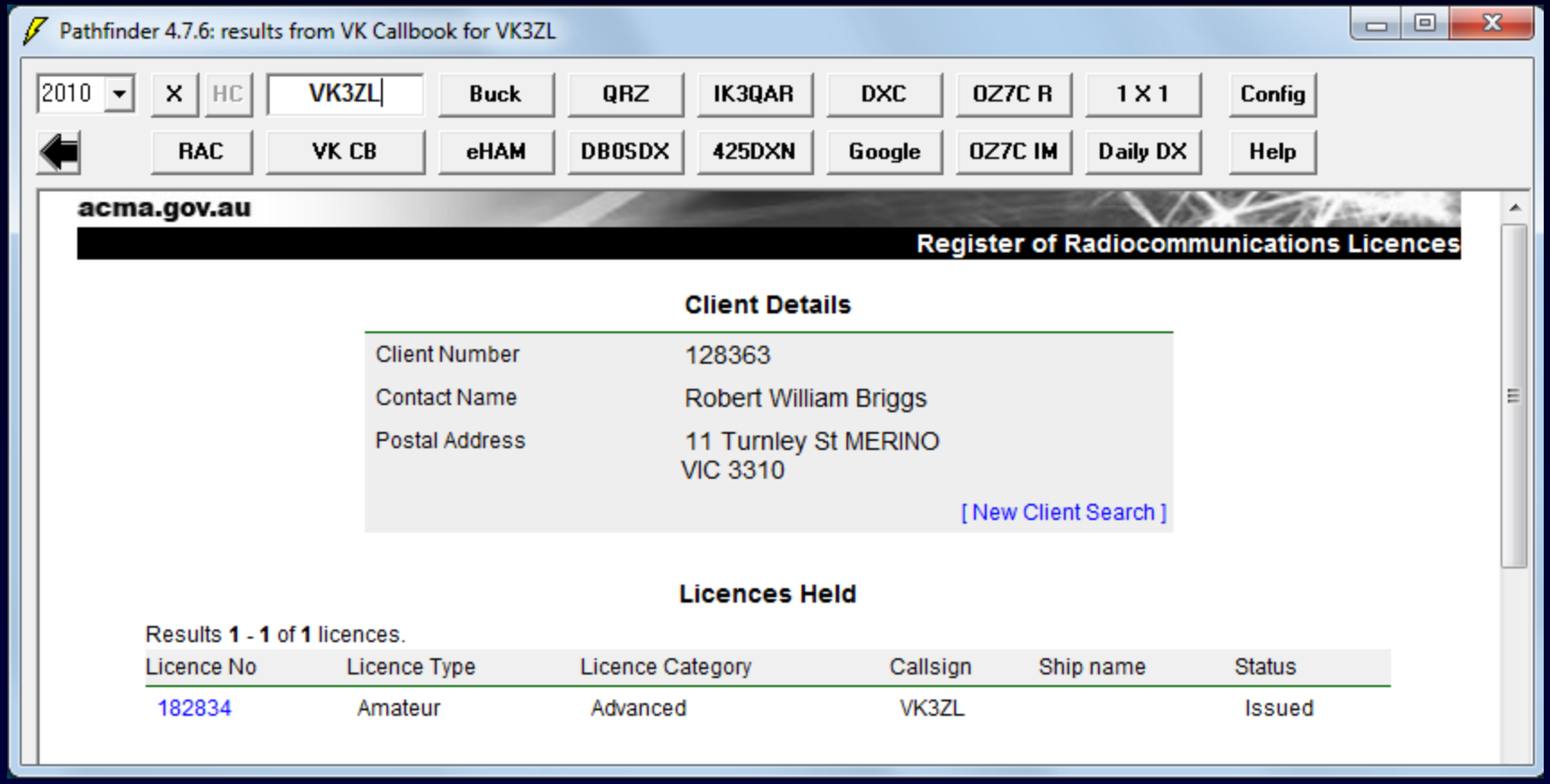
Better DXing Through Software

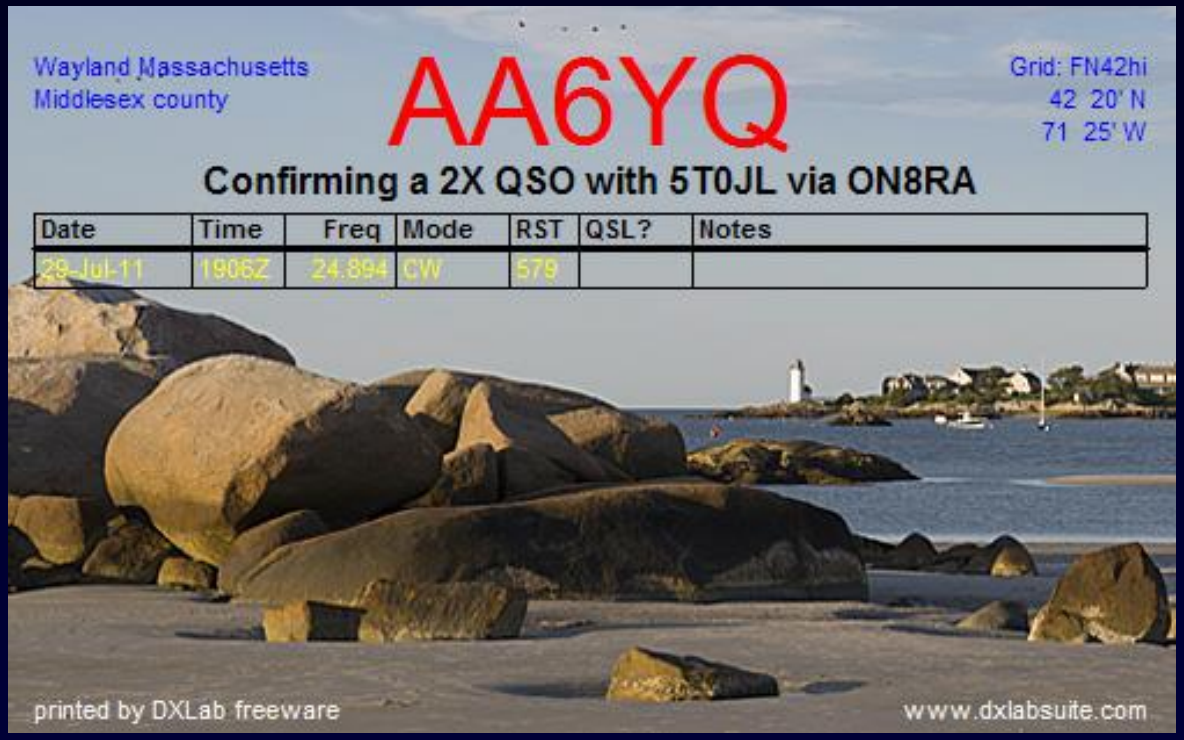
1. Automate “paperwork” to make more time for DXing
2. Make time spent DXing more productive
   - Find the DX you need
   - Work the DX you need

QSL Route Discovery

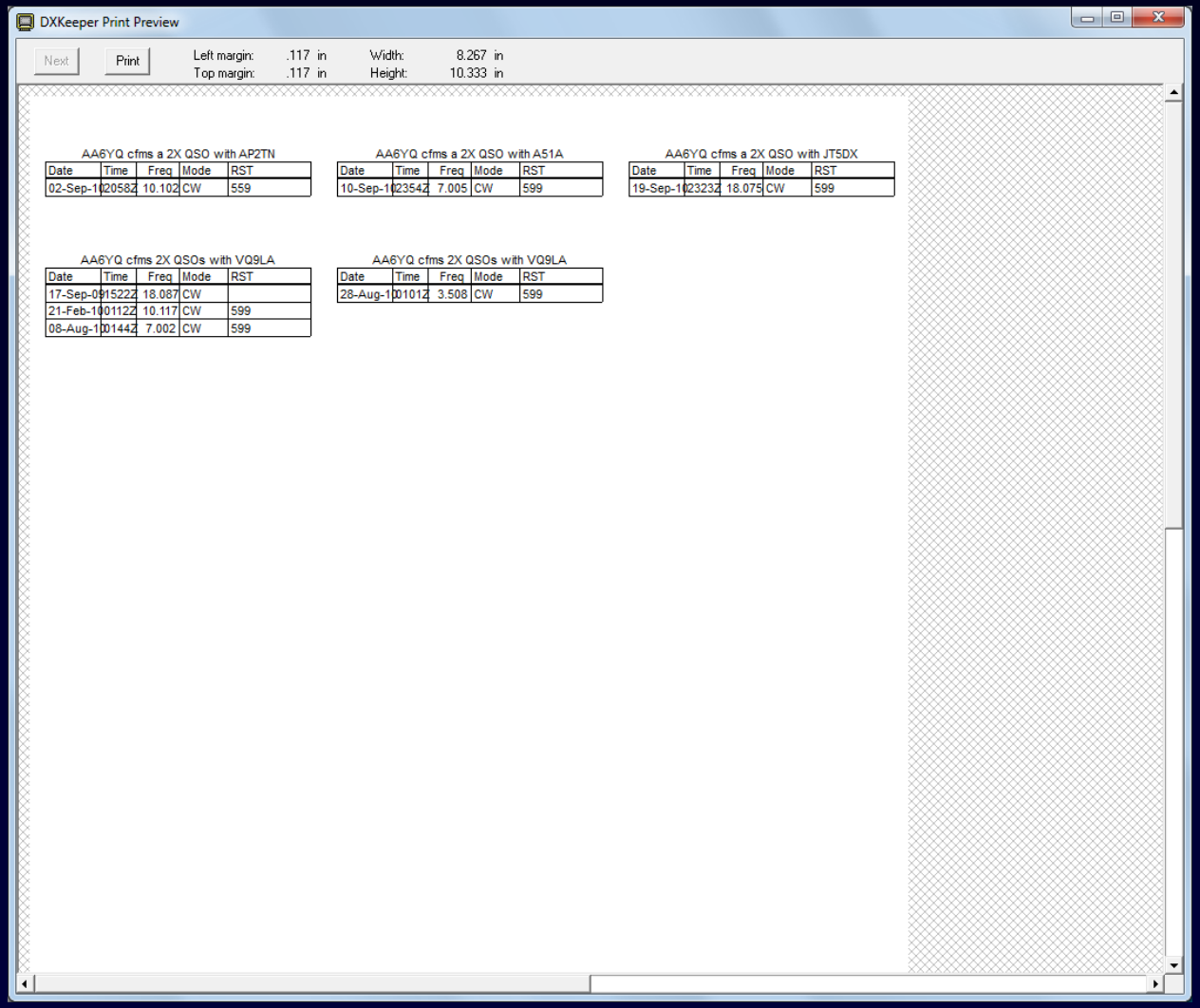


QSL Card Printing

QSL Card Printing



QSL Label Printing



QSL “Aging”

AA6YQ QSL aging analysis @ 2014-09-04

missing DXCC entities:	0
missing DXCC entity-bands:	1
missing DXCC entity-modes:	0
missing VUCC grid-bands:	3
missing WAS states:	0
missing WAS state-bands:	0
missing WAS state-modes:	0
missing WAZ zones:	0
missing WAZ zone-bands:	1
missing WAZ zone-modes:	0
missing WAZ zone-band-modes	0
missing WPX prefixes:	0
missing WPX prefix-bands:	3
missing WPX prefix-modes:	0

Call	Band	Mode	QSO Date	DXCC	Grid1	State	CQ	WPX	QSL Date	Weeks	Need
LA6SL	6M	CW	2001-11-21	LA	JP50		14	LA6	2001-11-24	667	VUCC, WPX
CE4WJK	6M	SSB	2011-09-19	CE	FF45		12	CE4	2011-10-05	152	VUCC, WPX
TJ3SN	6M	CW	2014-05-10	TJ	JJ53		36	TJ3	2014-07-09	8	DXCC (entity-band), VUCC, WAZ, WPX

QSL Automation

- Generates QSL cards and Labels
- Generates Address labels or prints envelopes
- Support for eQSL.cc and ARRL's LotW
  - One-click upload
  - One-click download and update
  - Independent tracking
- Automatic upload to Club Log
- Generates files for
  - BV, QSL Maker, QSL Design and Print
  - Online QSL Request Service (OQRS), Global QSL

Award Tracking

- DXCC* & Challenge
- CQ DX
- CQ DX Marathon
- CQ Field
- Gridsquares
- IOTA
- TOPLIST
- VUCC
- Worked All Continents
- Worked All Europe
- Worked All Prefixes
- Worked All Zones
- Worked All British Areas
- Worked All Canadian Provinces
- Worked All French Departments
- Worked All German 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 Russian Oblasts
- Worked All Russian Districts
- Worked All US States
- Worked All US Counties

DXLab Objectives

1. Automate “paperwork” to make more time for DXing
2. Make time spent DXing more productive
   - Find the DX you need
   - Work the DX you need

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
   - Open Yahoo group with 5000+ participants
   - Defect repairs get highest priority; goal is < 24 hours
   - Public enhancement lists
   - Frequent releases (several per month)

2. Easy to Use and Powerful
   - 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

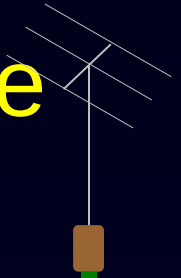
but

when run simultaneously sense each other's presence

and

interoperate automatically

the DXLab Suite



CW, RTTY, PSK

Transceiver Control

Location Control

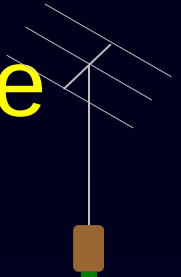
Logging

DX Spots

Propagation

QSL Routes

the DXLab Suite



CW, RTTY, PSK
WinWarbler

Transceiver Control
Commander

Location Control
DXView

Logging
DXKeeper

DX Spots
SpotCollector

Propagation
PropView

QSL Routes
Pathfinder

the DXLab Suite

CW, RTTY, PSK
WinWarbler

Transceiver Control
Commander

Location Control
DXView

DX Atlas

Google Earth

Logging
DXKeeper

DX Spots
SpotCollector

SpotSpy

Propagation
PropView

QSL Routes
Pathfinder

CW Skimmer

DM780

FLDigi

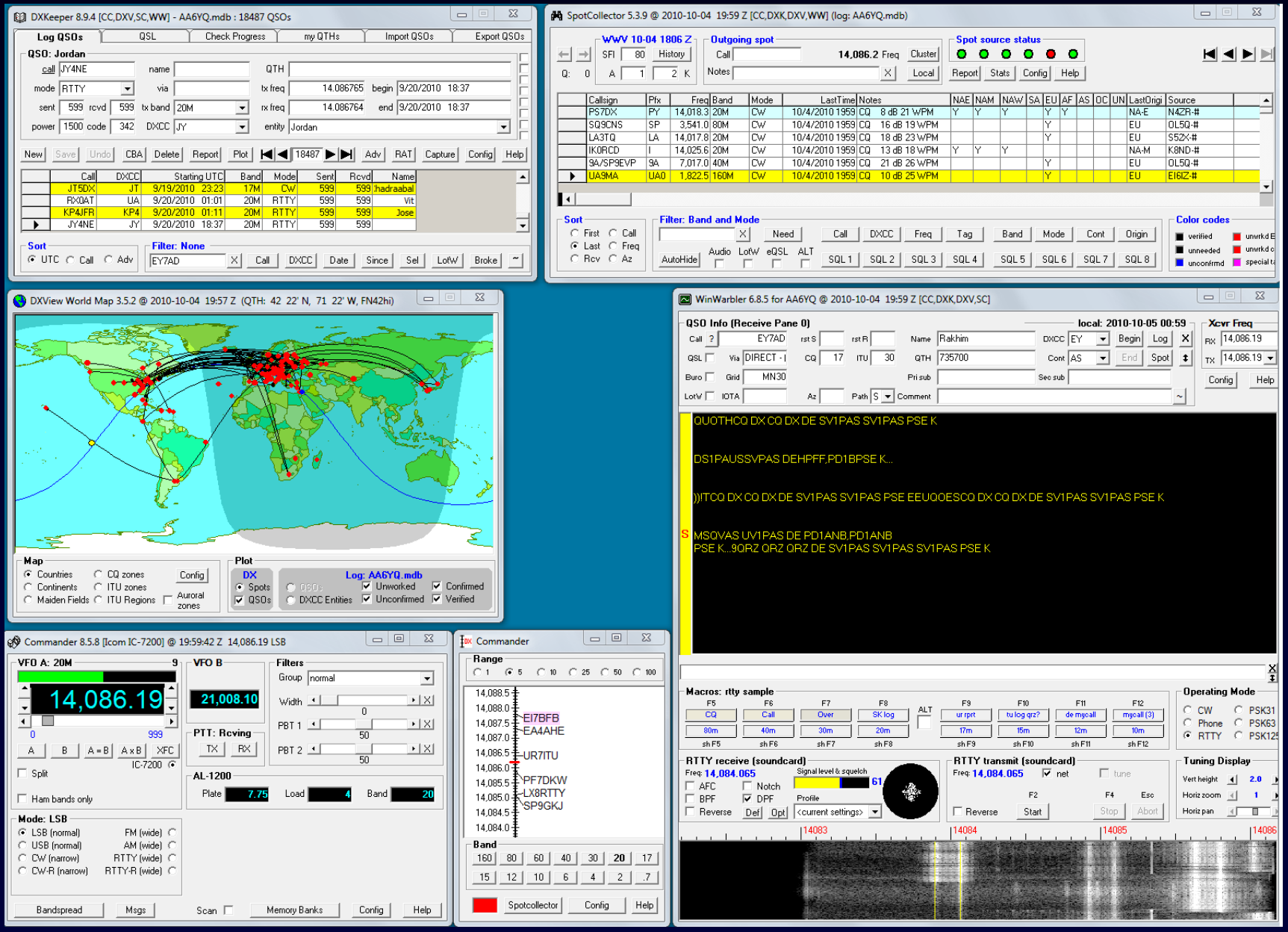
JT-Alert

MixW

MMSSTV

MultiPSK

A Suite of DXing Applications



Single Point of Control: DXLab Launcher

- Installation
- Upgrade
- Startup
- Shutdown

DXing With DXLab

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  - Multiple Views of Active DX
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Active DX Database

Telnet Clusters

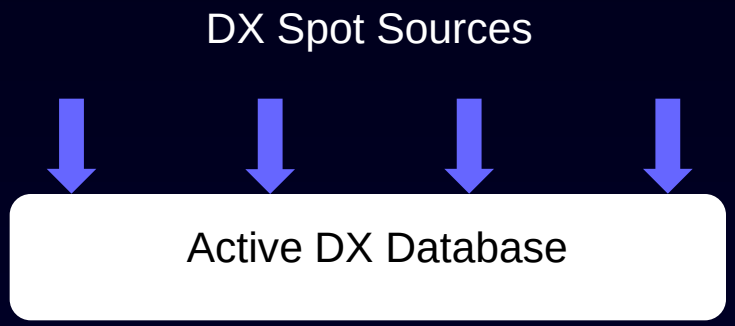
Packet Clusters

DX Summit

Reverse Beacon Network

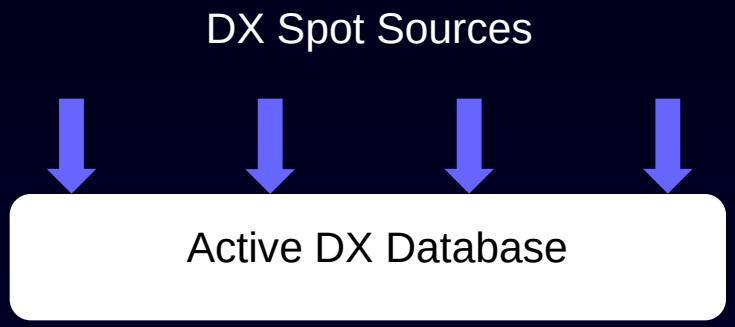
Call	Freq	QSX	Mode	First	Last	EU	AF	SA	NA-E	NA-M	NA-W	OC	
P5DX	14.005	14.007	CW	0117Z	0341Z	Y					Y	Y	
KP1RY	21.080	21.085	RTTY	0245Z	0356Z	Y	Y	Y	Y	Y			

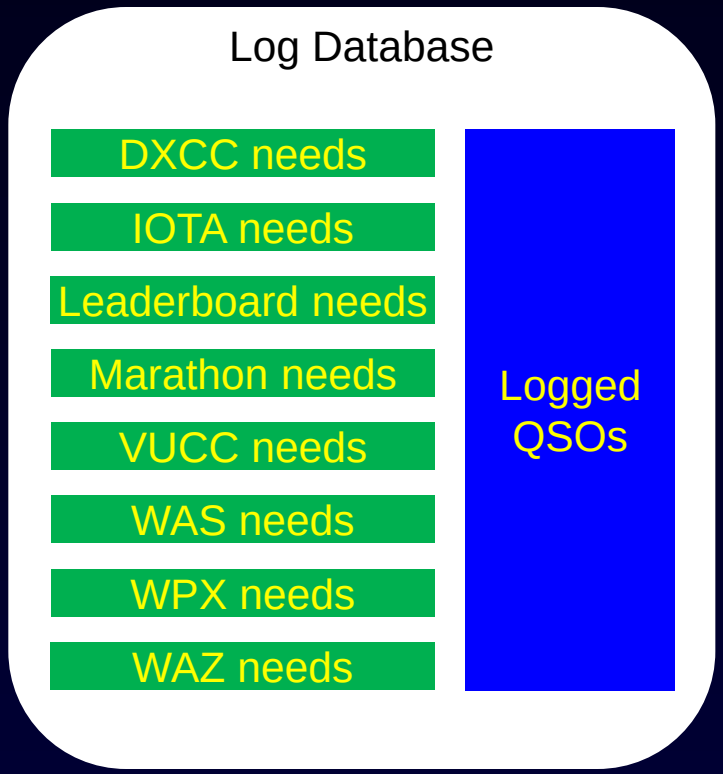
Multiple Views of Active DX



What DX stations are QRV ?

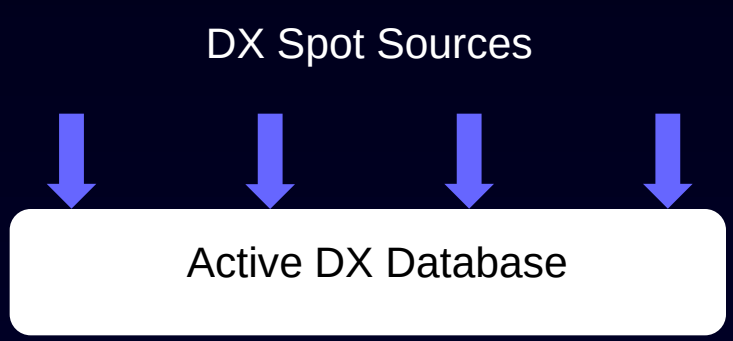
Multiple Views of Active DX





What QSOs and QSLs are “Needed” for the awards I’m pursuing ?

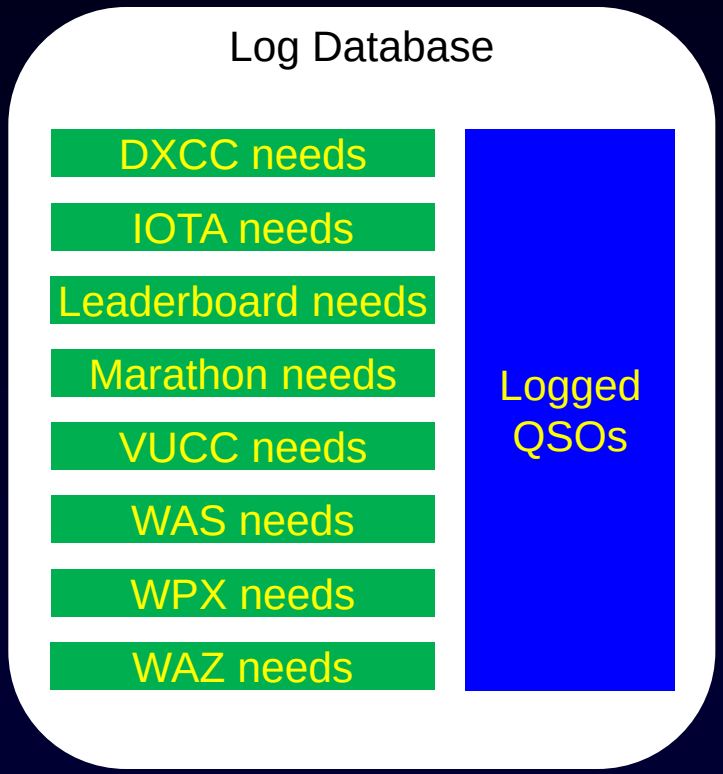
Multiple Views of Active DX



LotW Database

eQSL AG Database

What DX stations QSL via LotW and eQSL ?



Tabular View of Active DX

DX Spot Sources

Active DX Database

LotW Database

eQSL AG Database

View Generator

Log Database

DXCC needs

IOTA needs

Leaderboard needs

Marathon needs

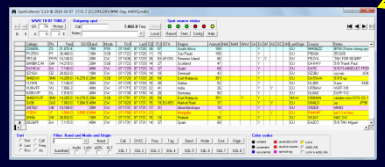
VUCC needs

WAS needs

WPX needs

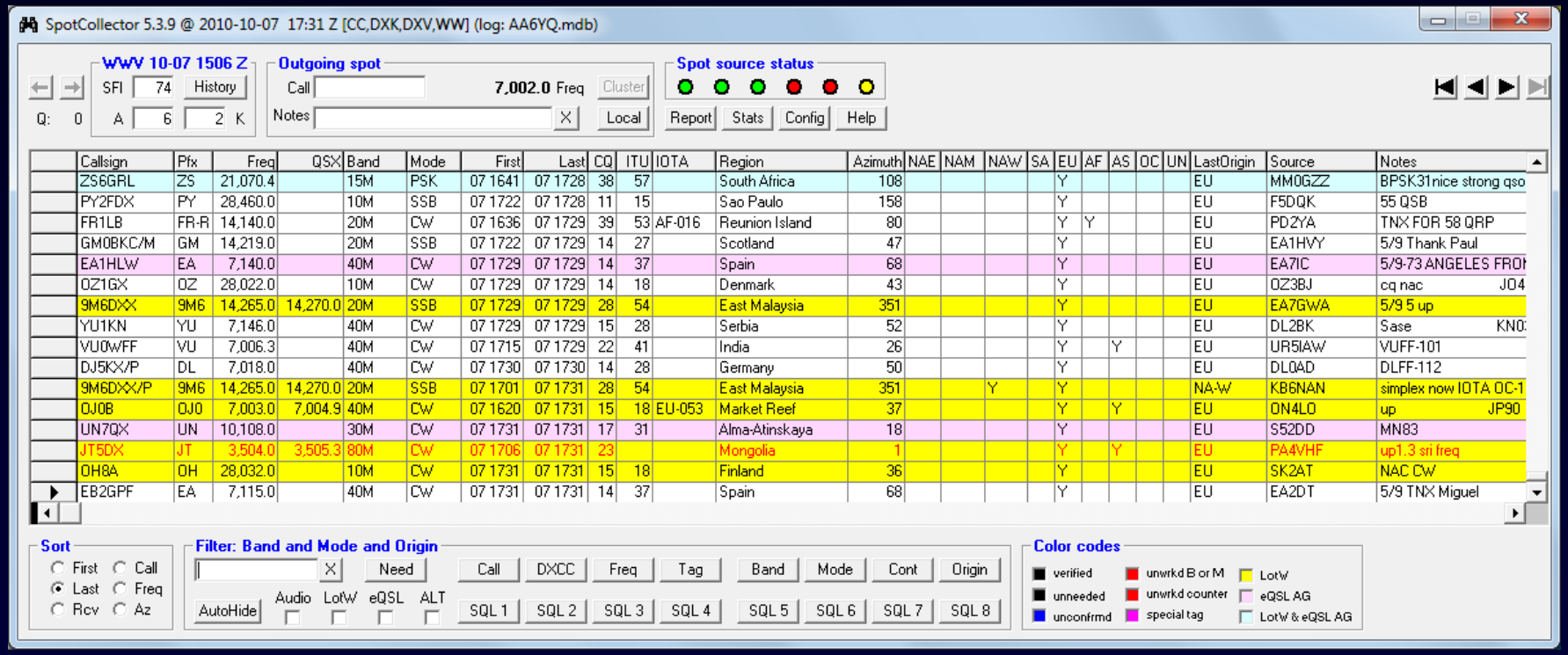
WAZ needs

Logged QSOs



Tabular Display

Tabular View of Active DX

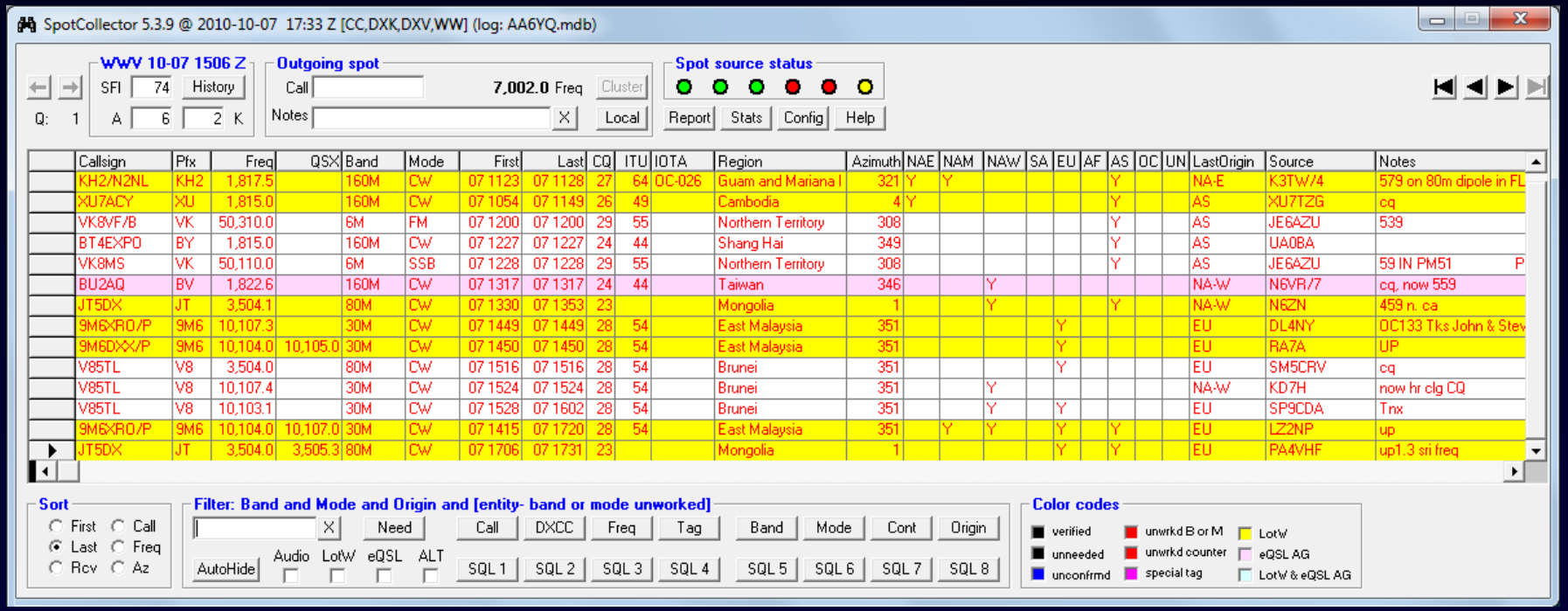


Font color indicates “needed” DX stations

Background color indicates LotW and eQSL participation

Tabular View of Active DX

“Needed DX Only”

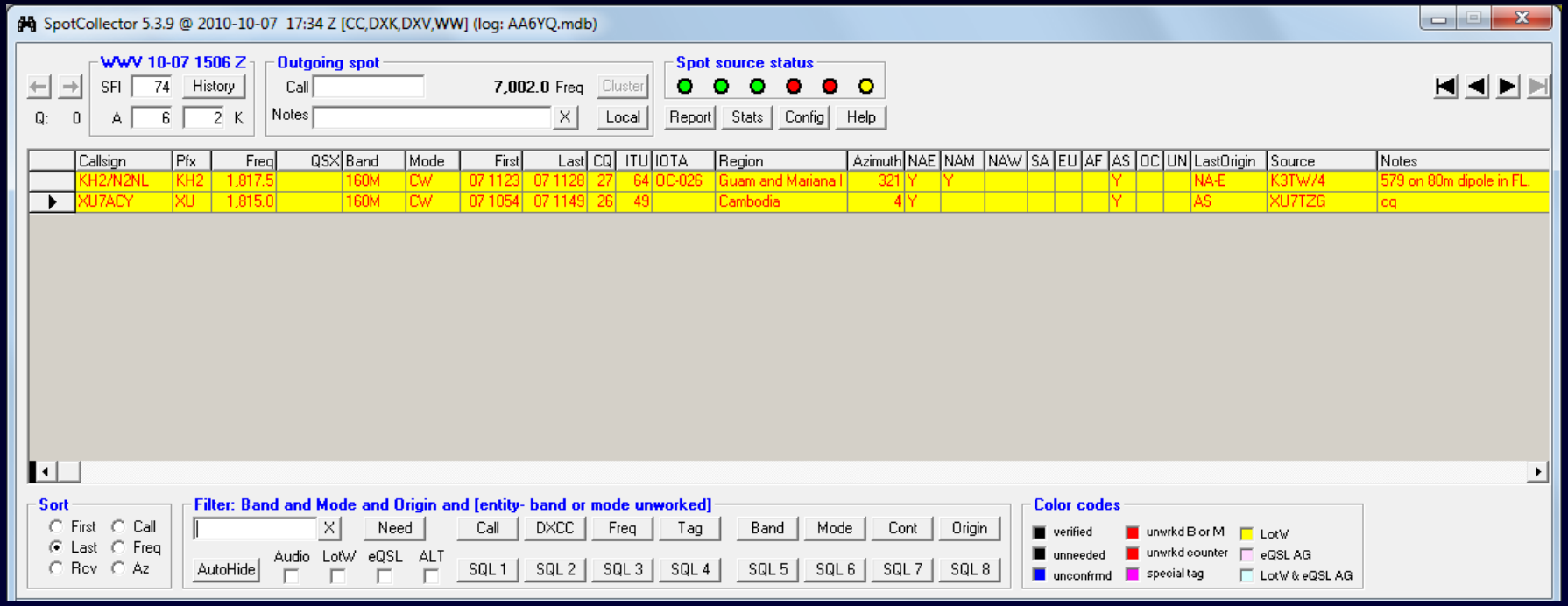


Font color indicates “needed” DX stations

Background color indicates LotW and eQSL participation

Tabular View of Active DX

"Needed and spotted from NA-E"



Font color indicates "needed" DX stations

Background color indicates LotW and eQSL participation

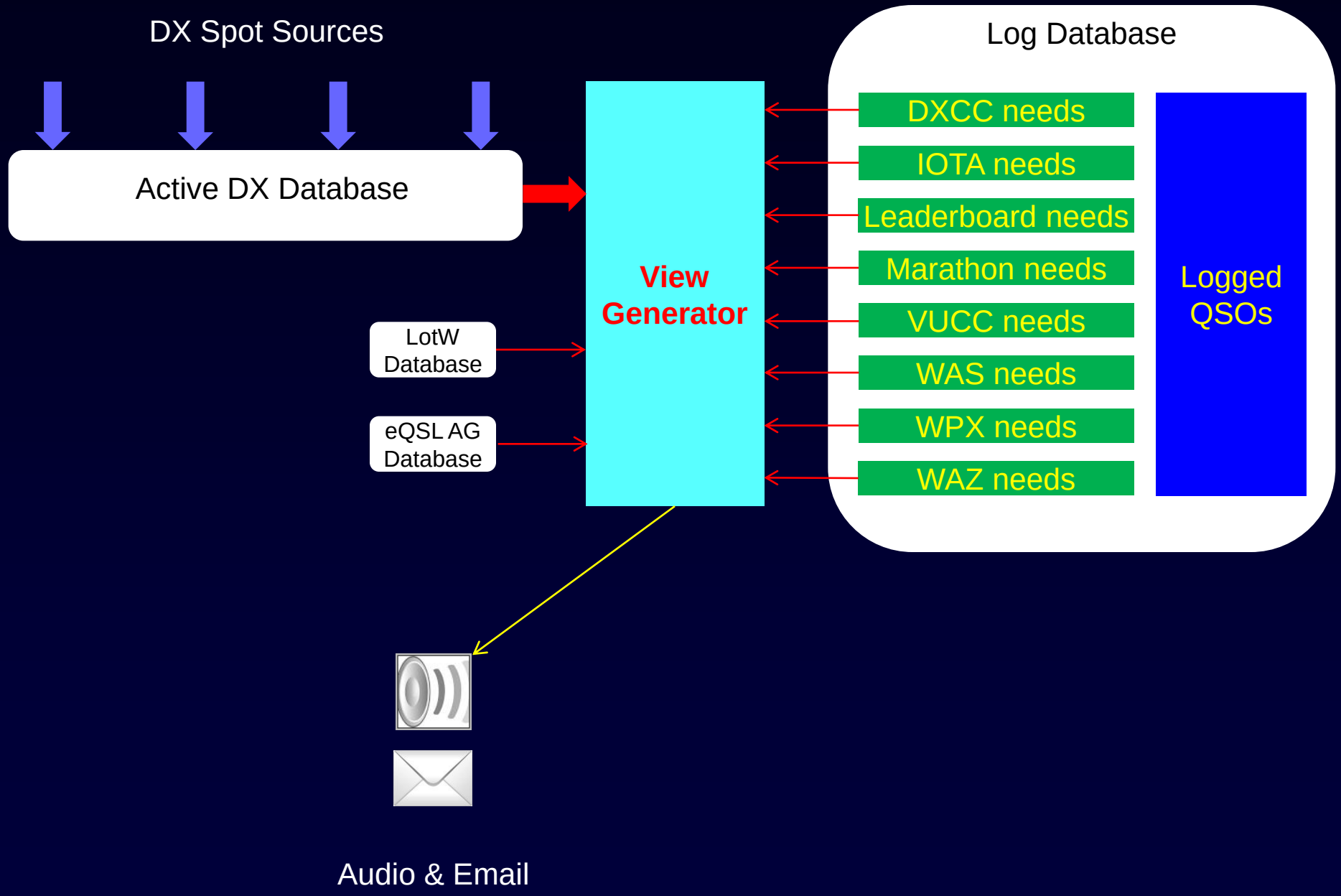
Tabular View of Active DX

in a web browser from anywhere

Tabular View of Active DX

in a web browser from anywhere

Audio and Email Views of Active DX

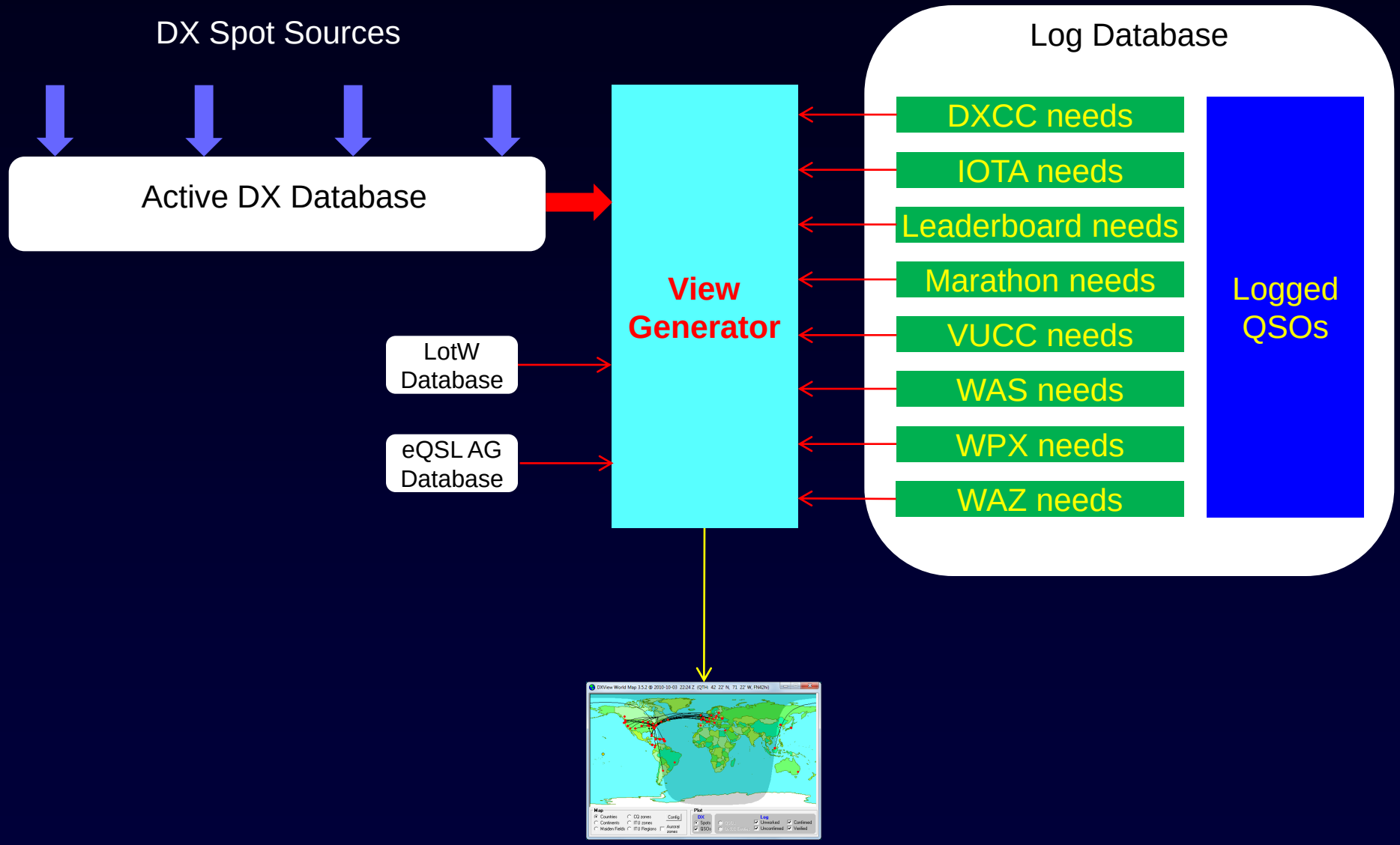


Audio and Email Views of Active DX

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



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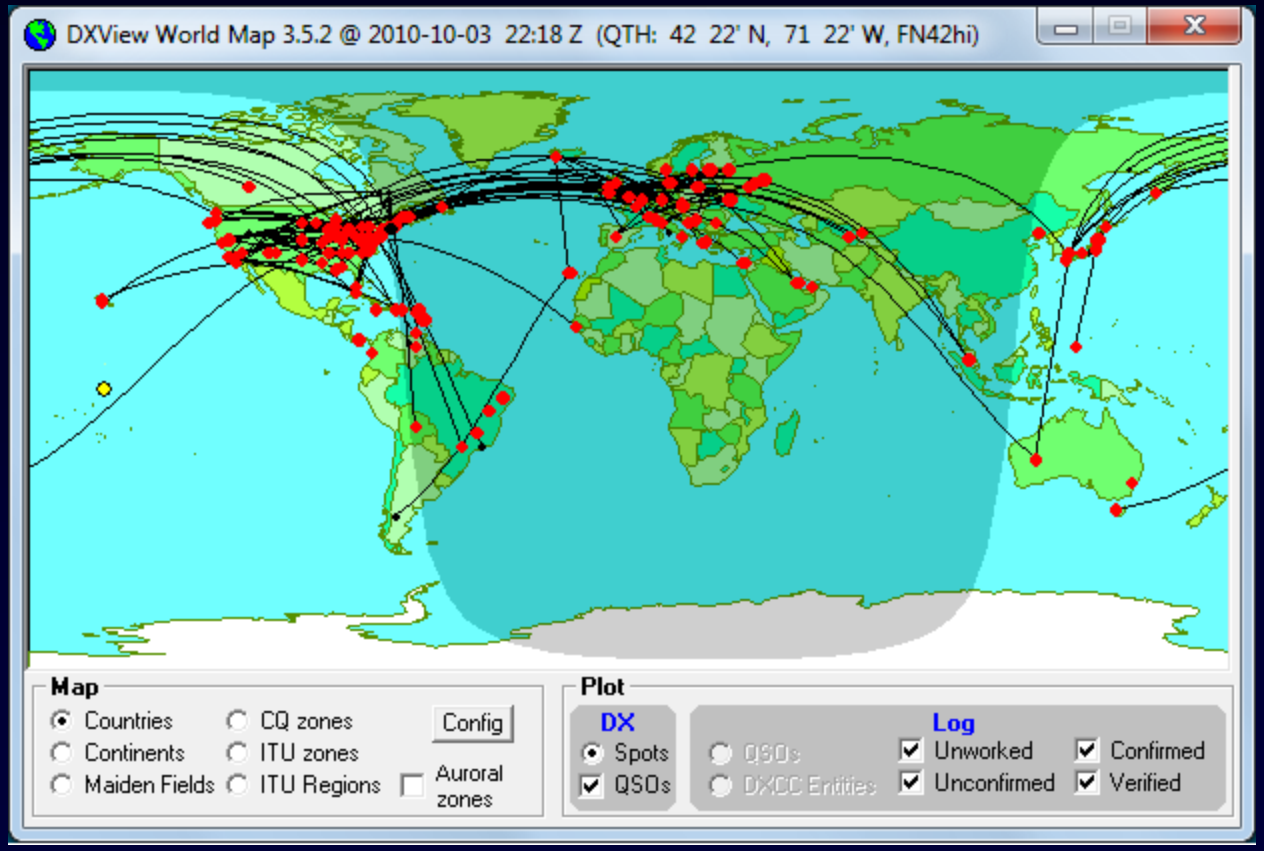
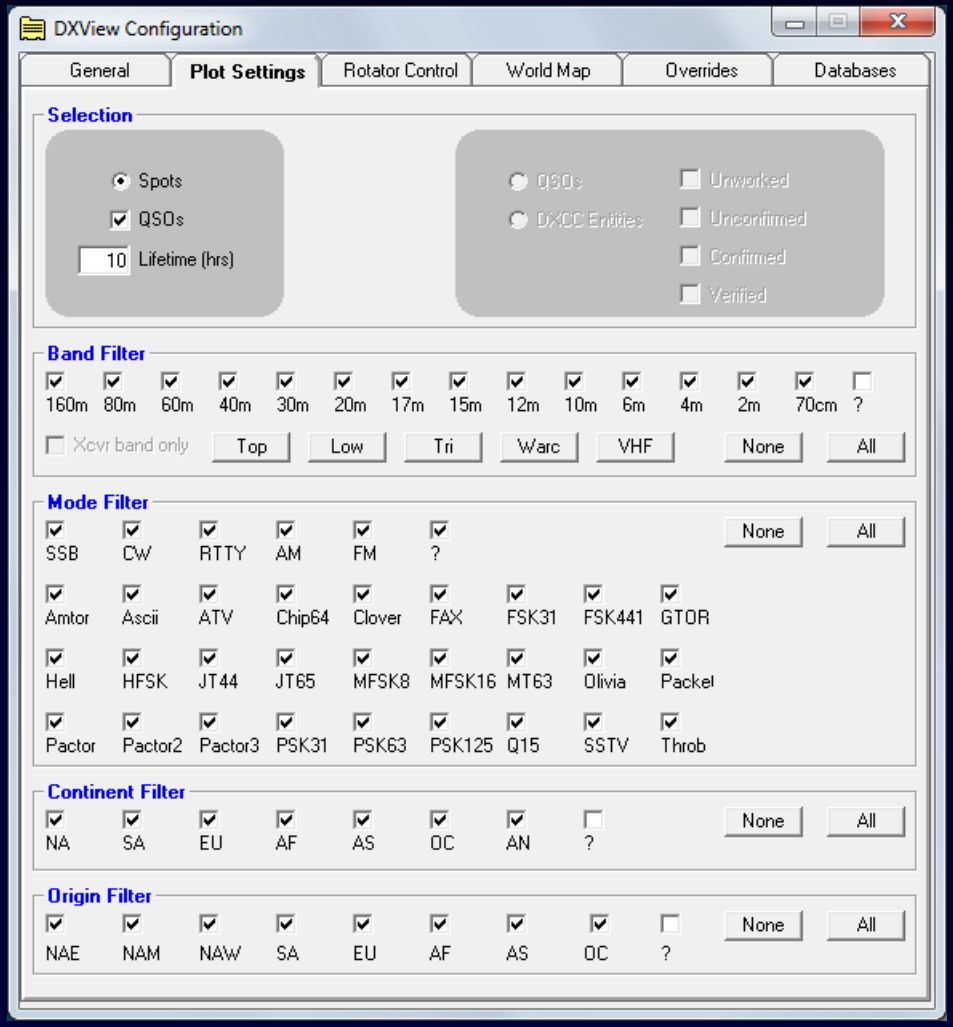


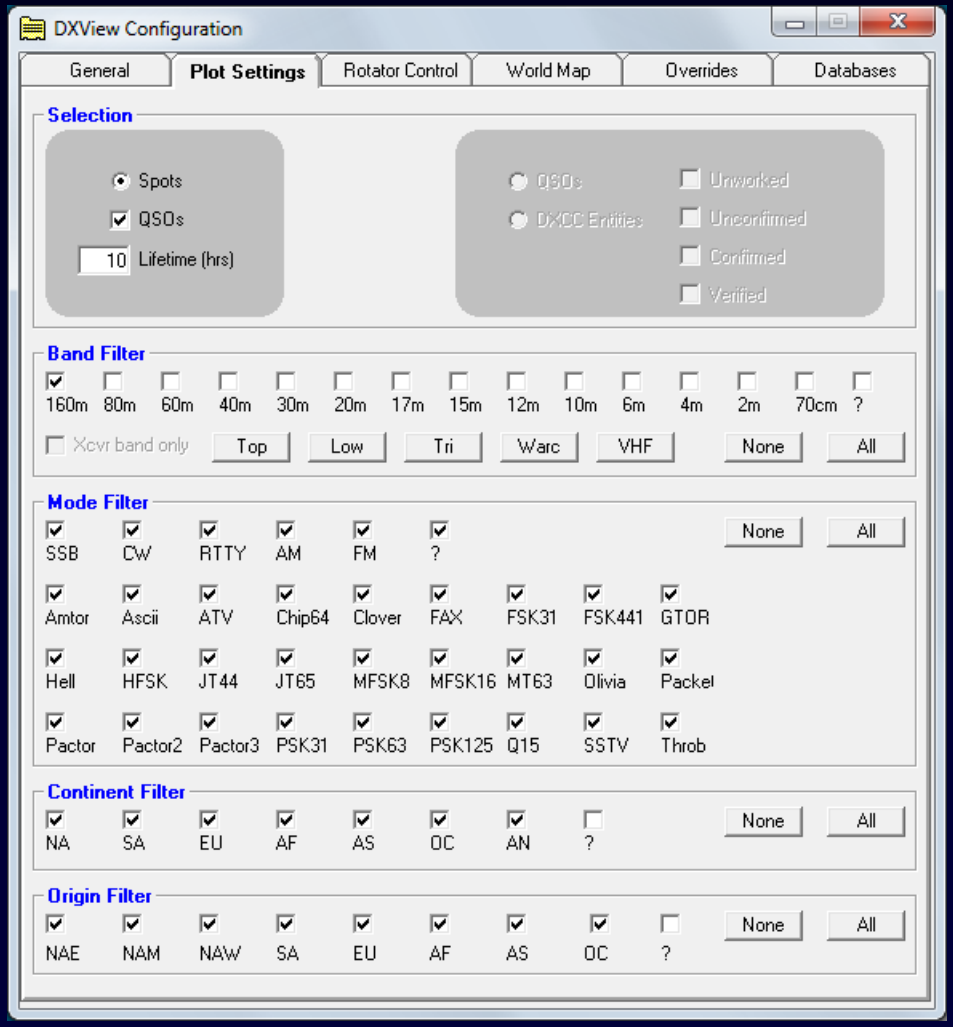
World Map View of Active DX

Controlling the Map View



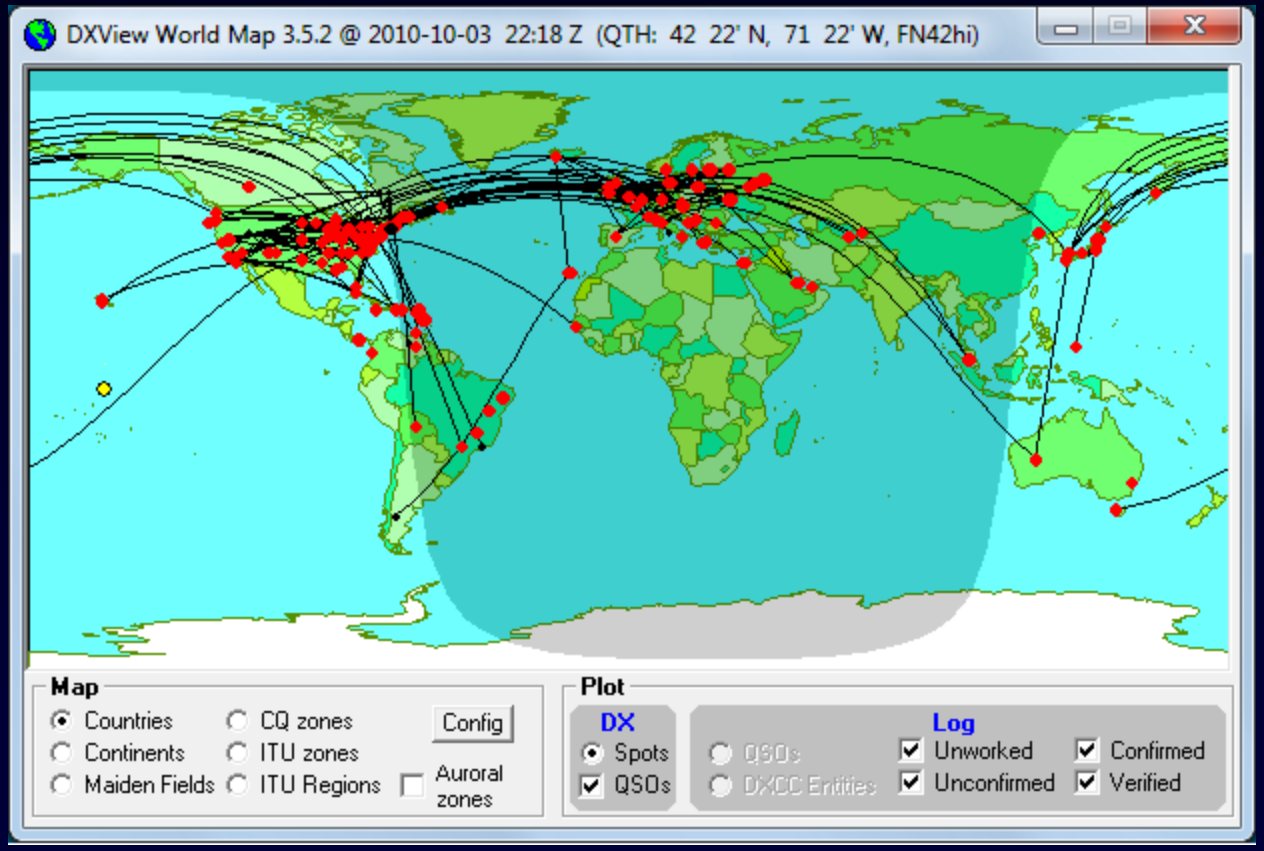
World Map View of Active DX

Controlling the Map View



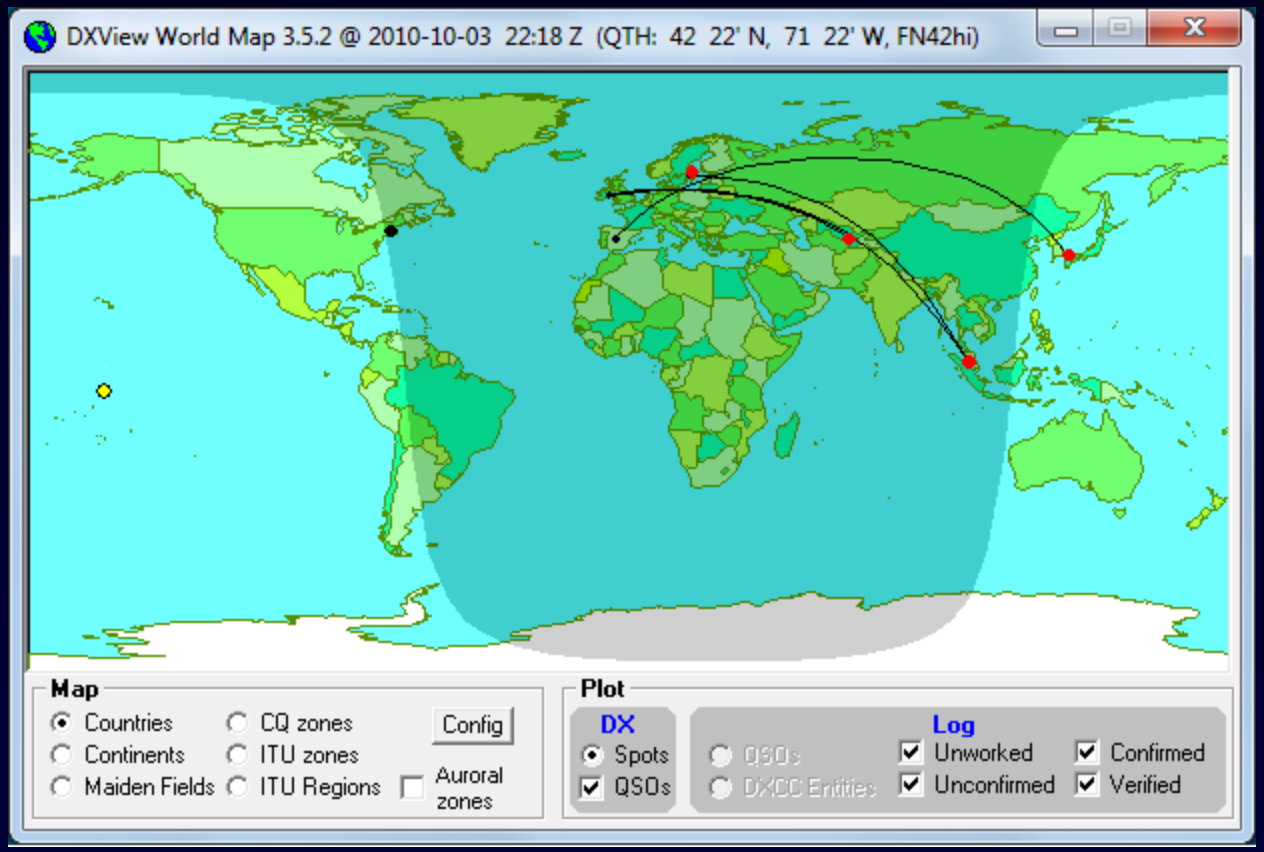
World Map View of Active DX

"all active DX"



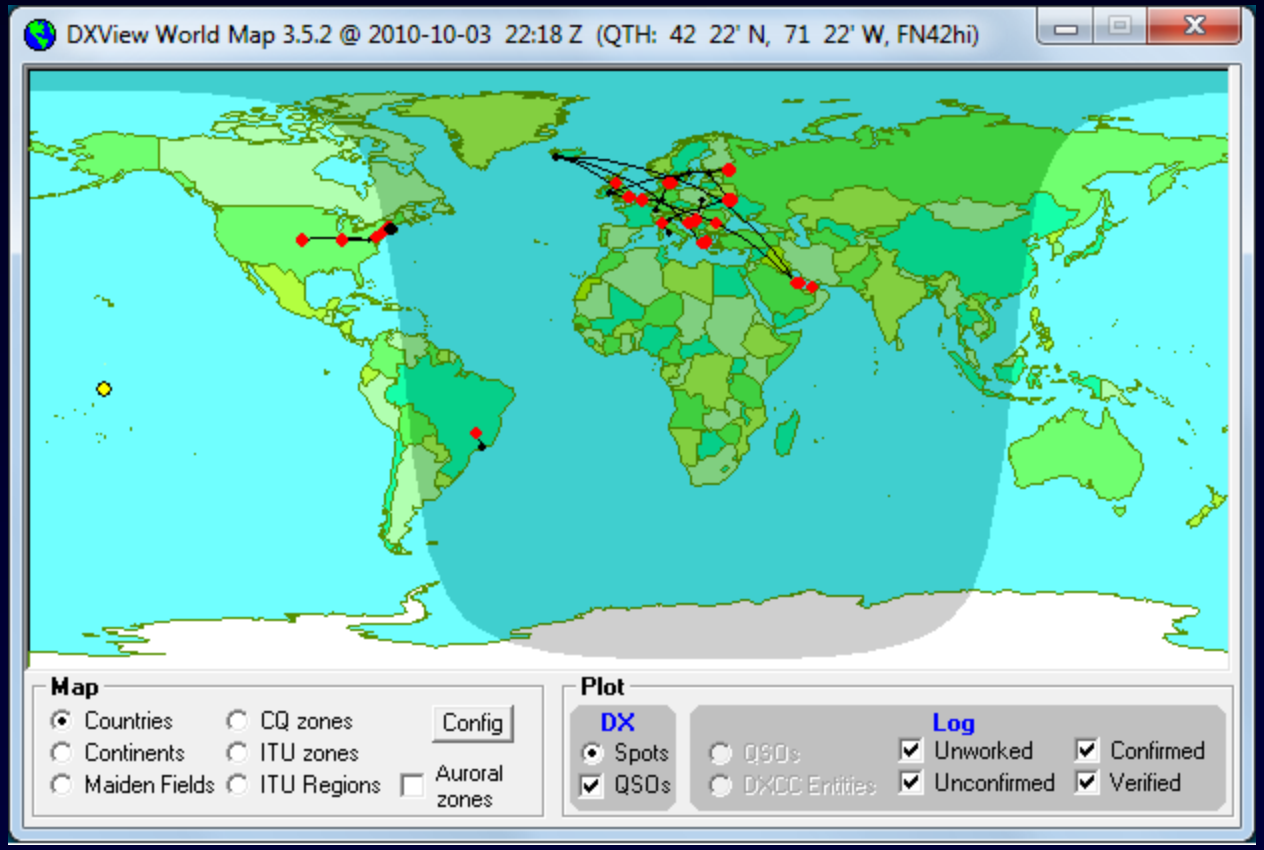
World Map View of Active DX

"160m"



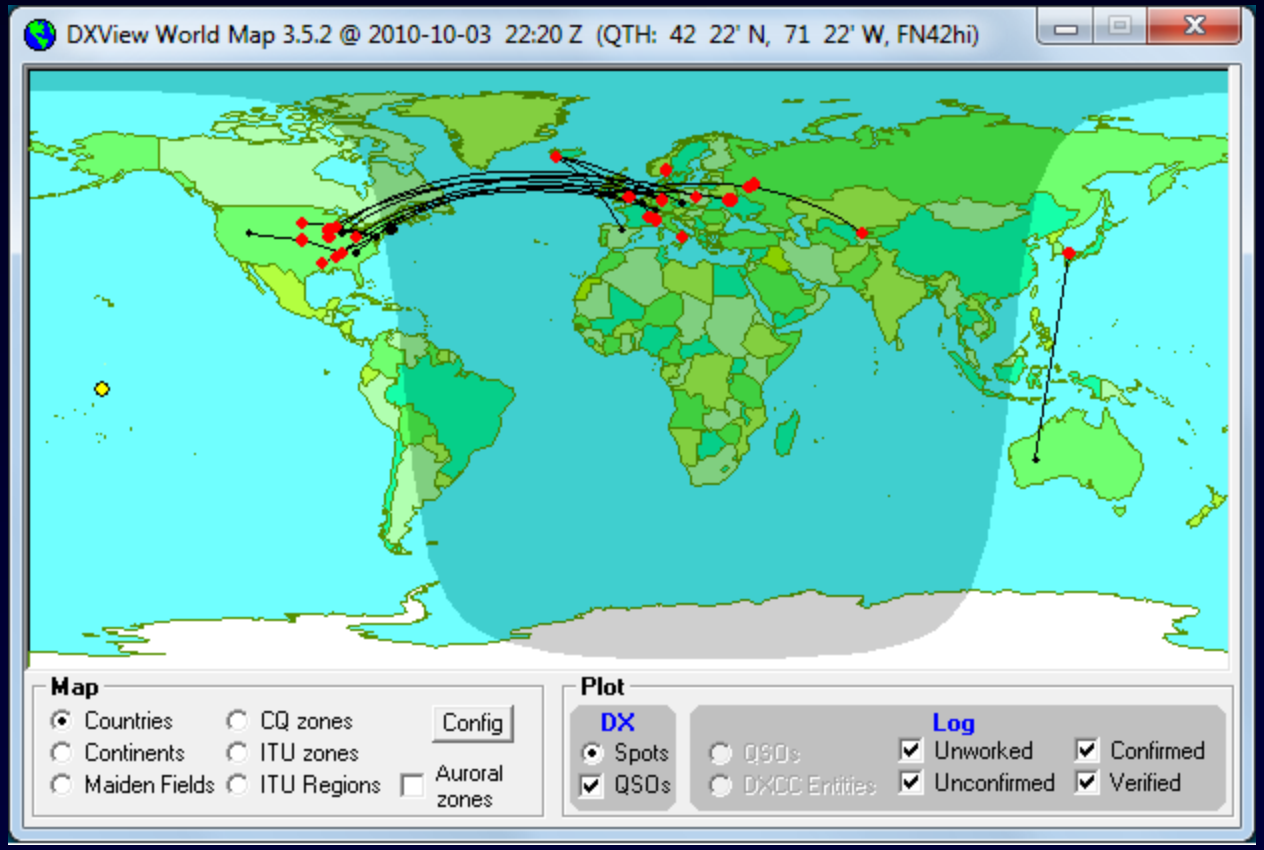
World Map View of Active DX

"80m"



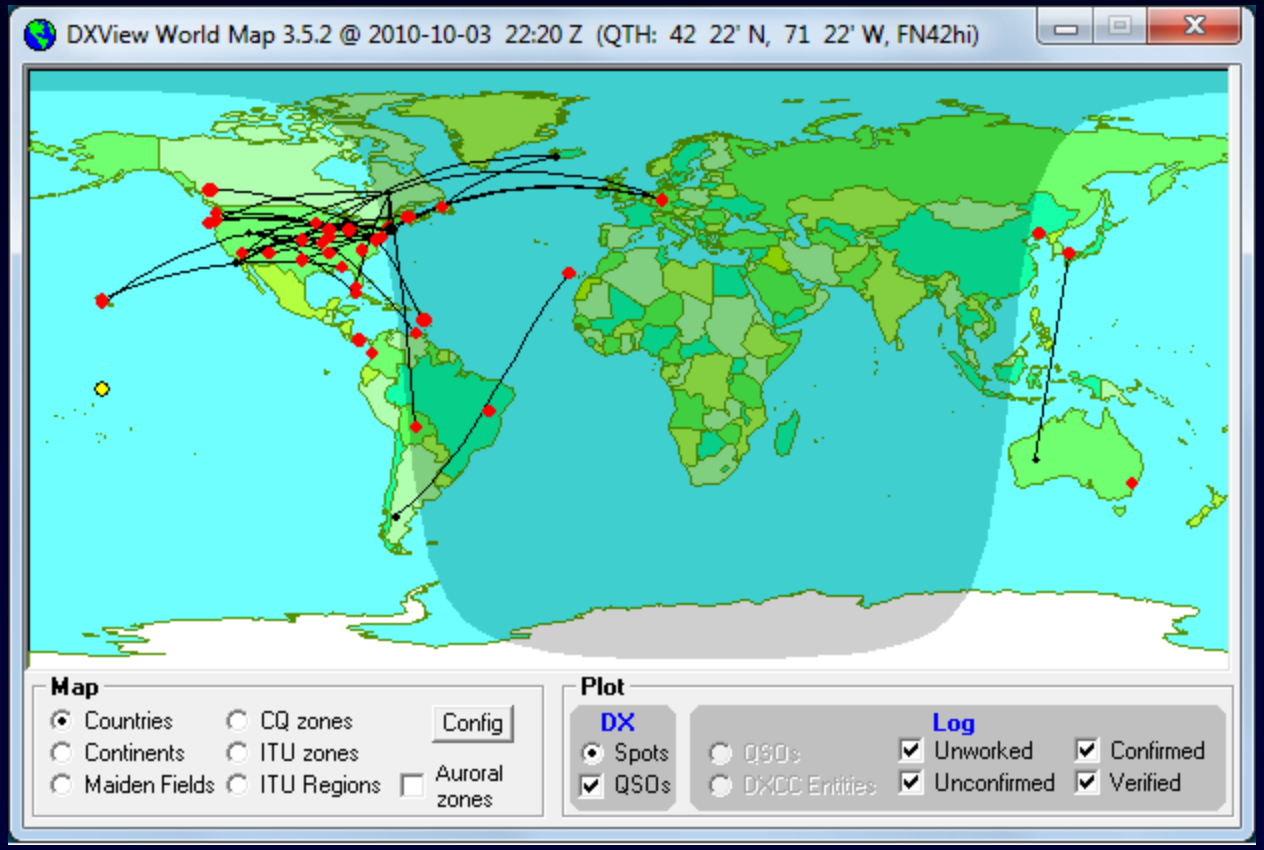
World Map View of Active DX

"40m"



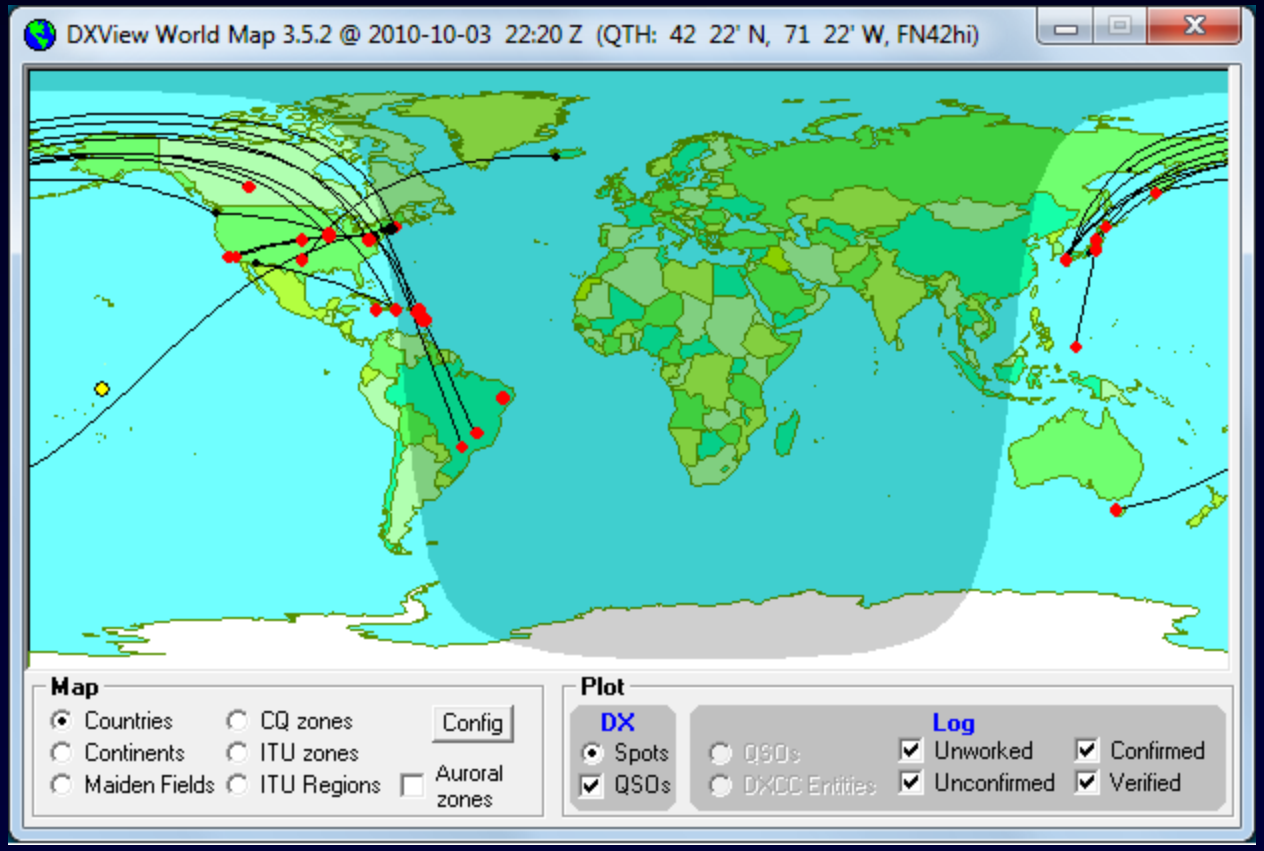
World Map View of Active DX

"20m"



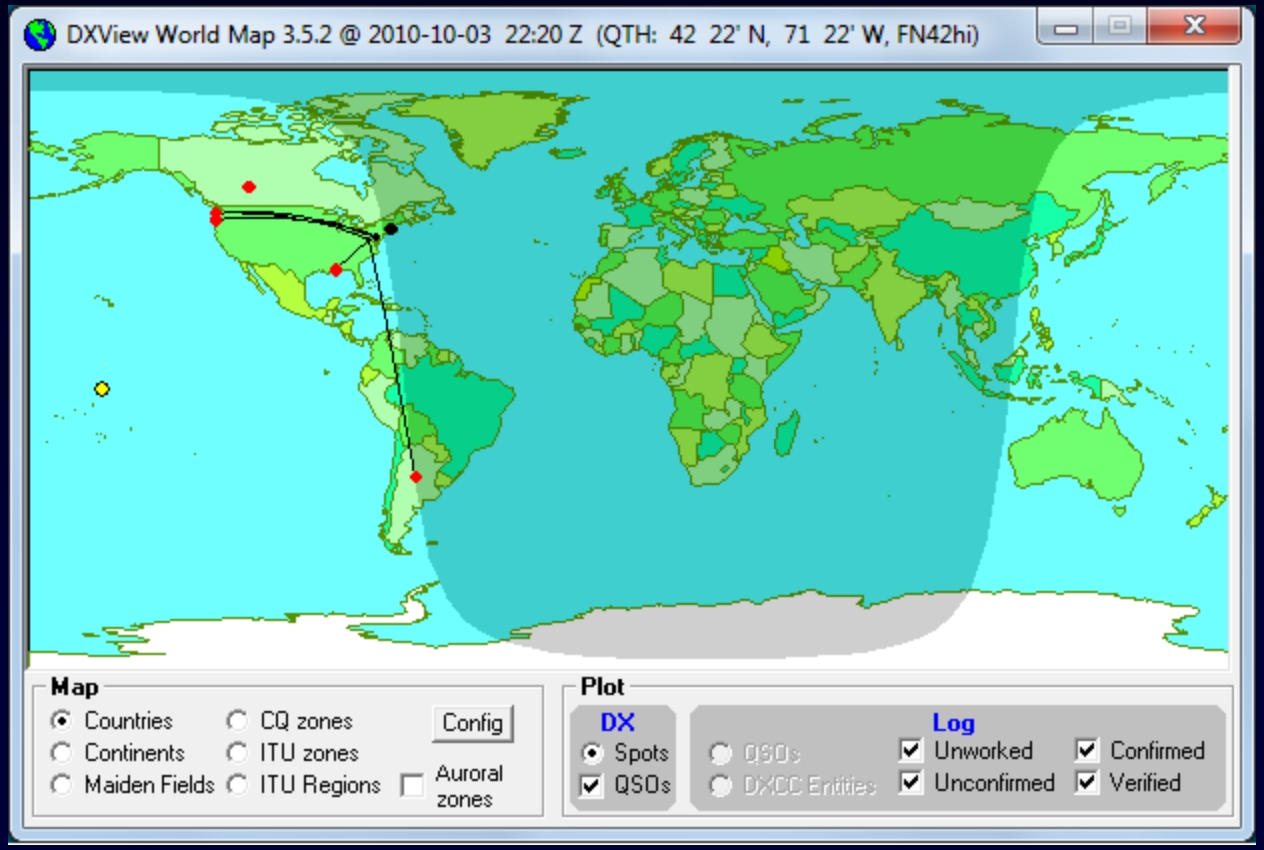
World Map View of Active DX

"17m"



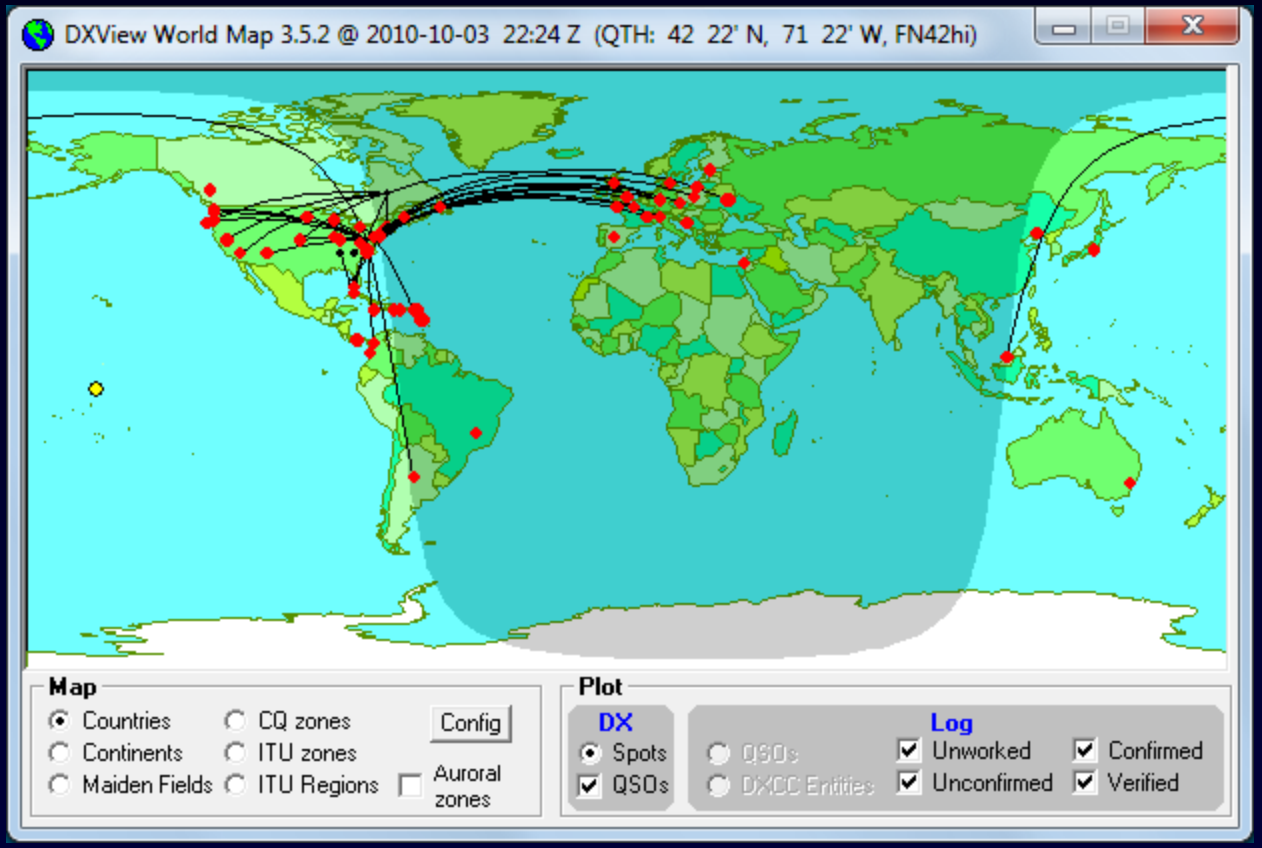
World Map View of Active DX

"15m"



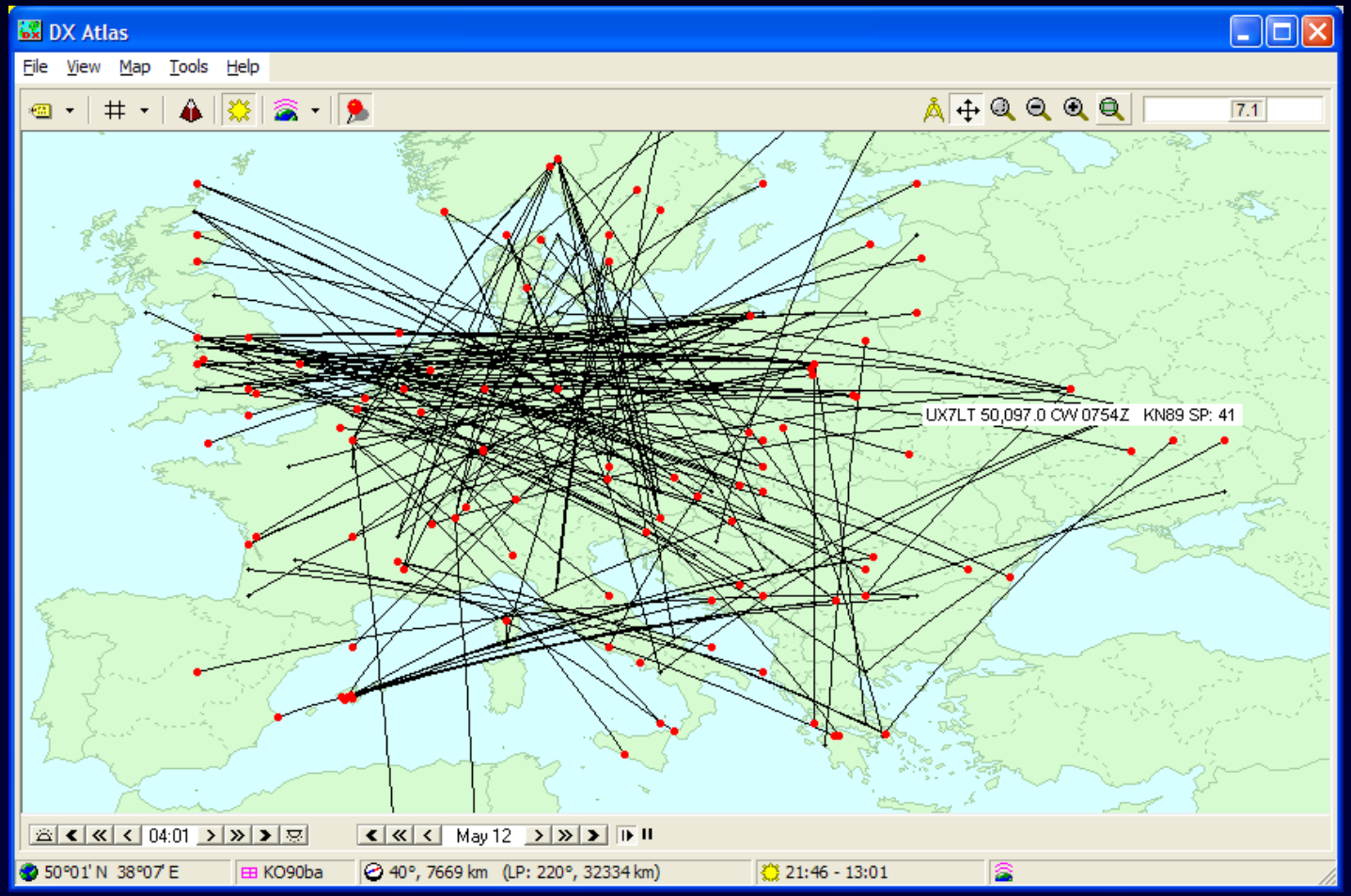
World Map View of Active DX

"spotted by a station in NA-E"



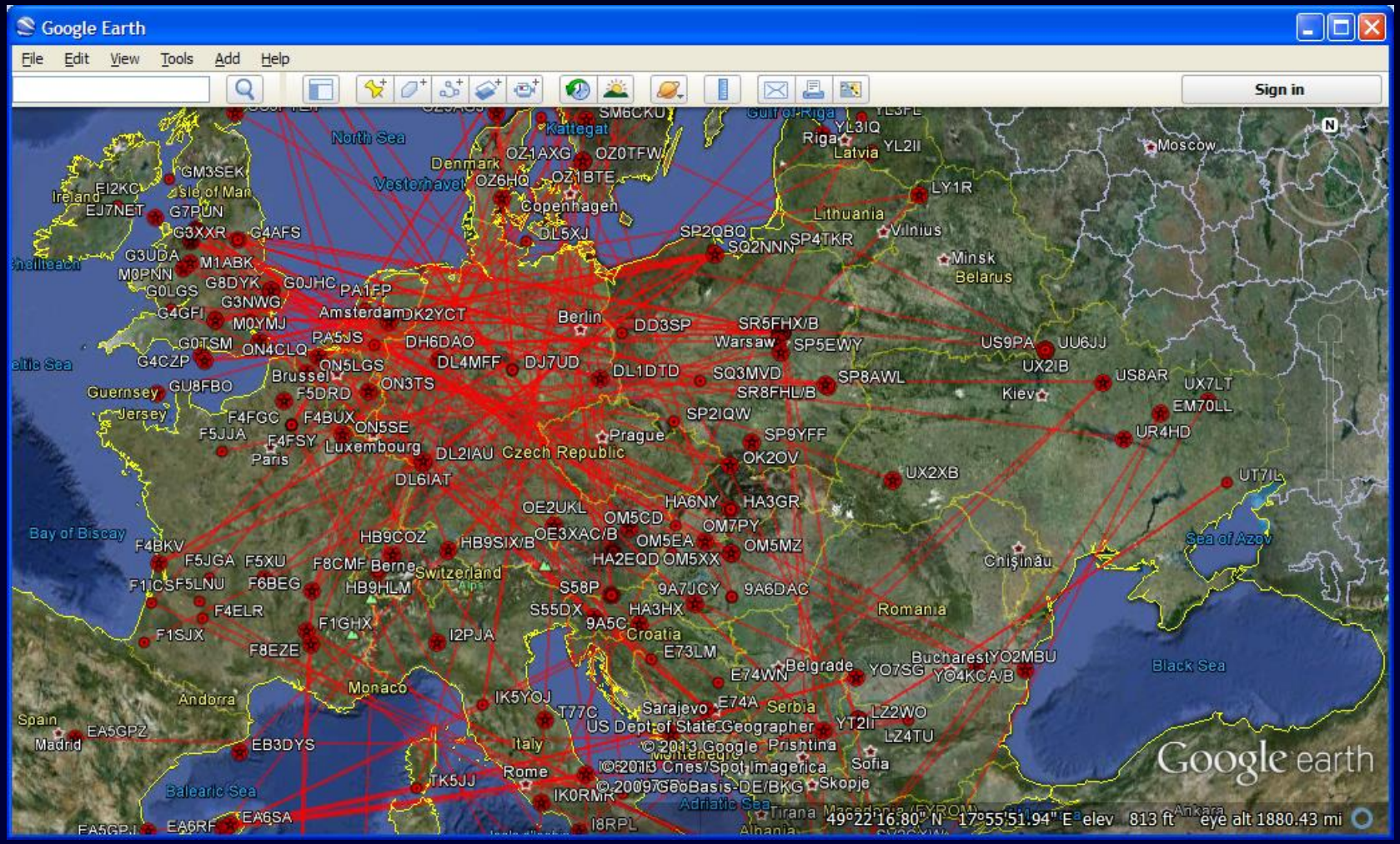
World Map View of Active DX

"6m" on DX Atlas



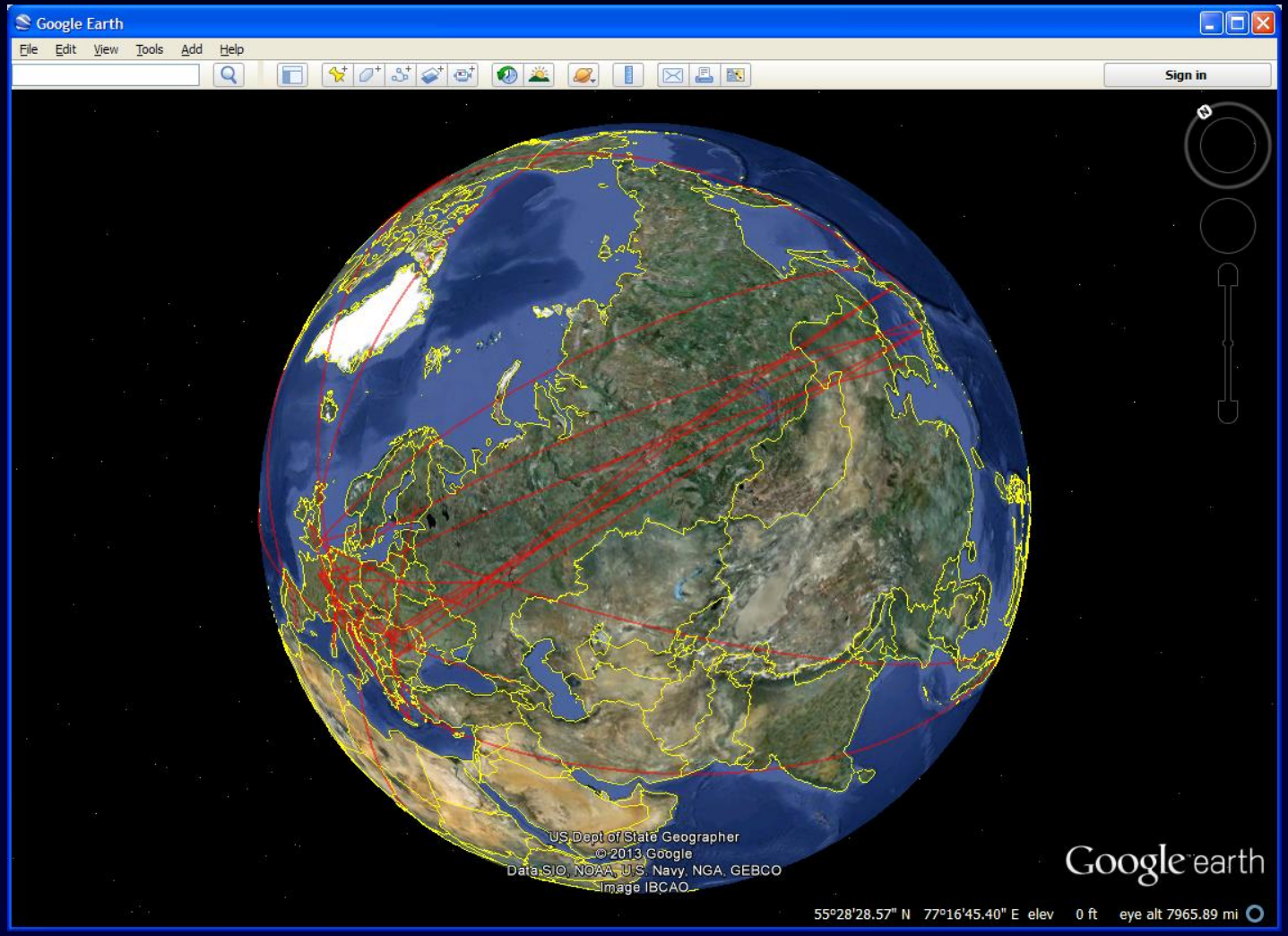
World Map View of Active DX

"6m" on Google Earth

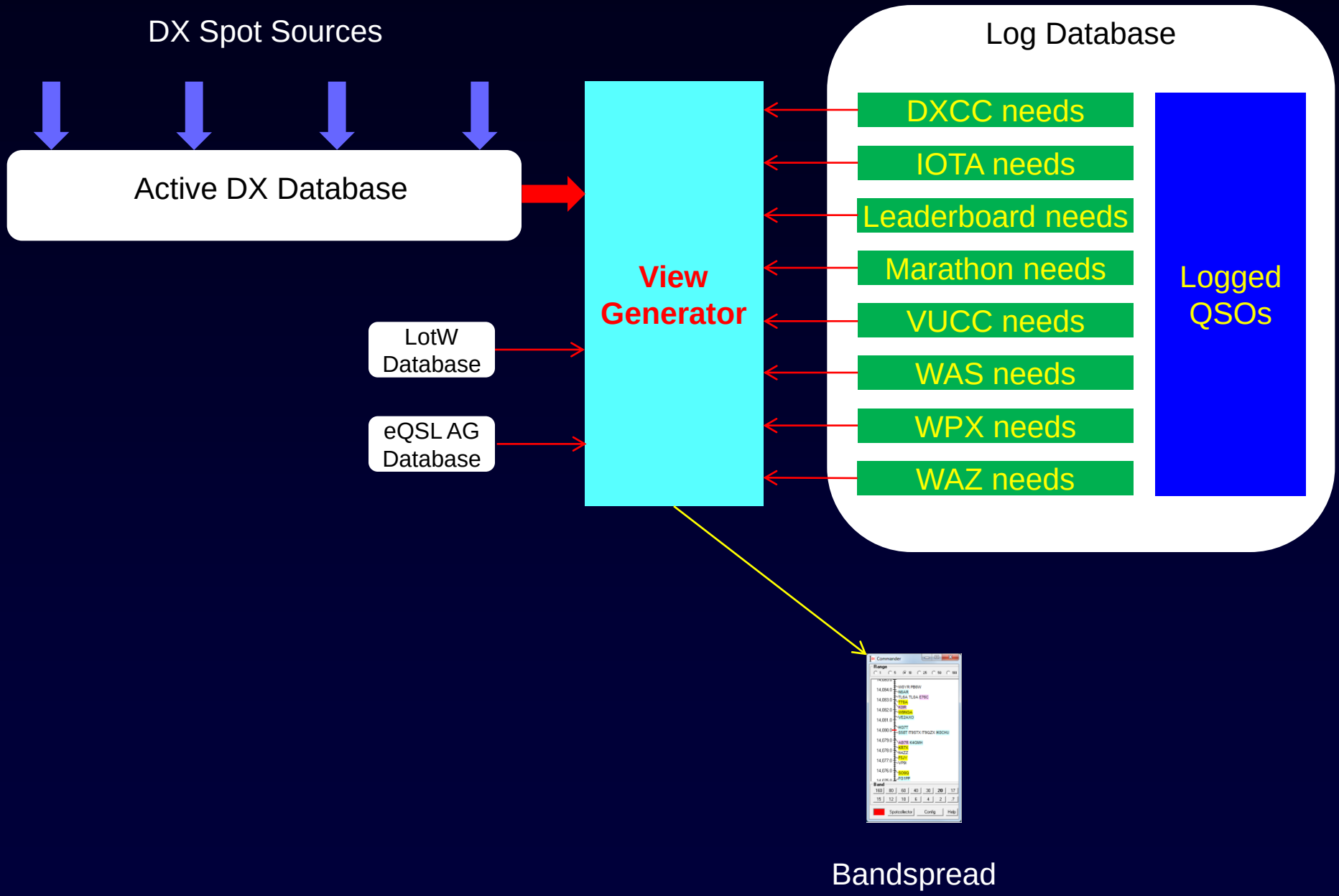


World Map View of Active DX

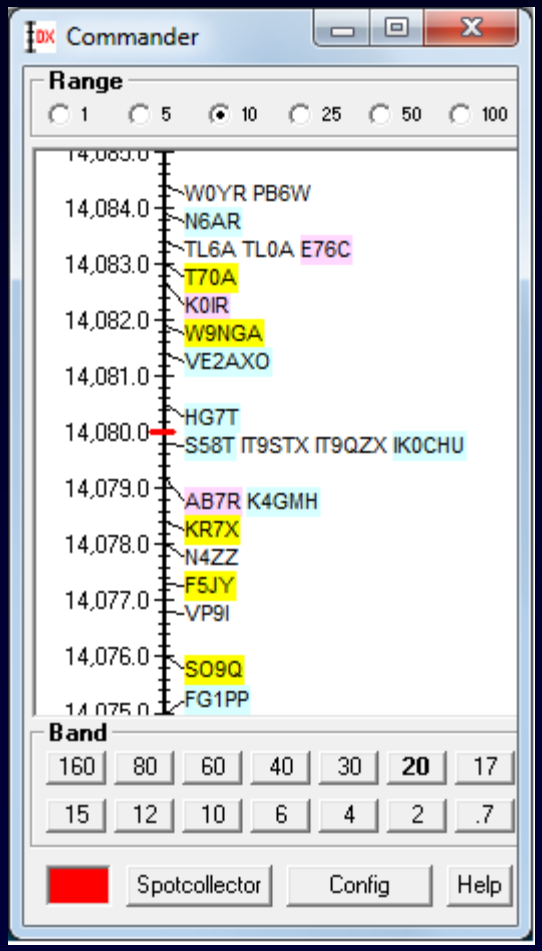
"12m" on Google Earth



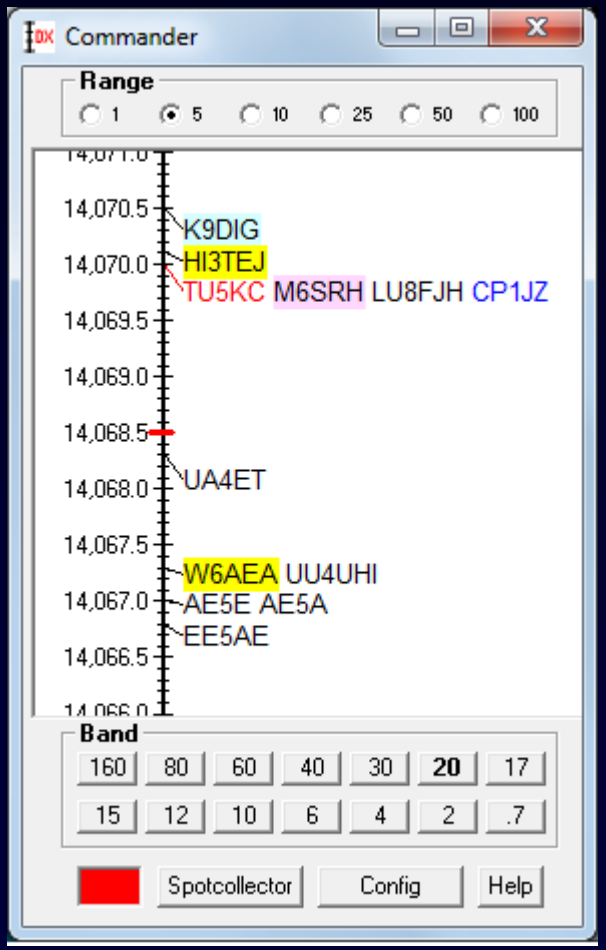
Bandspread View of Active DX



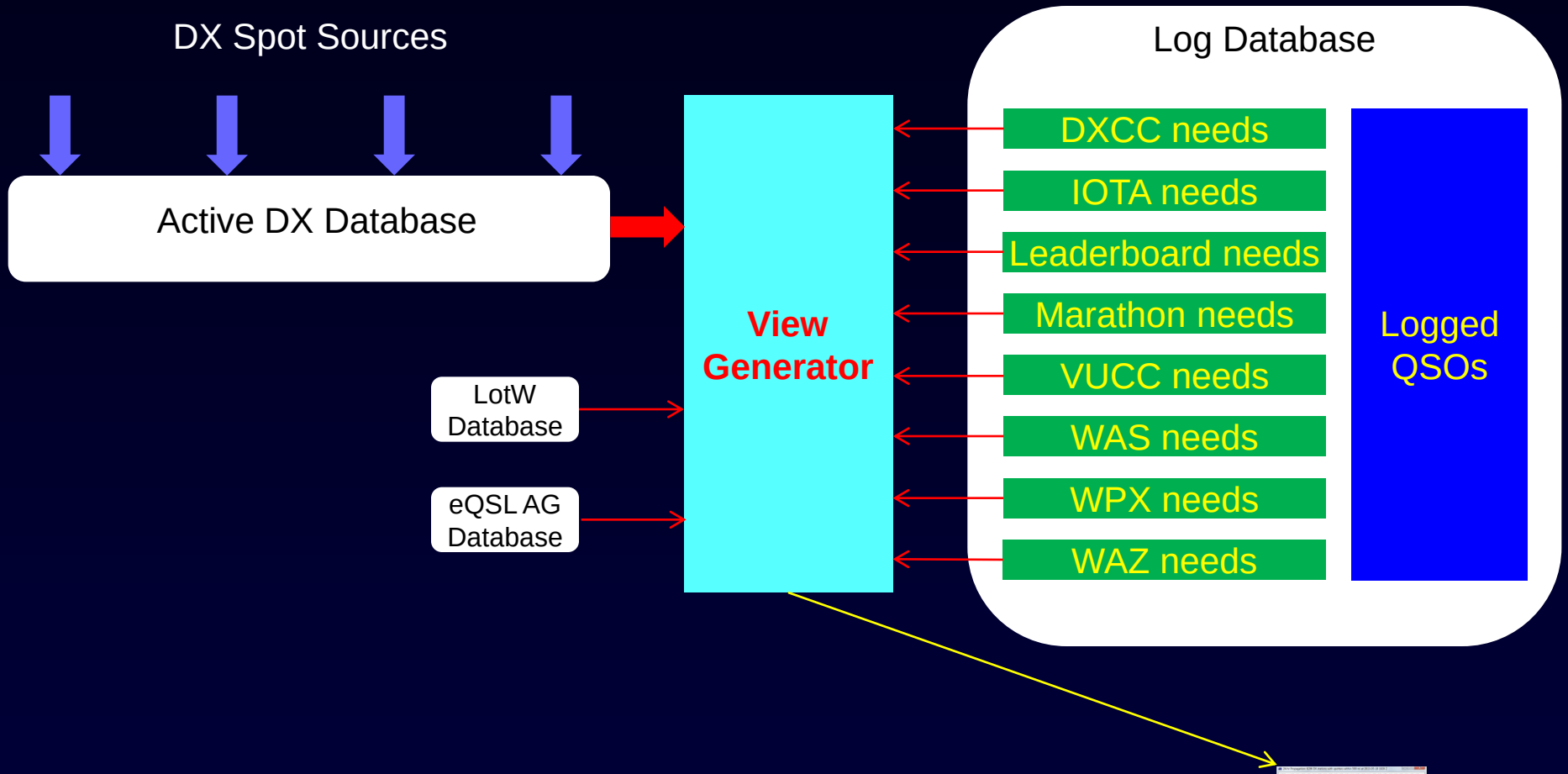
Bandspread View of Active DX

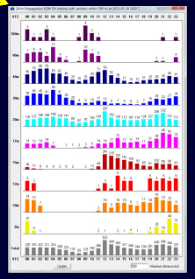


Bandspread View of Active DX



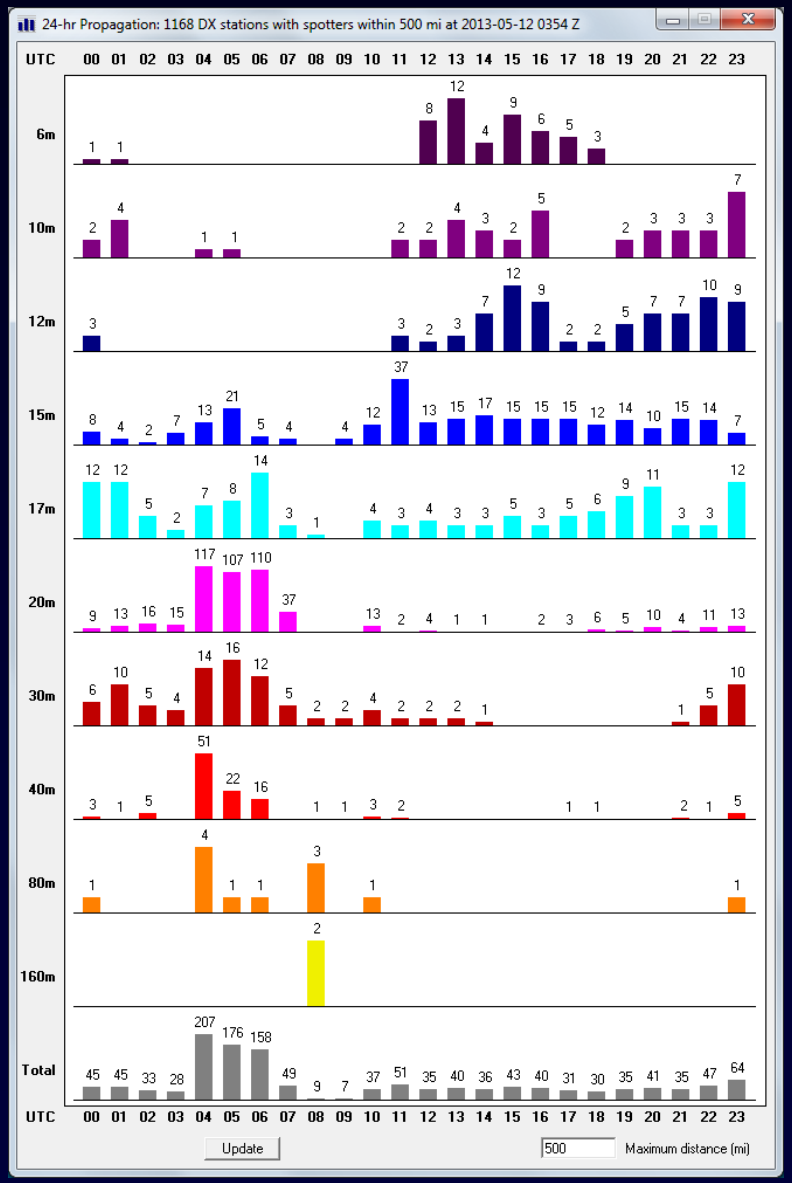
Propagation View of Active DX





Propagation

Propagation View of Active DX



Multiple Views of Active DX

DX Spot Sources

Active DX Database

LotW Database

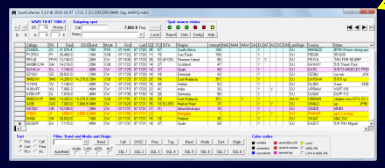
eQSL AG Database

View Generator

Log Database

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

Logged QSOs

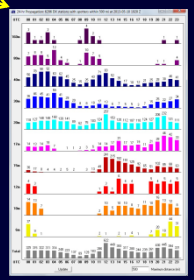


Tabular Display

Audio & Email

World Map

Bandspread



Propagation

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DXing With DXLab

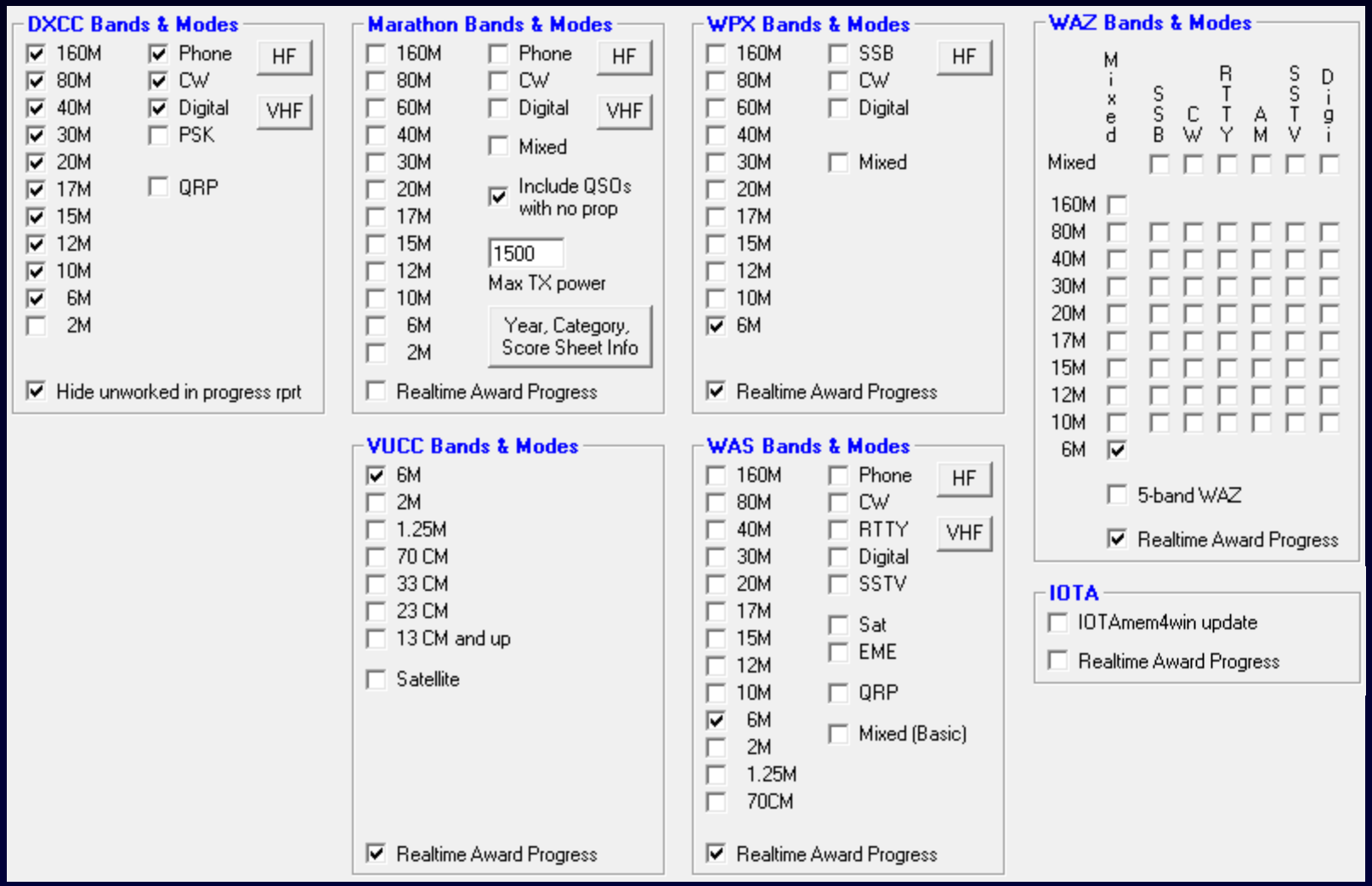
- Introduction to the DXLab Suite
  - Architecture
  - Development Drivers
  - Multiple Views of Active DX
- Finding the DX You Need
- Working the DX You Need

Finding and Working Needed DX

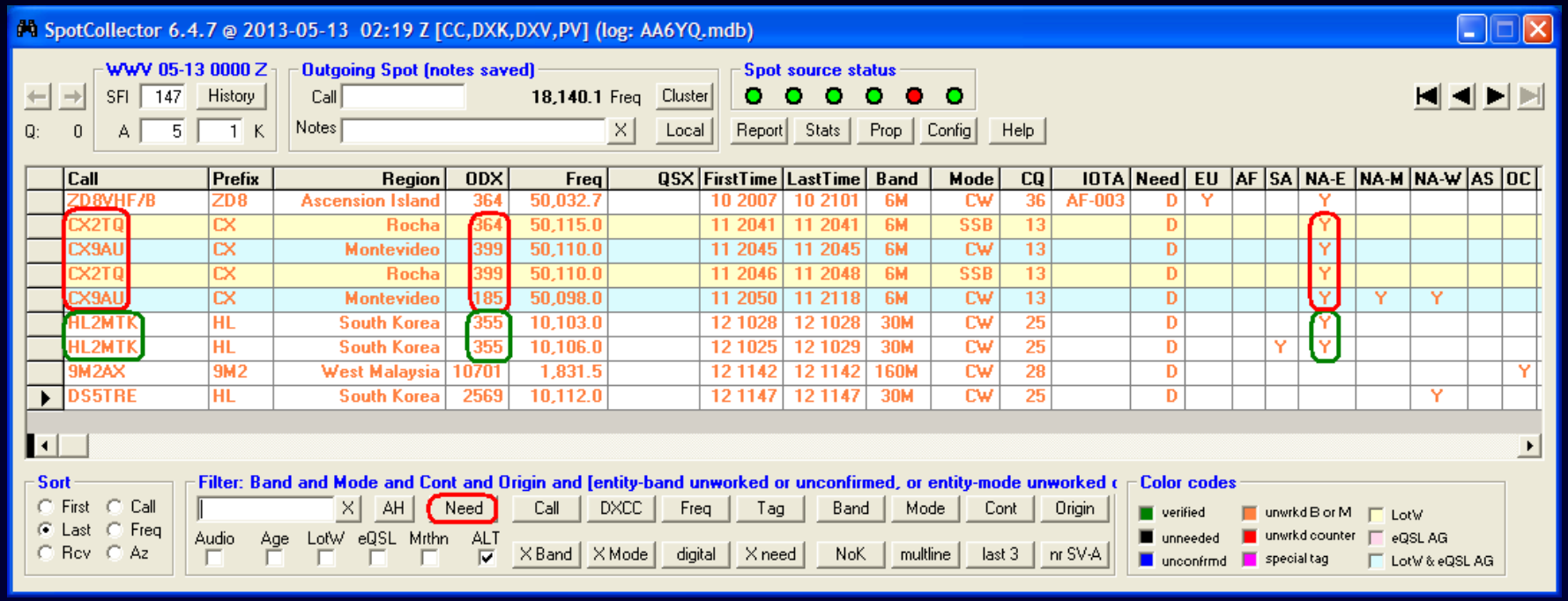
1. What's been QRV that I need?

2. Working Mount Athos

What Are My DXing Objectives?



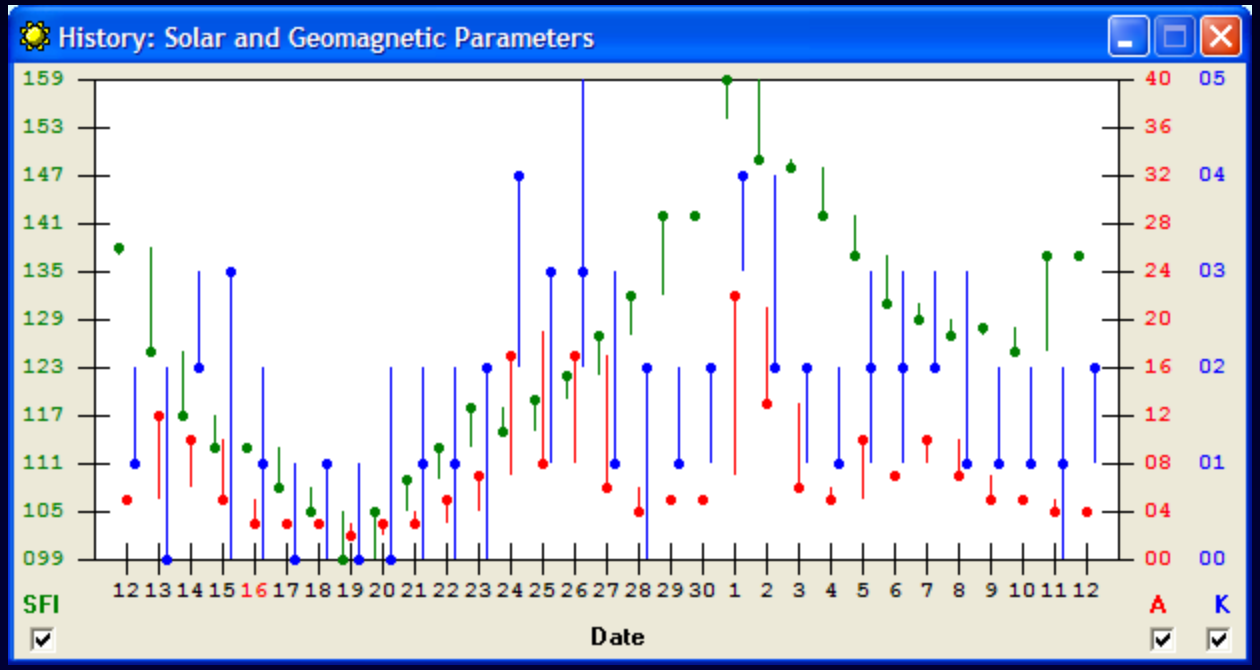
What's Been QRV that I Need?



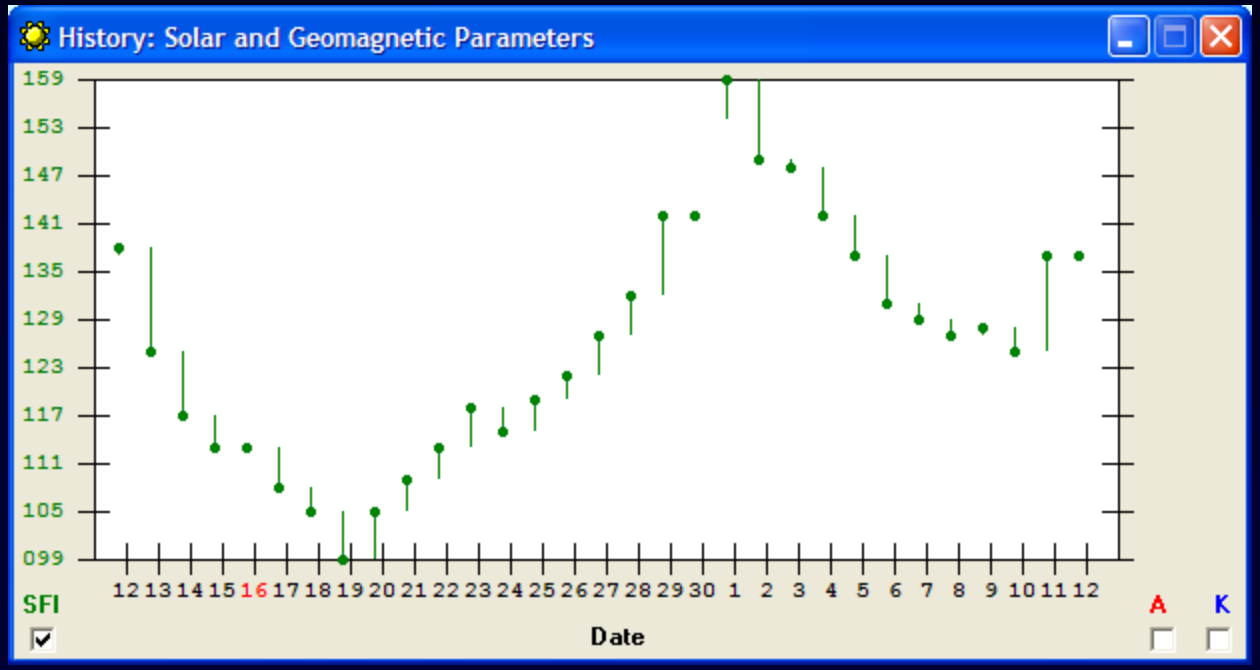
CX on 6m ?

Is HL on 30m a plausible target ?

Check the Solar & Geomagnetic Indices



Isolate the Solar Flux Index



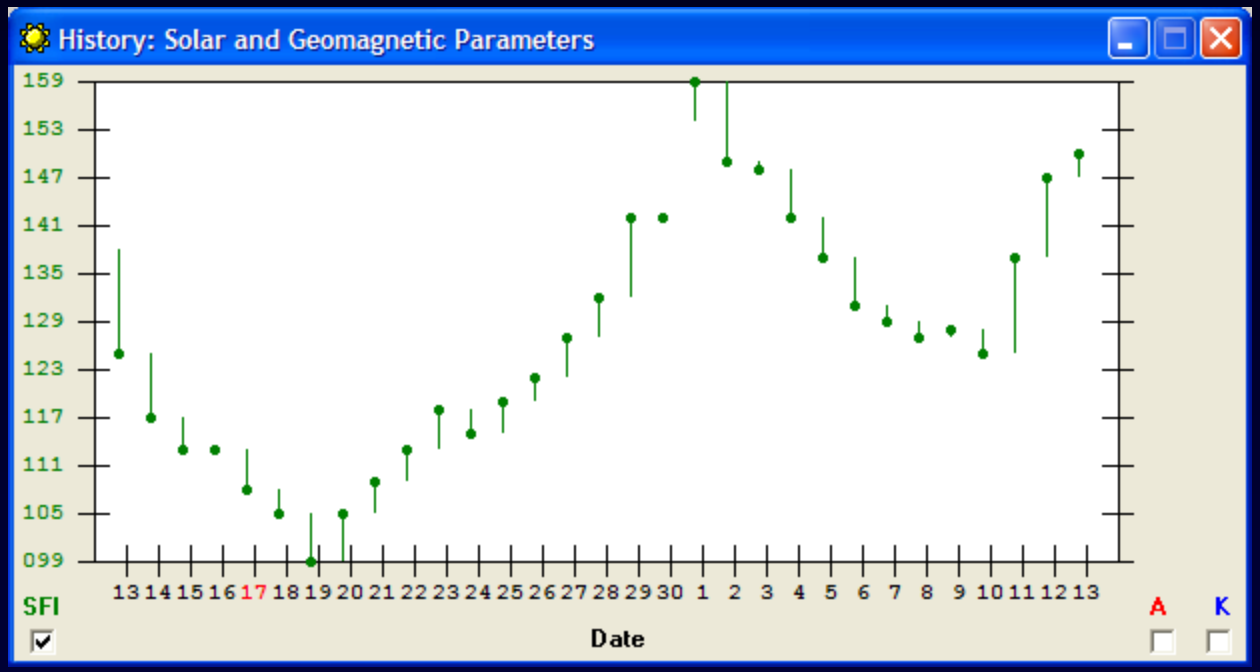
- High-band conditions improving

CX on 6m: the Plan

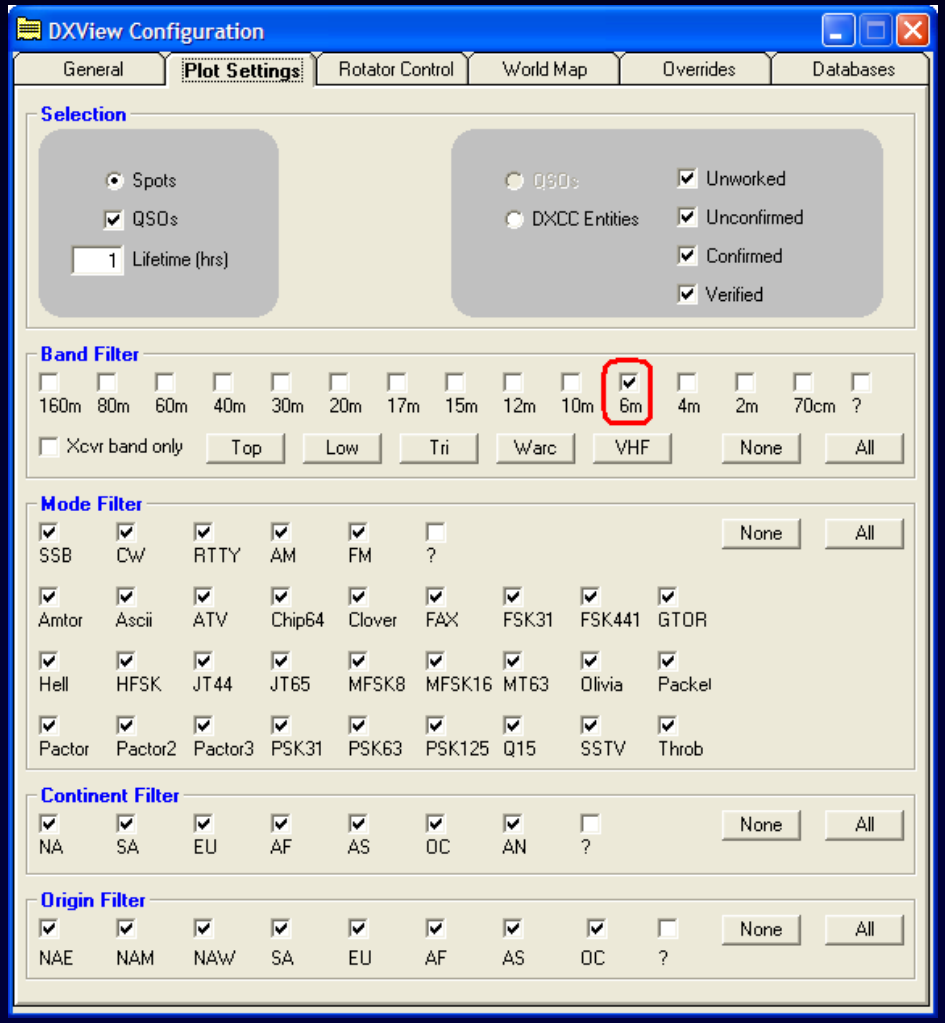
1. Monitor 6m activity on the World Map
2. Listen for CX stations on 6m DX frequencies around 2030Z

Two Days Before Dayton Departure…

SFI Looking Good!

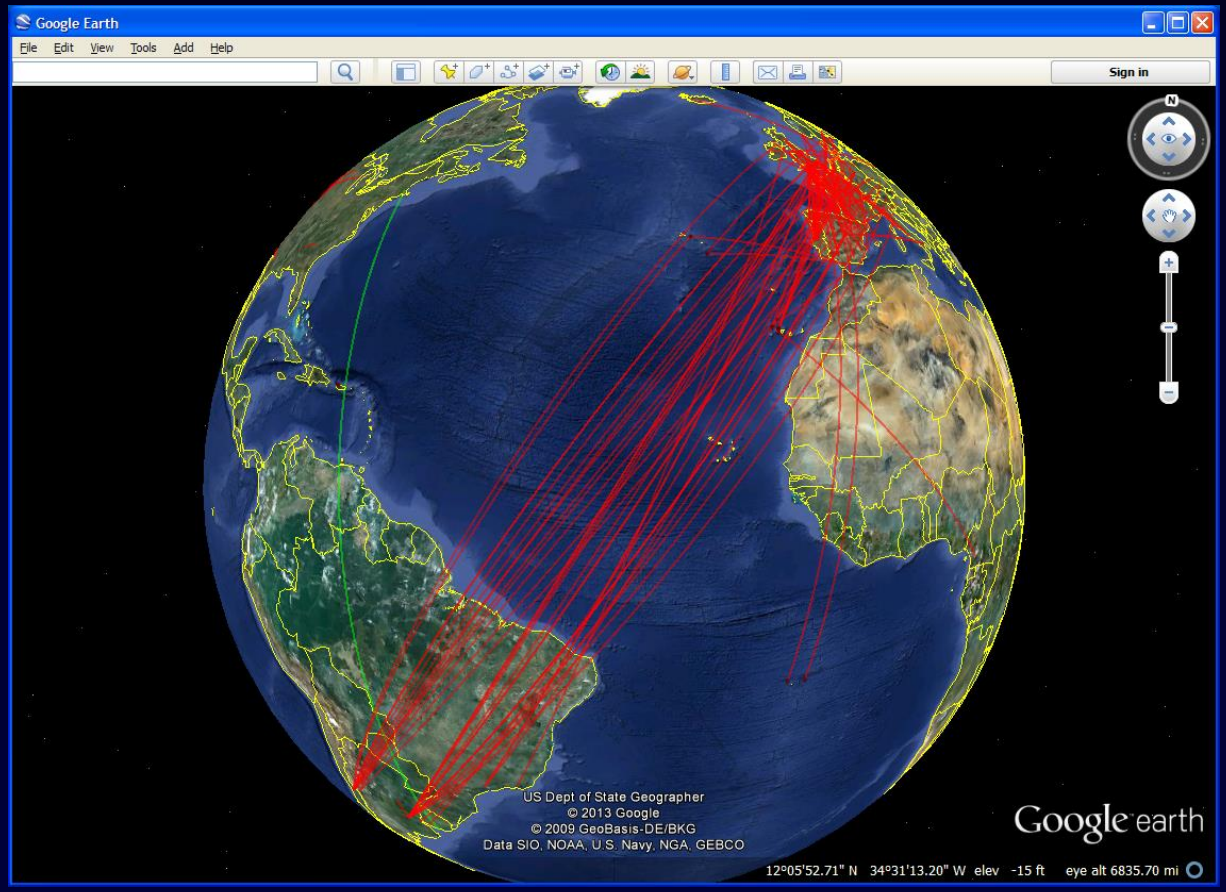


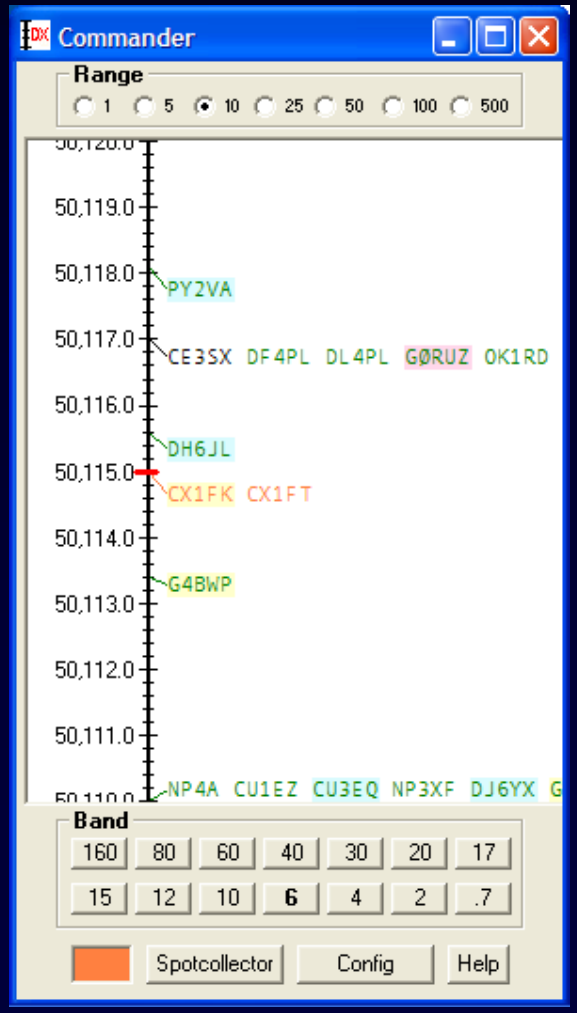
Monitoring 6m



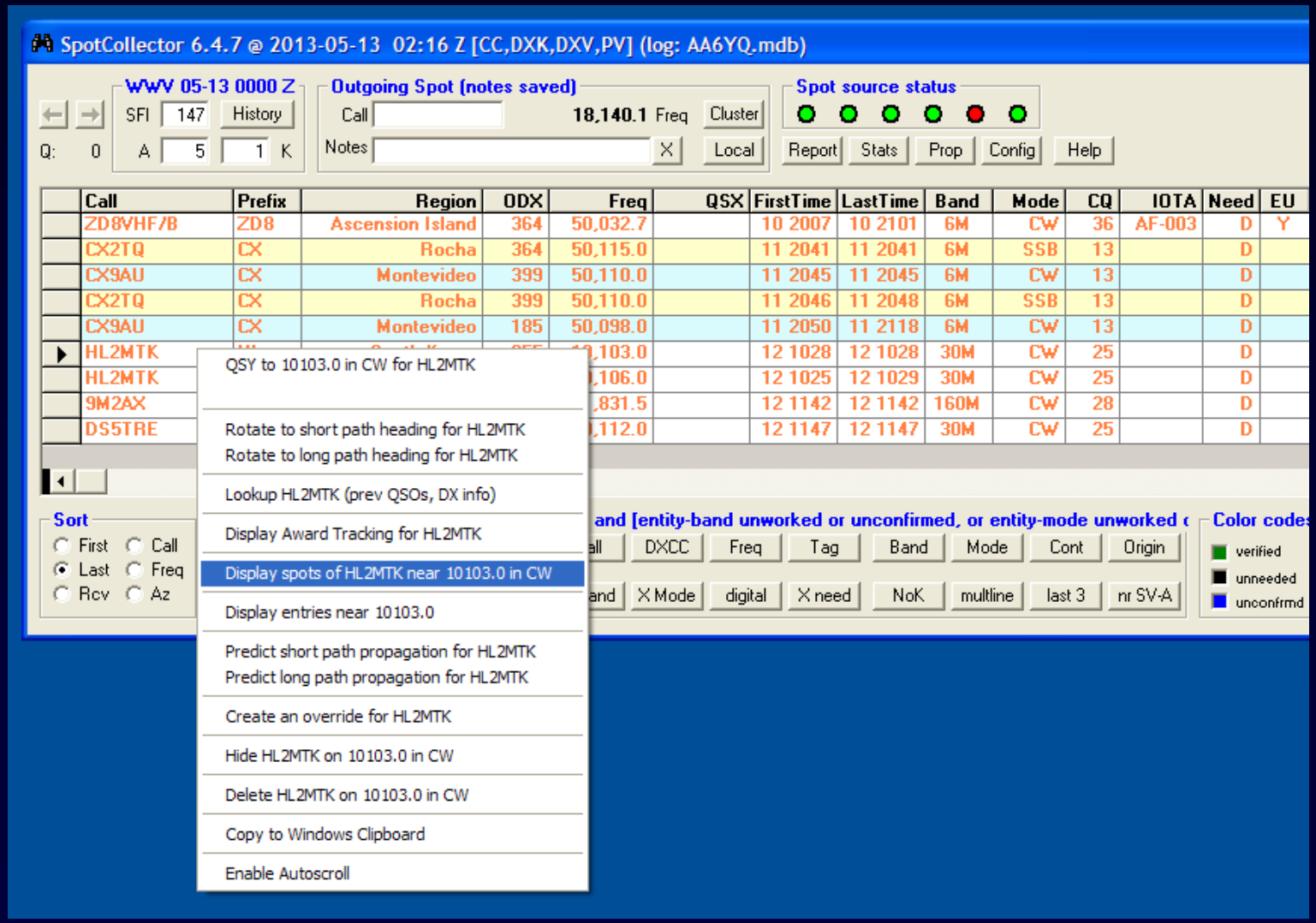
Monitoring 6m

Get ready!

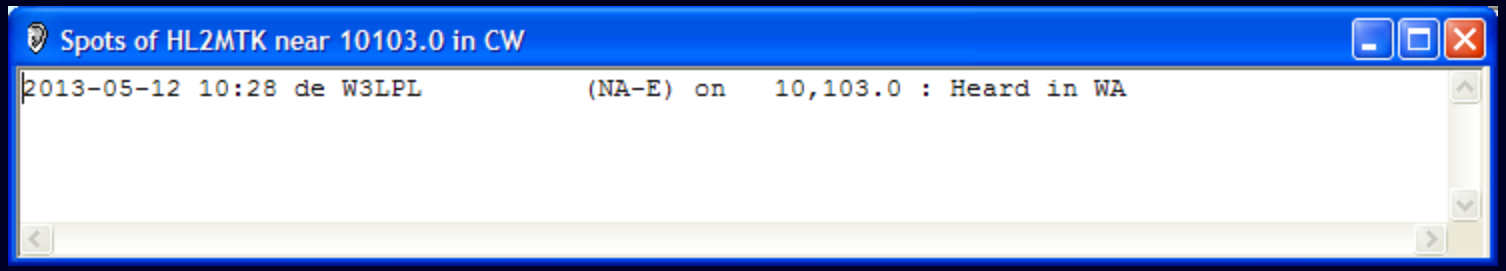


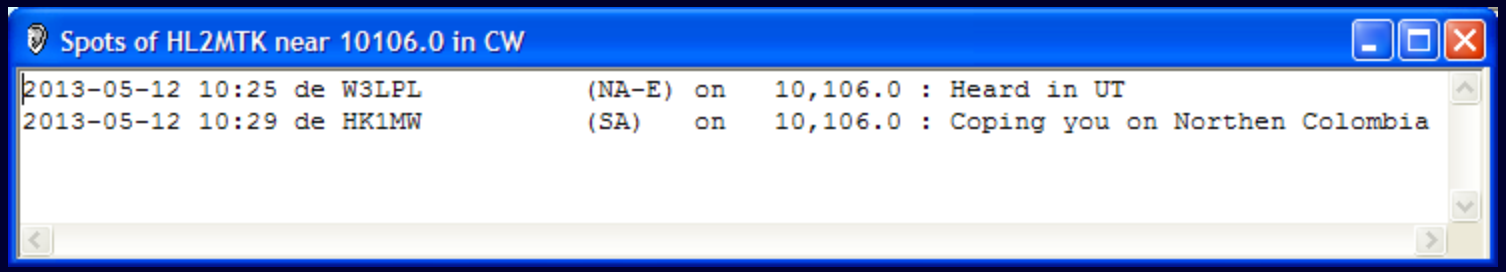


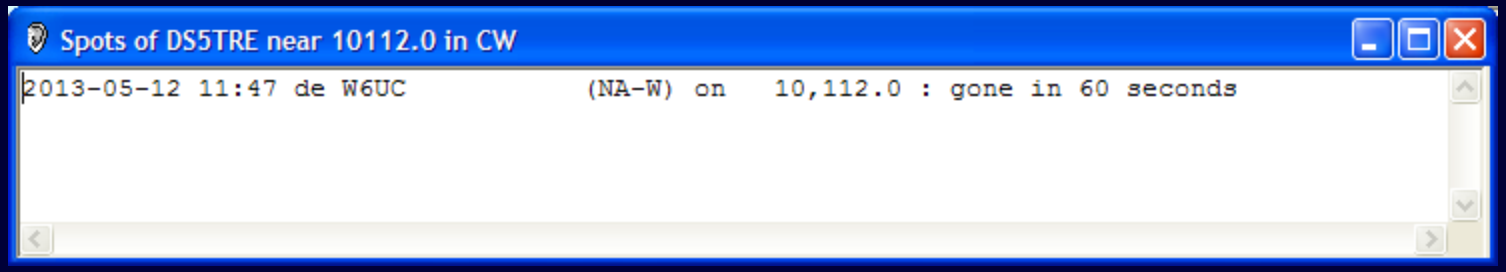
HL on 30m? Check Spots



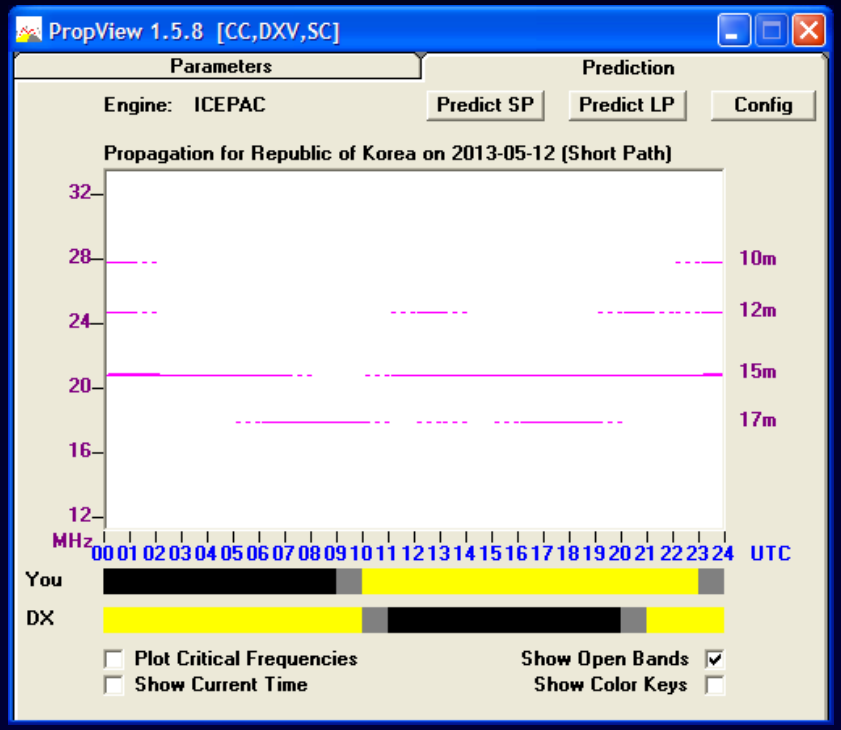
30m HL Spots

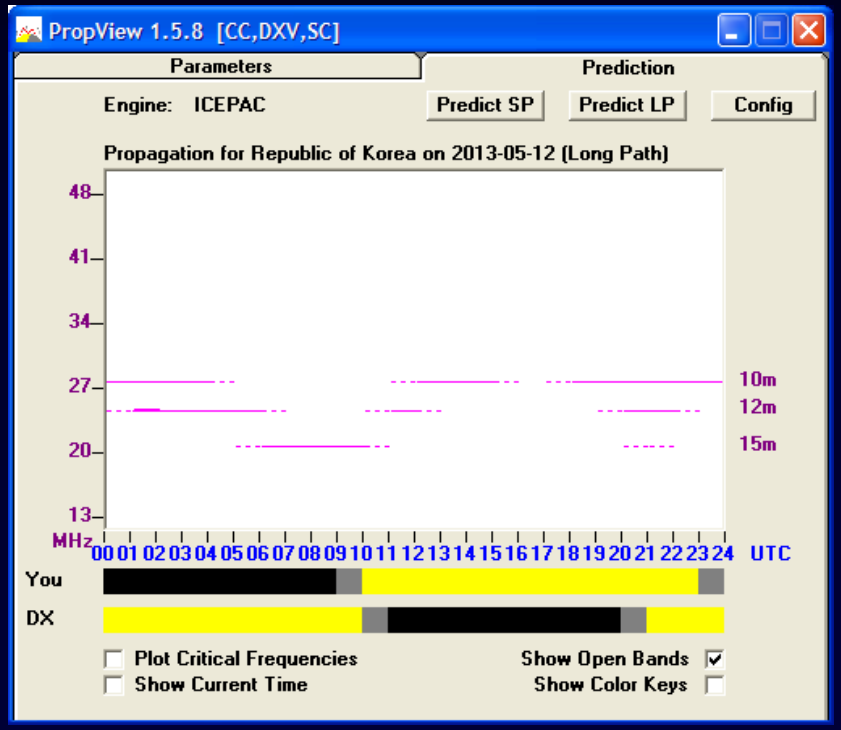

Spots of HL2MTK near 10103.0 in CW
2013-05-12 10:28 de W3LPL (NA-E) on 10,103.0 : Heard in WA


Spots of HL2MTK near 10106.0 in CW
2013-05-12 10:25 de W3LPL (NA-E) on 10,106.0 : Heard in UT
2013-05-12 10:29 de HK1MW (SA) on 10,106.0 : Coping you on Northen Colombia


Spots of DS5TRE near 10112.0 in CW
2013-05-12 11:47 de W6UC (NA-W) on 10,112.0 : gone in 60 seconds

Check Propagation to HL on 30m





No forecast openings

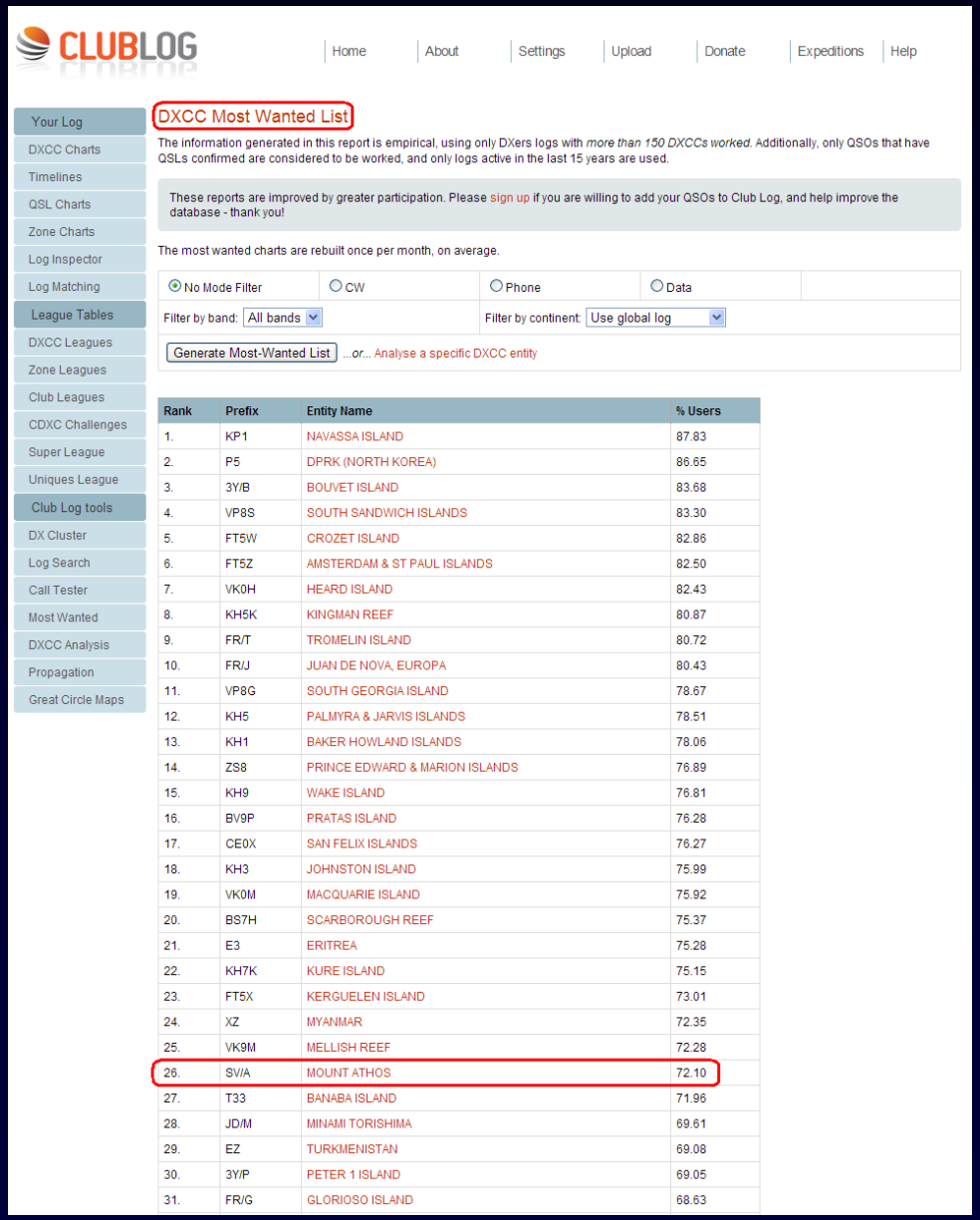
No periods of common darkness

No way!

Finding and Working Needed DX

1. What's been QRV that I need?
2. Working Mount Athos

Working Mount Athos



CLUBLOG

Home | About | Settings | Upload | Donate | Expeditions | Help

Your Log
DXCC Charts
Timelines
QSL Charts
Zone Charts
Log Inspector
Log Matching
League Tables
DXCC Leagues
Zone Leagues
Club Leagues
CDXC Challenges
Super League
Uniques League
Club Log tools
DX Cluster
Log Search
Call Tester
Most Wanted
DXCC Analysis
Propagation
Great Circle Maps

DXCC Most Wanted List

The information generated in this report is empirical, using only DXers logs with *more than 150 DXCCs worked*. Additionally, only QSOs that have QSLs confirmed are considered to be worked, and only logs active in the last 15 years are used.

These reports are improved by greater participation. Please sign up if you are willing to add your QSOs to Club Log, and help improve the database - thank you!

The most wanted charts are rebuilt once per month, on average.

No Mode Filter | CW | Phone | Data

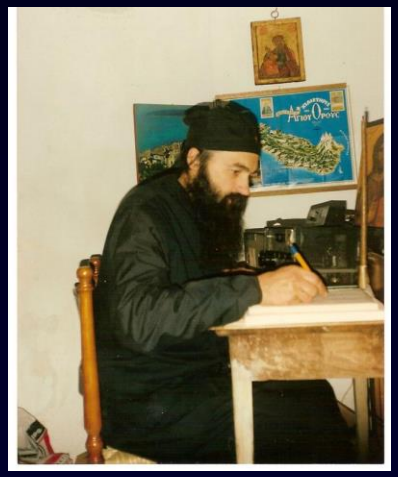
Filter by band: All bands

Filter by continent: Use global log

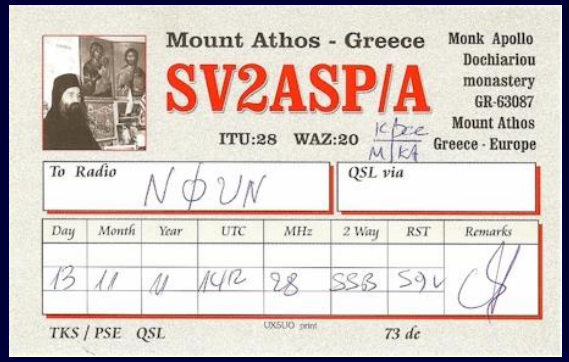
Generate Most-Wanted List ...or... Analyse a specific DXCC entity

Rank	Prefix	Entity Name	% Users
1.	KP1	NAVASSA ISLAND	87.83
2.	P5	DPRK (NORTH KOREA)	86.65
3.	3Y/B	BOUVET ISLAND	83.68
4.	VP8S	SOUTH SANDWICH ISLANDS	83.30
5.	FT5W	CROZET ISLAND	82.86
6.	FT5Z	AMSTERDAM & ST PAUL ISLANDS	82.50
7.	VK0H	HEARD ISLAND	82.43
8.	KH5K	KINGMAN REEF	80.87
9.	FR/T	TROMELIN ISLAND	80.72
10.	FR/J	JUAN DE NOVA, EUROPA	80.43
11.	VP8G	SOUTH GEORGIA ISLAND	78.67
12.	KH5	PALMYRA & JARVIS ISLANDS	78.51
13.	KH1	BAKER HOWLAND ISLANDS	78.06
14.	ZS8	PRINCE EDWARD & MARION ISLANDS	76.89
15.	KH9	WAKE ISLAND	76.81
16.	BV9P	PRATAS ISLAND	76.28
17.	CE0X	SAN FELIX ISLANDS	76.27
18.	KH3	JOHNSTON ISLAND	75.99
19.	VK0M	MACQUARIE ISLAND	75.92
20.	BS7H	SCARBOROUGH REEF	75.37
21.	E3	ERITREA	75.28
22.	KH7K	KURE ISLAND	75.15
23.	FT5X	KERGUELEN ISLAND	73.01
24.	XZ	MYANMAR	72.35
25.	VK9M	MELLISH REEF	72.28
26.	SV/A	MOUNT ATHOS	72.10
27.	T33	BANABA ISLAND	71.96
28.	JD/M	MINAMI TORISHIMA	69.61
29.	EZ	TURKMENISTAN	69.08
30.	3Y/P	PETER 1 ISLAND	69.05
31.	FR/G	GLORIOSO ISLAND	68.63

Working Mount Athos

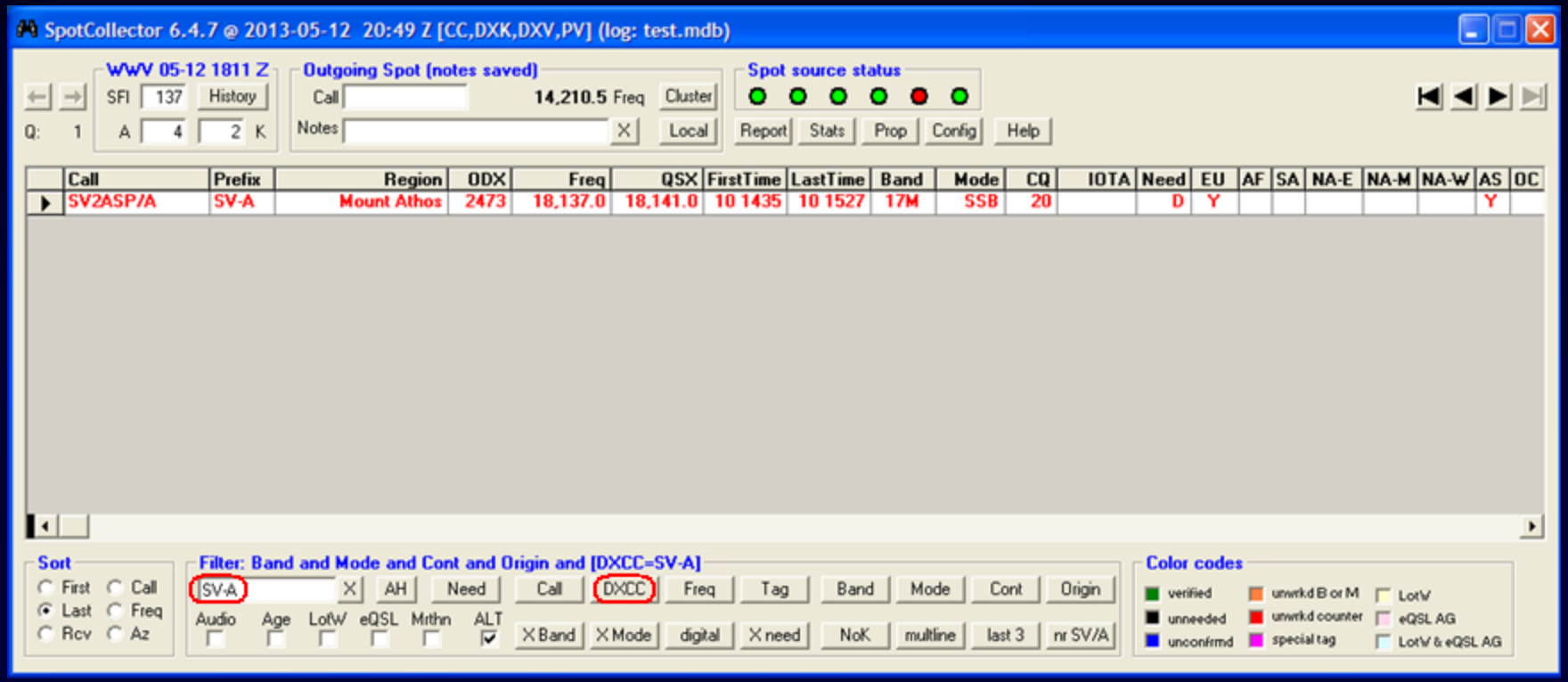


- Monk Apollo, SV2ASP/A
- resident of the Monastery of Docheiariou, with a heavy workload
- works all HF bands in SSB, RTTY, PACTOR, AMTOR, and CW
  - uses a 3-element SteppIR antenna
  - employs 200 hz shift in RTTY



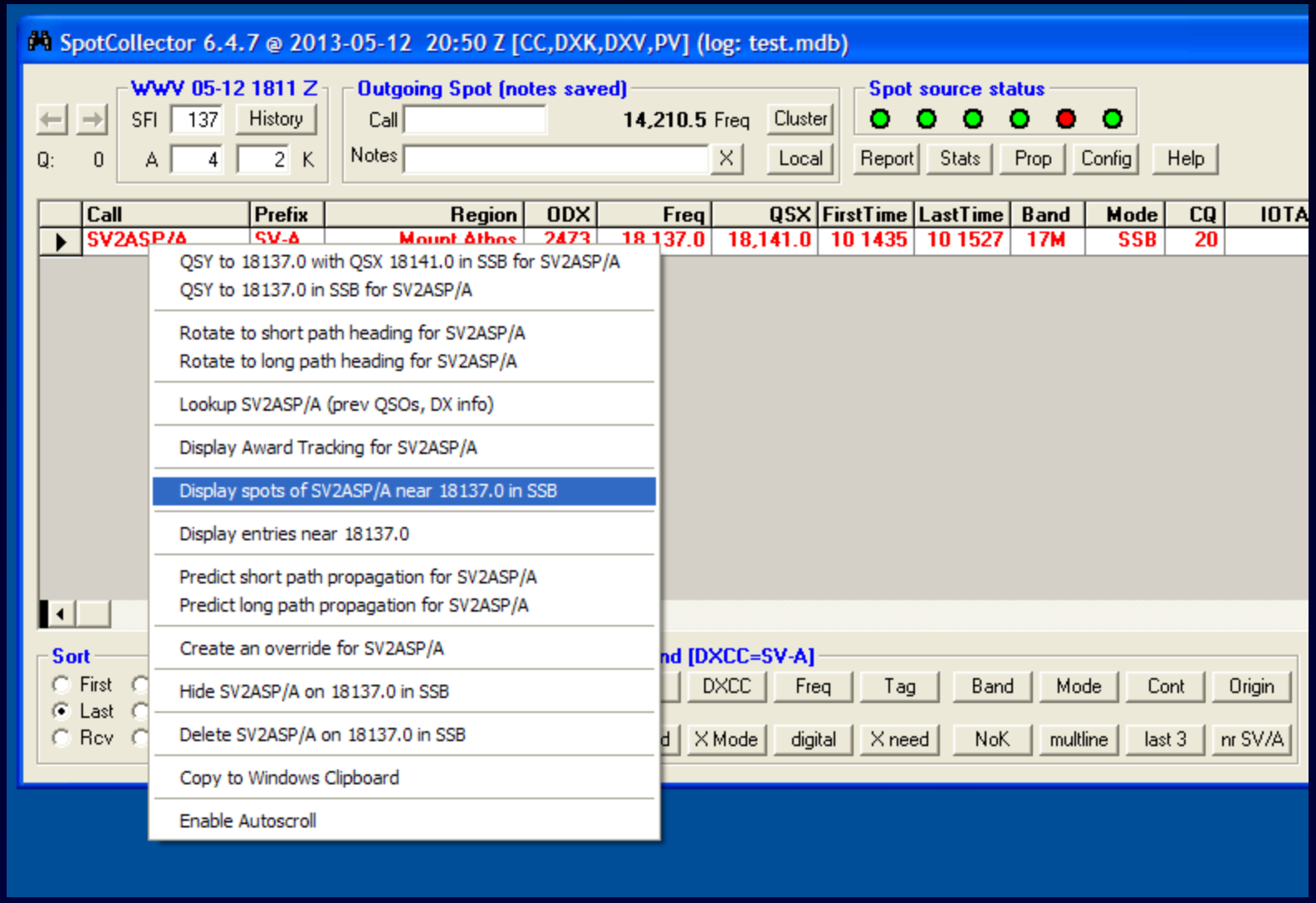
After a 39-year chase !

Look for Recent Activity

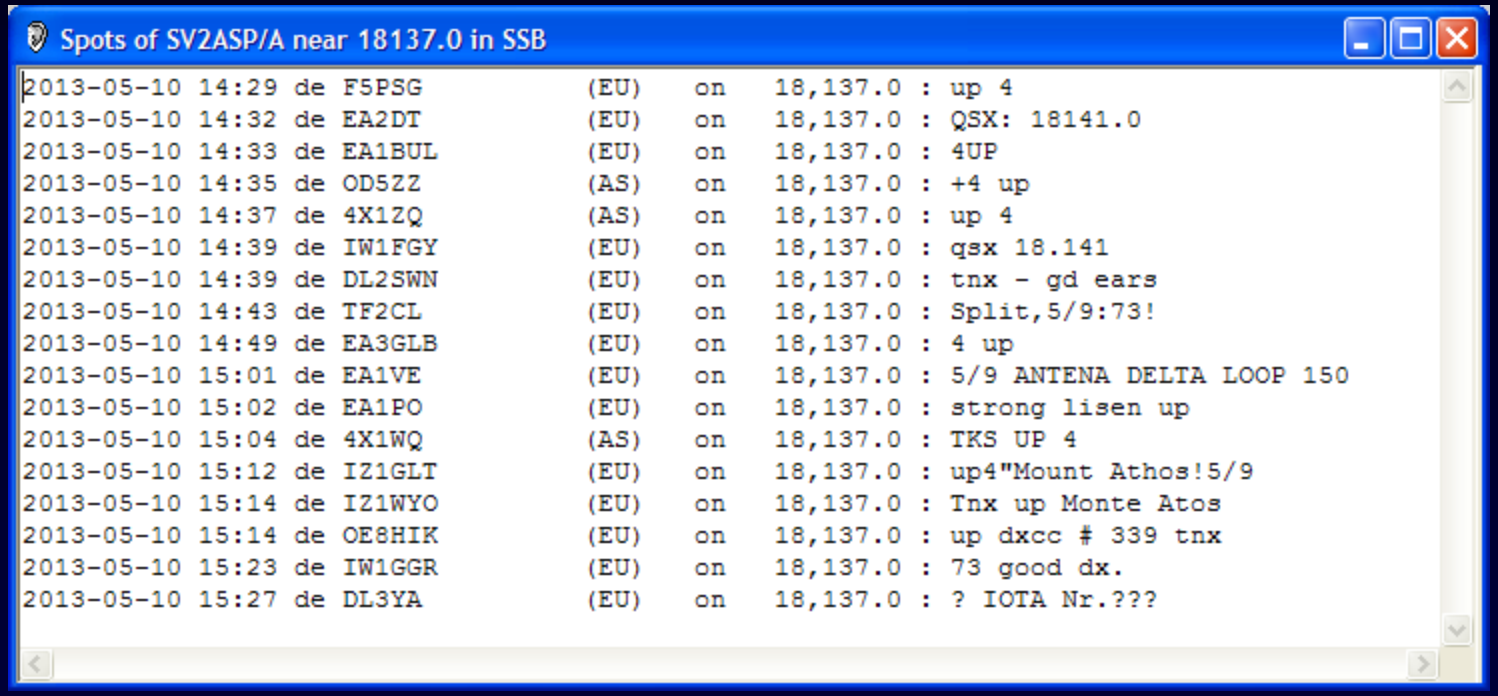


- QRV for an hour on 17 SSB
- Working split
- Spotted from EU and AS

Check Spots

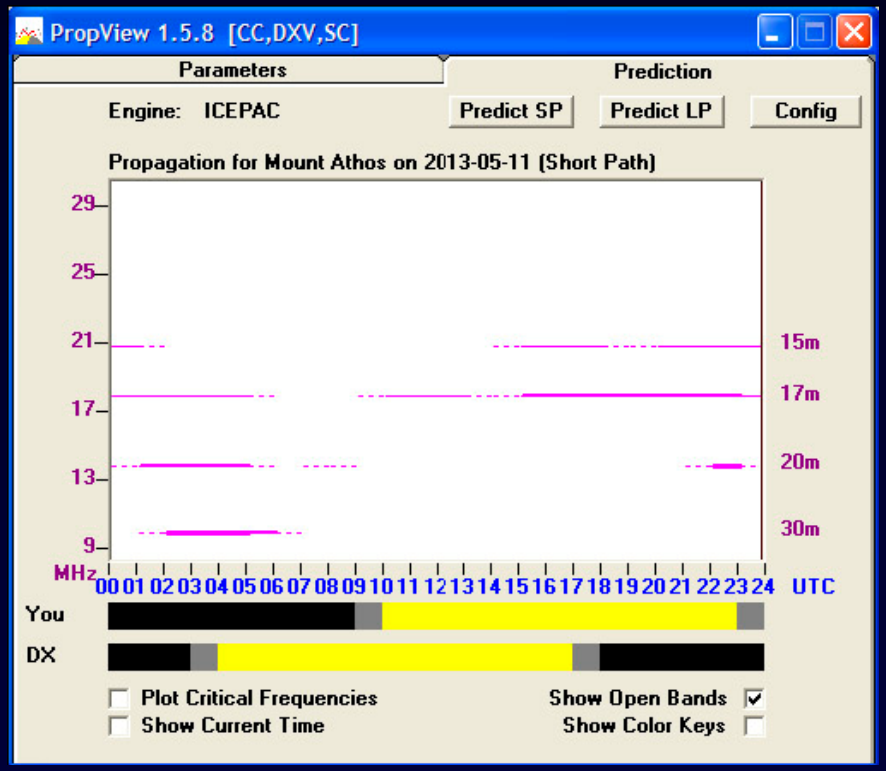

SpotCollector 6.4.7 @ 2013-05-12 20:50 Z [CC,DXK,DXV,PV] (log: test.mdb)
WWV 05-12 1811 Z
SFI 137
History
Q: 0
A 4
2 K
Outgoing Spot (notes saved)
Call
14,210.5 Freq
Cluster
Notes
X
Local
Spot source status
Report
Stats
Prop
Config
Help
Call
Prefix
Region
QSX
FirstTime
LastTime
Band
Mode
CQ
IOTA
SV2ASP/A
SV-A
Mount Athos
2473
18,137.0
18,141.0
10 1435
10 1527
17M
SSB
20
QSY to 18137.0 with QSX 18141.0 in SSB for SV2ASP/A
QSY to 18137.0 in SSB for SV2ASP/A
Rotate to short path heading for SV2ASP/A
Rotate to long path heading for SV2ASP/A
Lookup SV2ASP/A (prev QSOs, DX info)
Display Award Tracking for SV2ASP/A
Display spots of SV2ASP/A near 18137.0 in SSB
Display entries near 18137.0
Predict short path propagation for SV2ASP/A
Predict long path propagation for SV2ASP/A
Create an override for SV2ASP/A
Hide SV2ASP/A on 18137.0 in SSB
Delete SV2ASP/A on 18137.0 in SSB
Copy to Windows Clipboard
Enable Autoscroll
Sort
First
Last
Rcv
nd [DXCC=SV-A]
DXCC
Freq
Tag
Band
Mode
Cont
Origin
X Mode
digital
X need
NoK
multline
last 3
nr SV/A

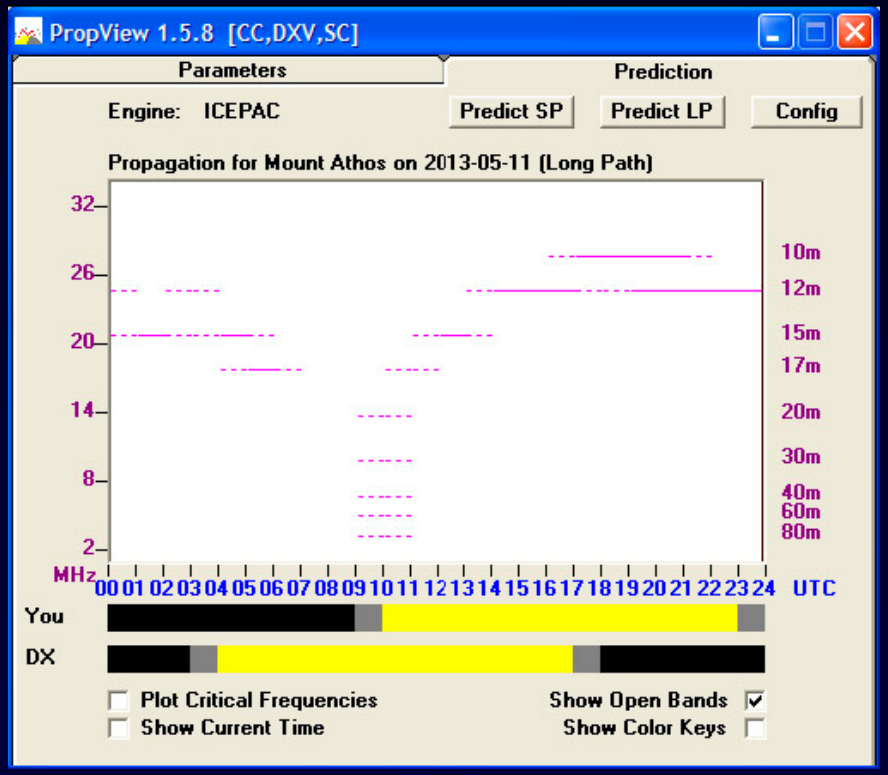
Check Spots



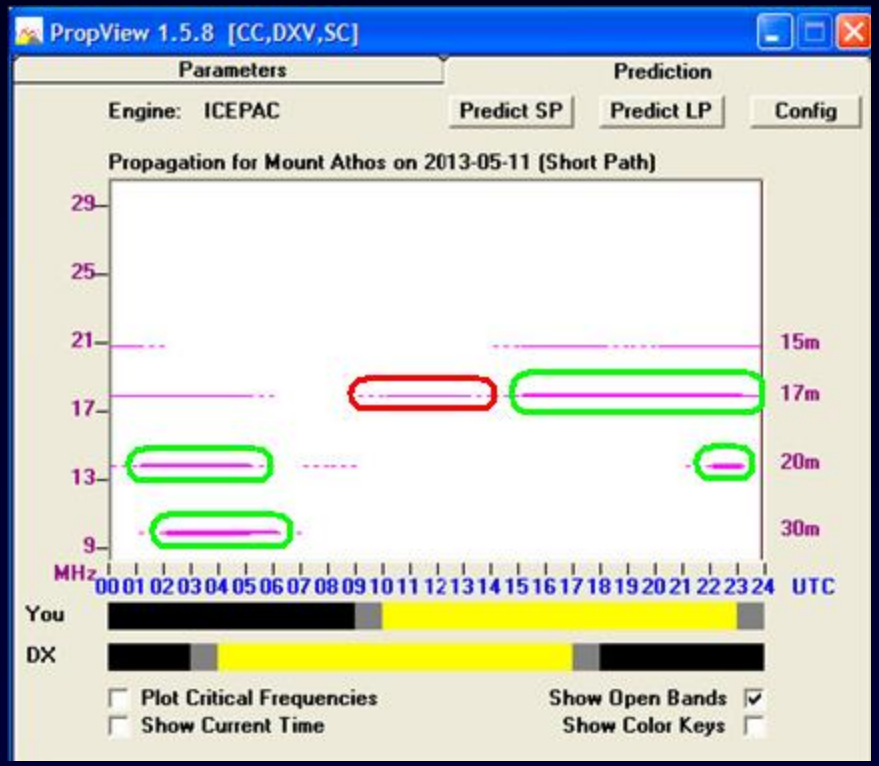
- Consistently “up 4”? slugfest
- EU spotters in DL, EA, F, I, OE, TF
- AS spotters in 4X and OD

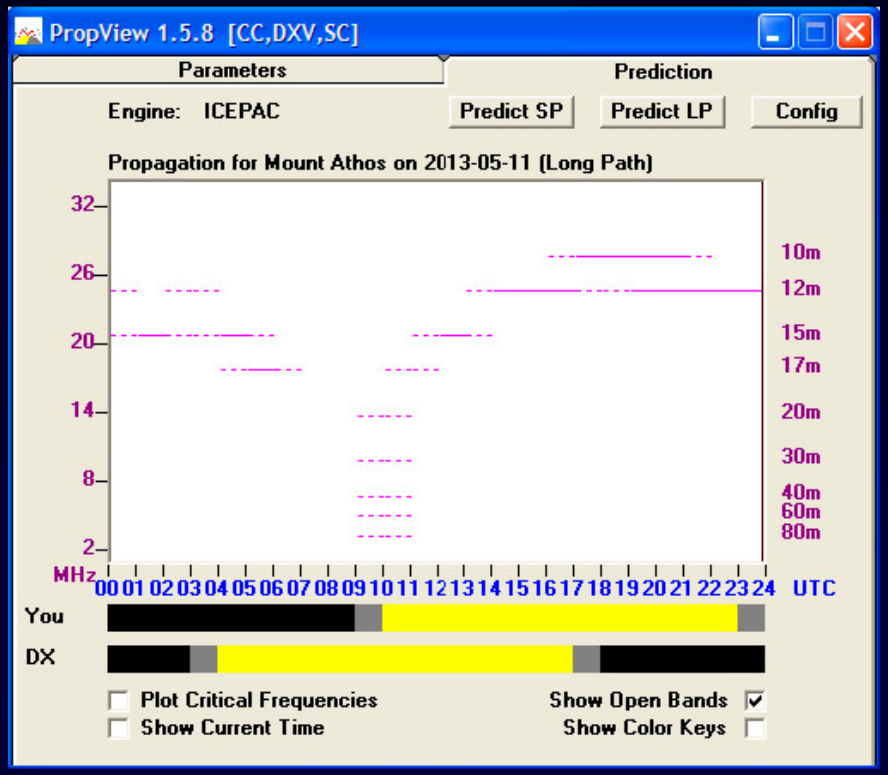
Forecast Short- & Long-path Propagation





Forecast Short- & Long-path Propagation

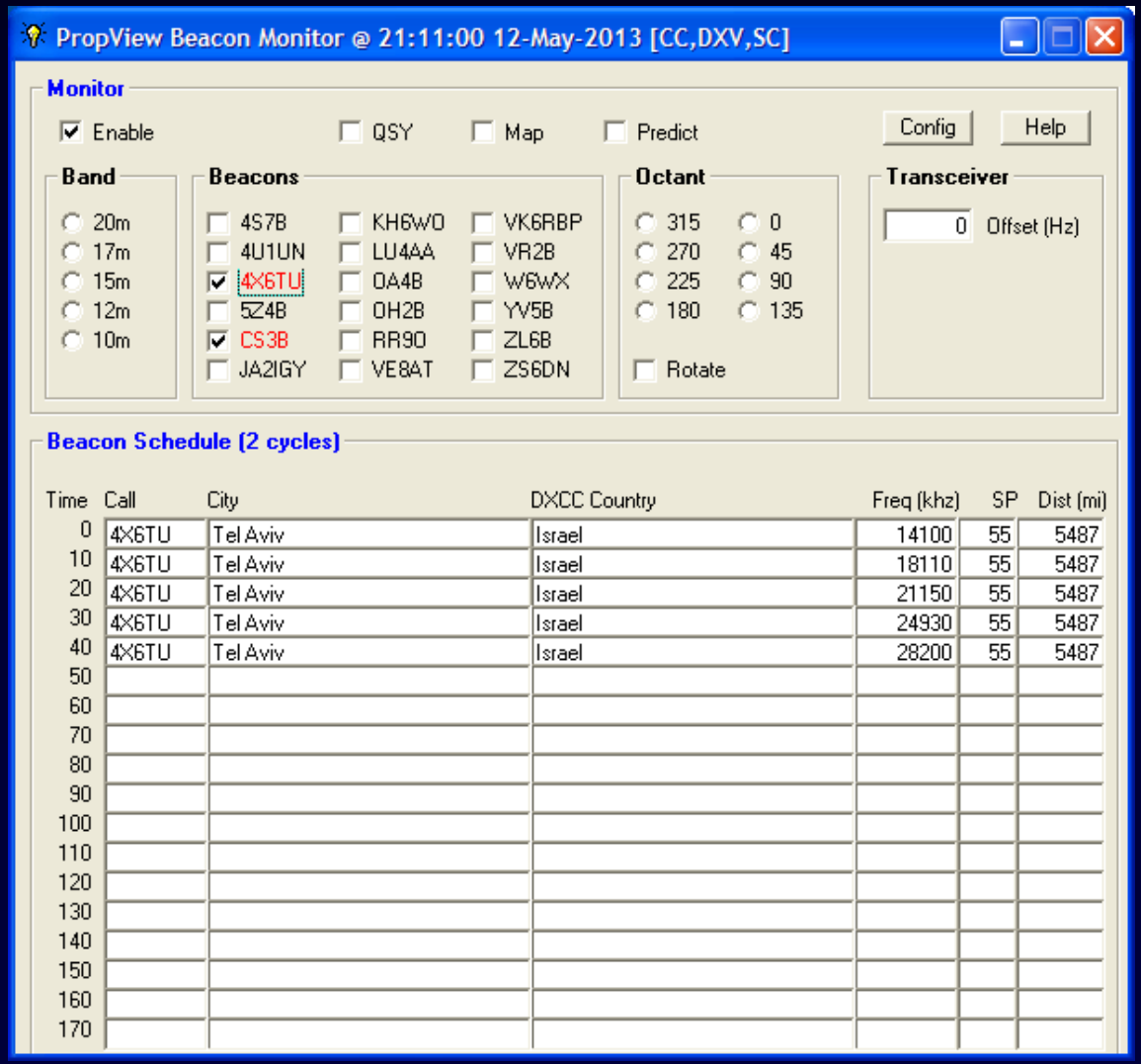




- 17m @ 14Z opening looks thin
- Stronger openings
  - 17m after 15Z
  - 20m, 30m

Check “Actual” Propagation

No NCDXF Beacons are Close to SV-A

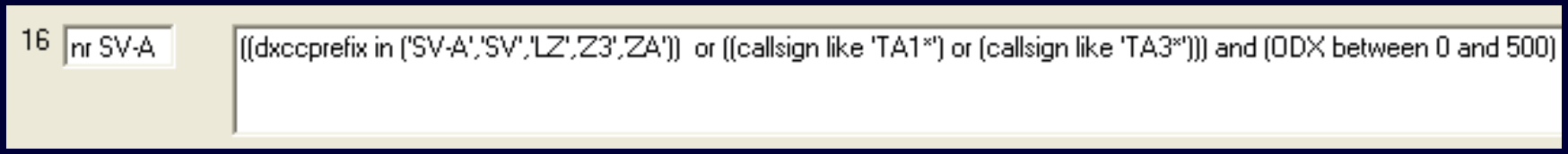


Check “Actual” Propagation

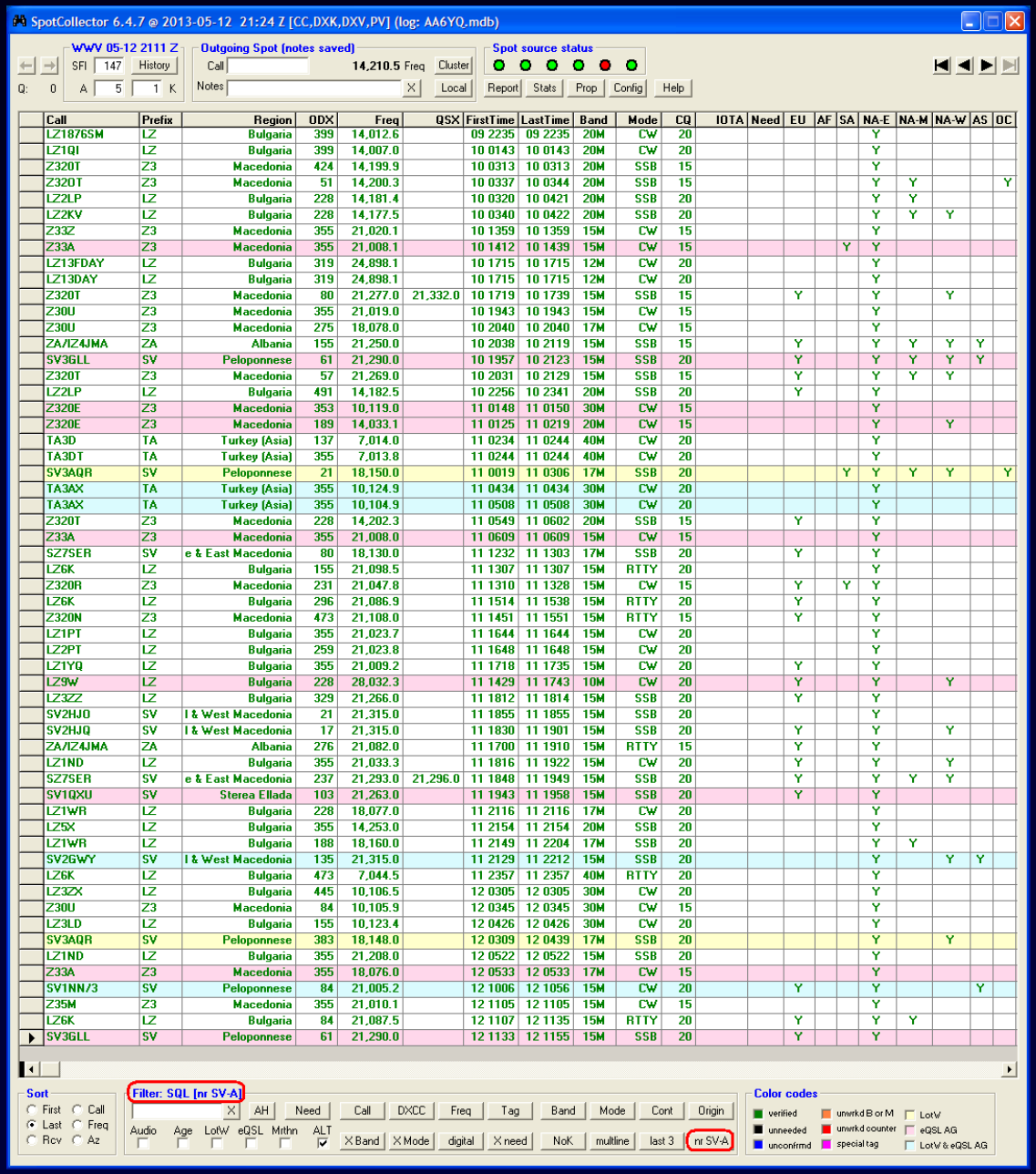
Who Near Me has been Spotting Stations Near SV-A?

Define a “near SV-A” filter to Show Stations

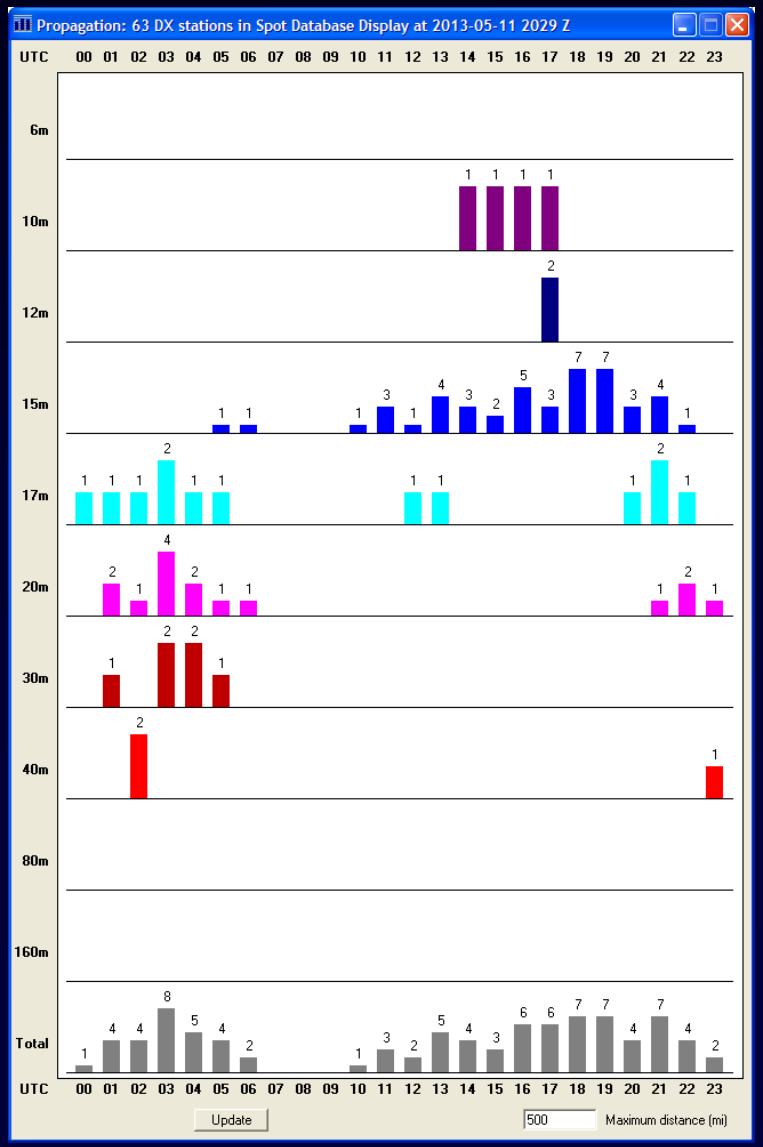
- in SV-A, SV, LZ, Z3, ZA, TA1, or TA3
- spotted by stations less than 500 miles from my QTH



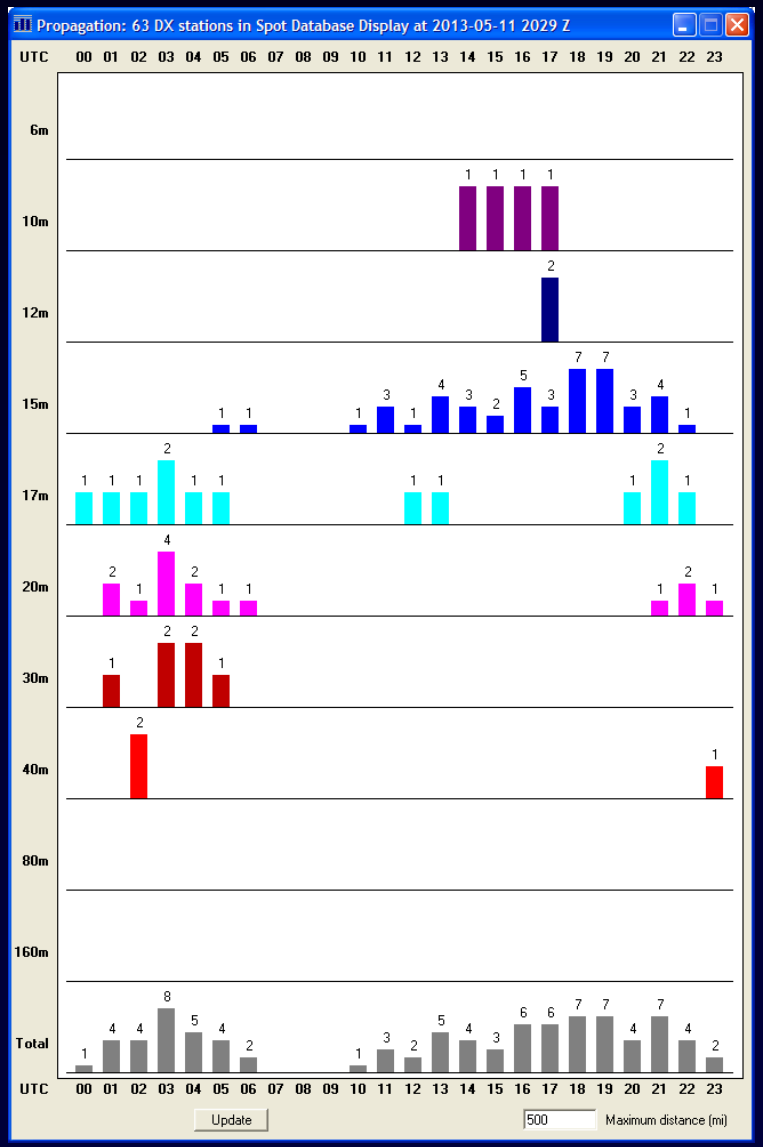
Propagation from “Near Me” to “Near SV-A”

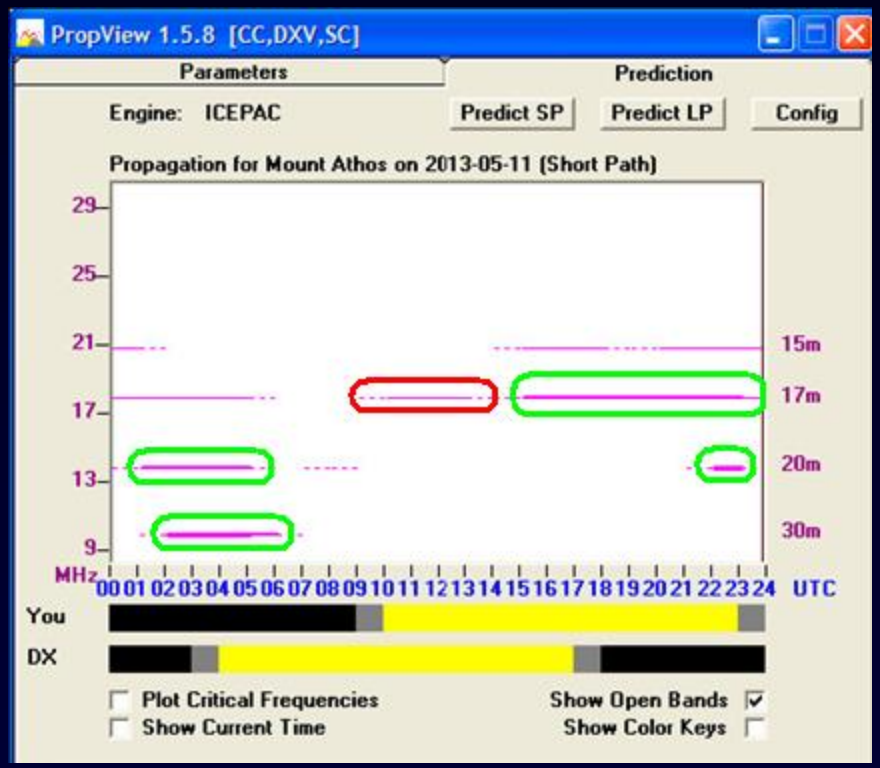


Actual Propagation by Band & Time-of-Day



Compare Actual & Forecast Propagation





- 15m opening is stronger than forecast
- 17m can open as early as 12Z
- 20m is open when predicted
- 10m and 12m could support a QSO

SV2ASP/A: the Plan

1. Watch 18120 – 18150 daily at 1400Z with antenna on SV-A
   - “Blueprint” the band with local spots
2. Employ a European DX Cluster as a Spot Source
3. Rapidly QSY when SV2ASP/A is spotted
   - Enable audio announcements
   - Double-click to QSY and set split
   - Amplifier and/or Tuner settings
4. Use dual receivers and a panadaptor to rapidly locate Monk Apollo’s listening frequency

Insert an Entry in the Spot Database

DX Spot Sources

Active DX Database

LotW Database

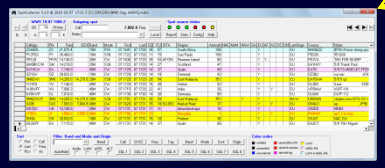
eQSL AG Database

View Generator

Log Database

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

Logged QSOs

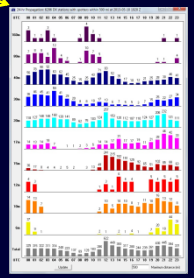


Tabular Display

Audio & Email

World Map

Bandspread



Propagation

Insert an Entry in the Spot Database

DX Spot Sources

Active DX Database

"Local Spot"

LotW Database

eQSL AG Database

View Generator

Log Database

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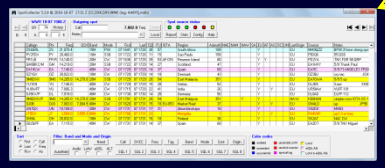

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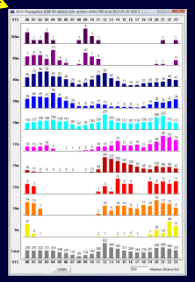
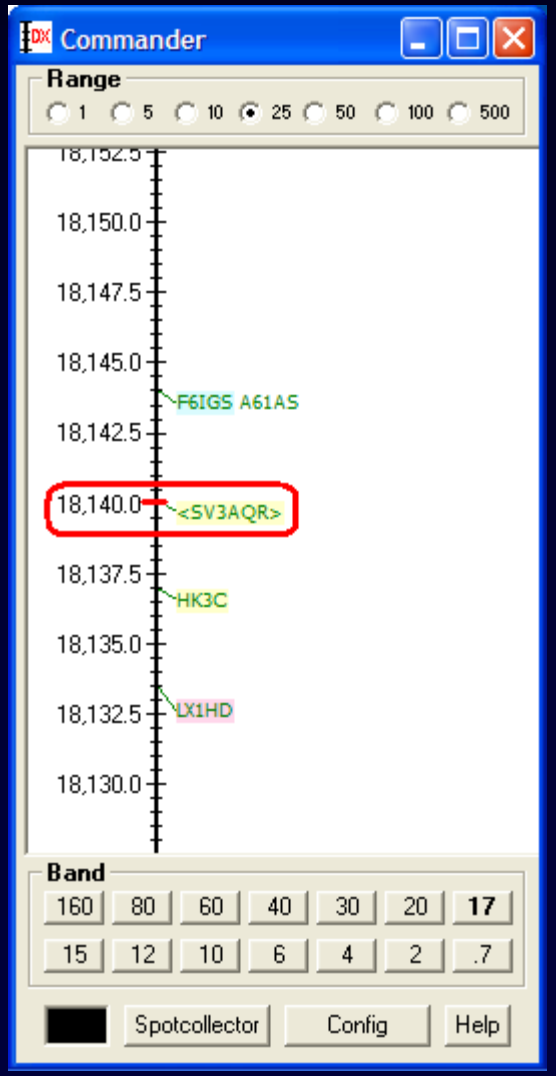


Propagation

Blueprinting the Band

"Locally Spot" Every Station You Identify



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Employ a European DX Cluster

DX Spot Sources

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LotW Database

eQSL AG Database

View Generator

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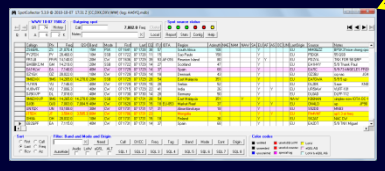
Logged QSOs

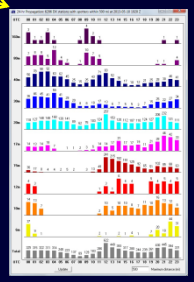


Tabular Display

Audio & Email

World Map

Bandspread



Propagation

Employ a European DX Cluster

DX Spot Sources

EU

Active DX Database

LotW Database

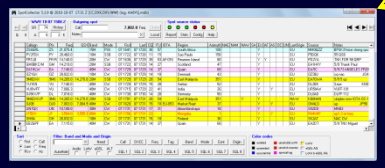
eQSL AG Database

View Generator

Log Database

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

Logged QSOs

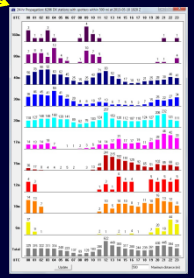


Tabular Display

Audio & Email

World Map

Bandspread



Propagation

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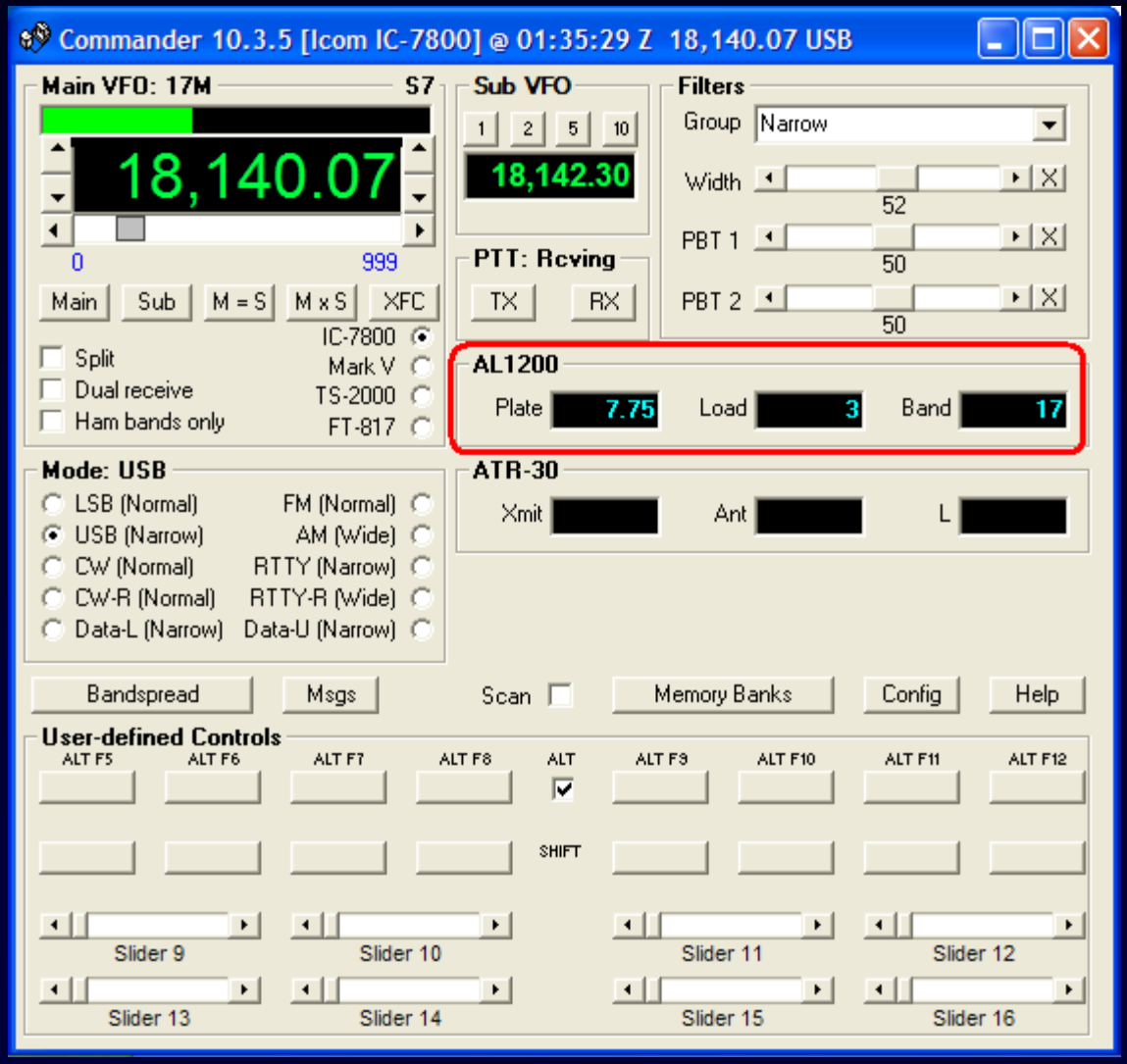
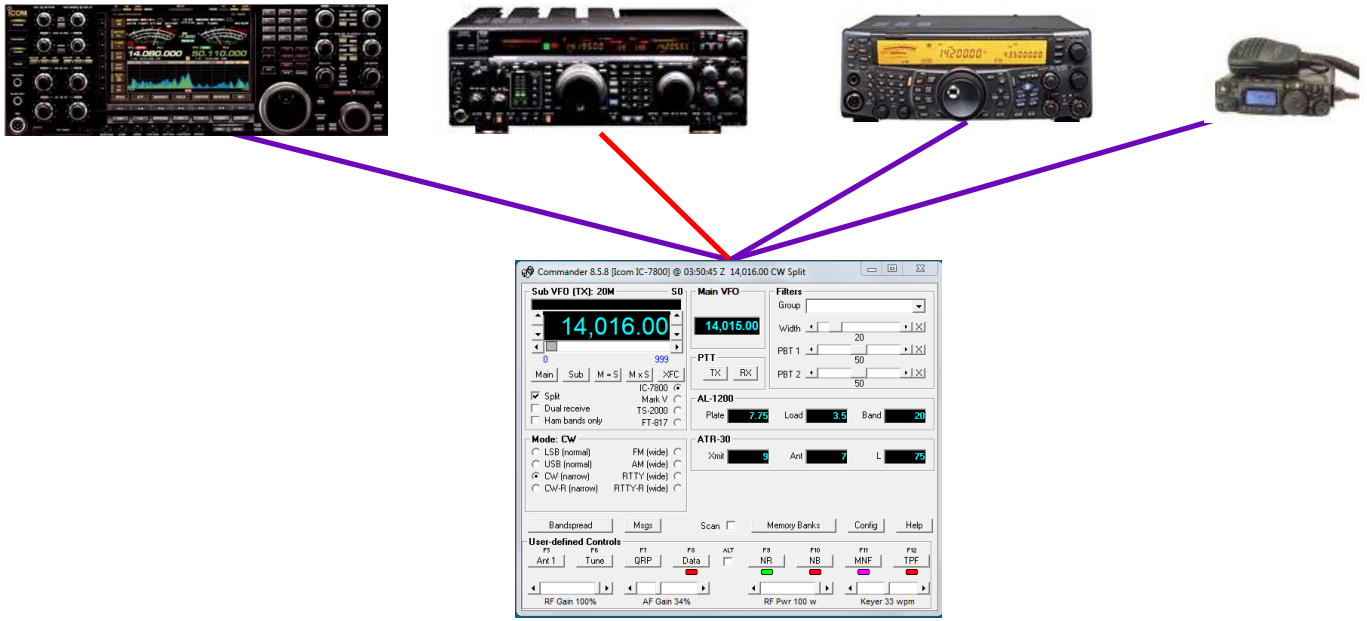

Commander 10.3.5 [Icom IC-7800] @ 01:35:29 Z 18,140.07 USB
Main VFO: 17M
S7
18,140.07
0
999
Main
Sub
M = S
M x S
XFC
Split
Dual receive
Ham bands only
IC-7800
Mark V
TS-2000
FT-817
Sub VFO
1
2
5
10
18,142.30
PTT: Rcving
TX
RX
Filters
Group
Narrow
Width
52
PBT 1
50
PBT 2
50
AL1200
Plate
7.75
Load
3
Band
17
ATR-30
Xmit
Ant
L
Mode: USB
LSB (Normal)
USB (Narrow)
CW (Normal)
CW-R (Normal)
Data-L (Narrow)
FM (Normal)
AM (Wide)
RTTY (Narrow)
RTTY-R (Wide)
Data-U (Narrow)
Bandspread
Msgs
Scan
Memory Banks
Config
Help
User-defined Controls
ALT F5
ALT F6
ALT F7
ALT F8
ALT
ALT F9
ALT F10
ALT F11
ALT F12
SHIFT
Slider 9
Slider 10
Slider 11
Slider 12
Slider 13
Slider 14
Slider 15
Slider 16

SV2ASP/A: the Plan

1. Watch 18120 – 18150 daily at 1400Z with antenna on SV-A
   - “Blueprint” the band with local spots
2. Employ a European DX Cluster as a Spot Source
3. Rapidly QSY when SV2ASP/A is spotted
   - Enable audio announcements
   - Double-click to QSY and set split
   - Amplifier and/or Tuner settings
4. Use dual receivers and a panadapter to rapidly locate Monk Apollo’s listening frequency

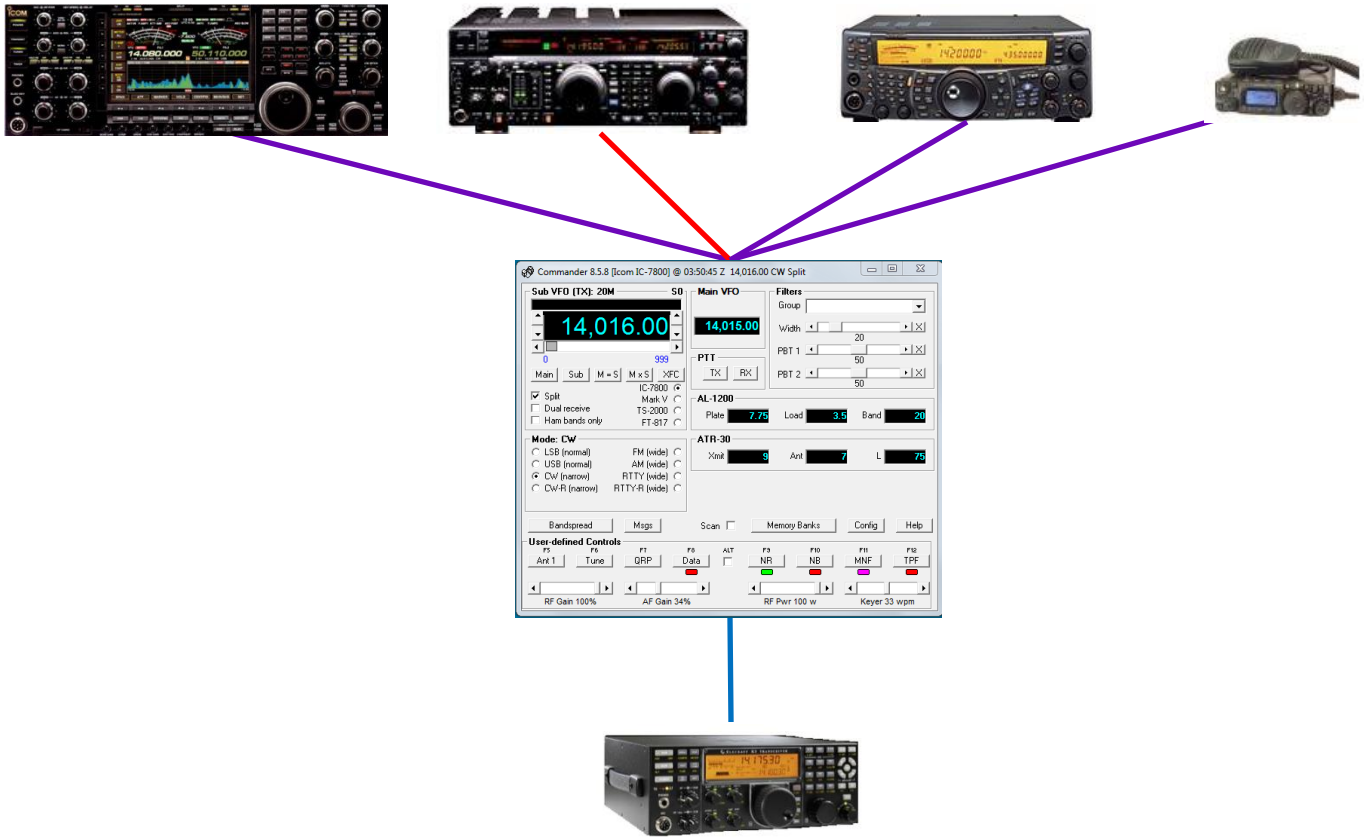
Commander: Multiple Radio Support



Select one of four *primary* radios

- By button click
- Automatically as a function of frequency

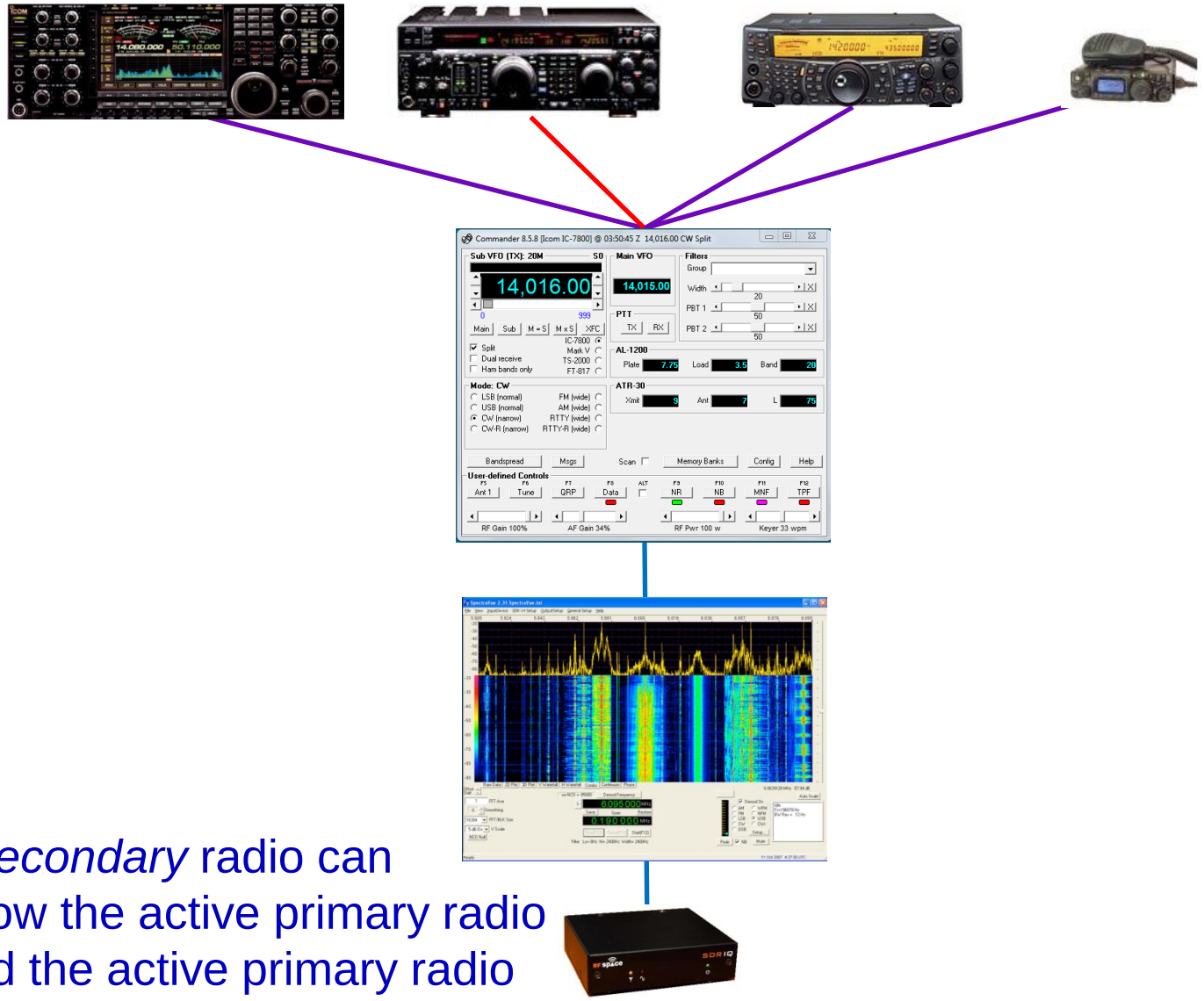
Commander: Multiple Radio Support



The *Secondary* radio can

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

Commander: Multiple Radio Support



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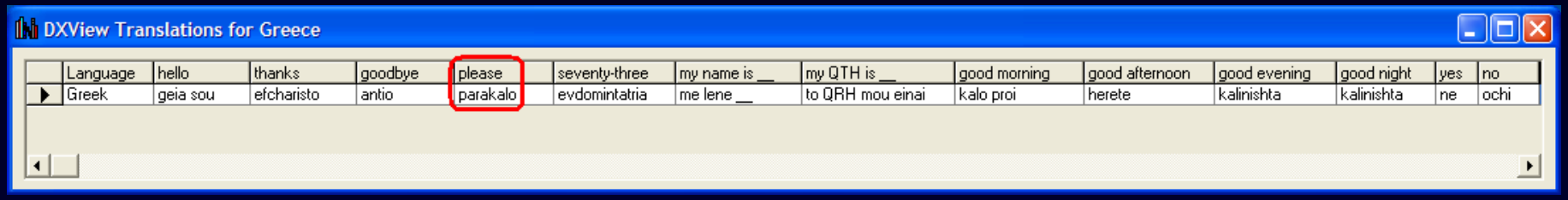
SV2ASP/A: the Plan

One More Thing…

SV2ASP/A: the Plan

One More Thing…



Language	hello	thanks	goodbye	please	seventy-three	my name is __	my QTH is __	good morning	good afternoon	good evening	good night	yes	no
Greek	geia sou	efcharisto	antio	parakalo	evdomintatria	me lene __	to QRH mou einai	kalo proi	herete	kalinishta	kalinishta	ne	ochi

In a phone pileup, call

AA6YQ parakalo

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  - Development Drivers
  - Multiple Views of Active DX
- Finding the DX You Need
- Working the DX You Need

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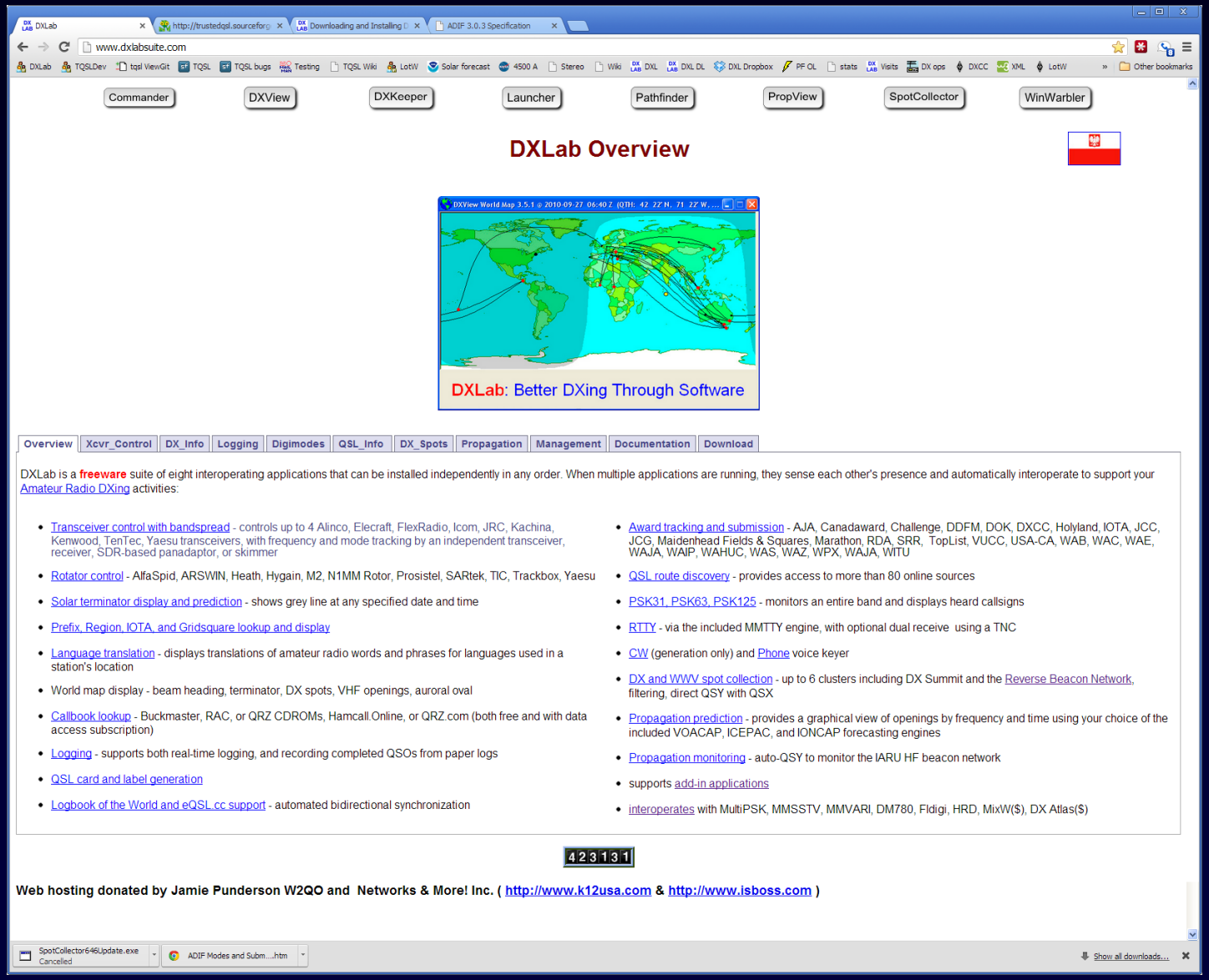

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