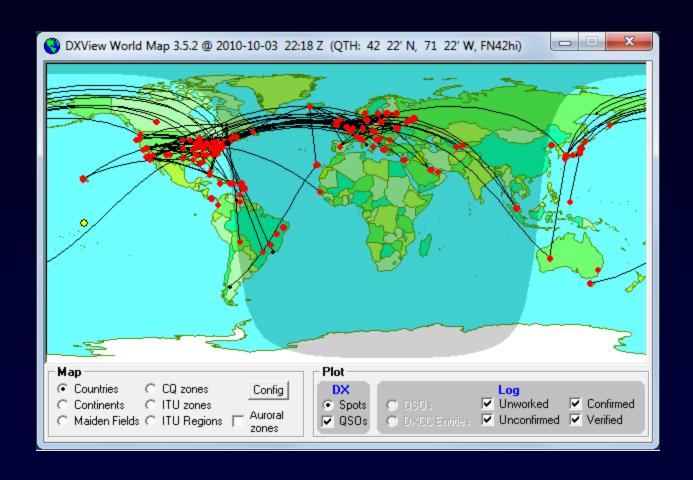
# **DXing with DXLab**



### Better DXing Through Software

### **DXing**

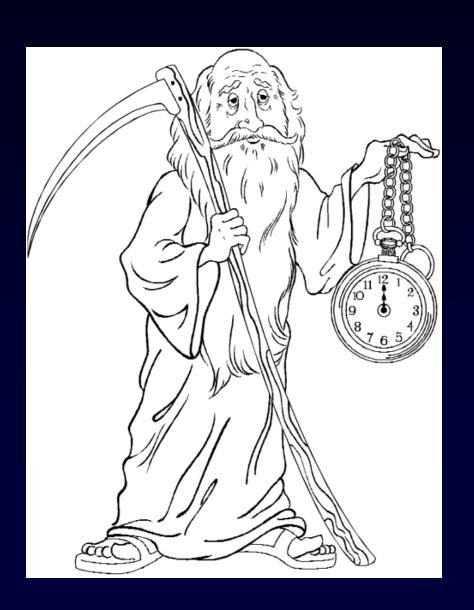
The art and science
of making two-way contacts
with distant amateur radio stations
using phone, CW, or digital modes

### "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

### "Paperwork"

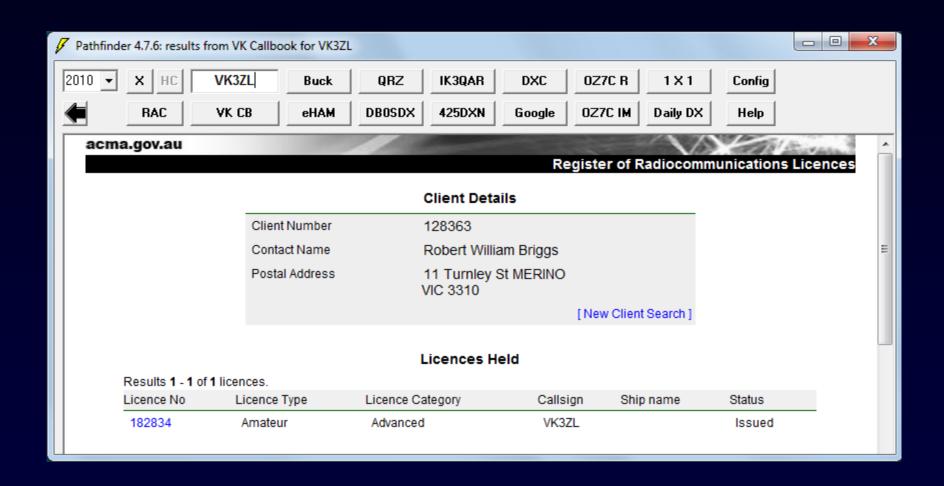
- Finding QSL routes
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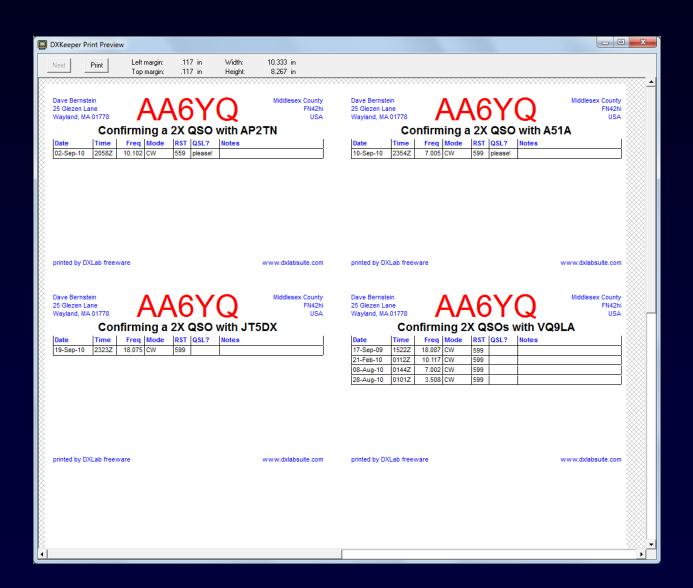
### Better DXing Through Software

- 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

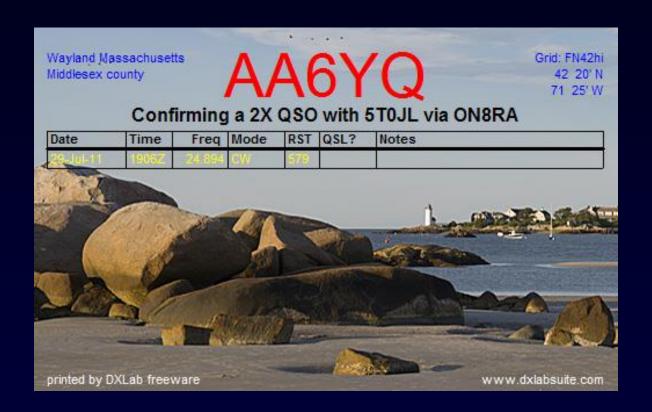
## **QSL** Route Discovery



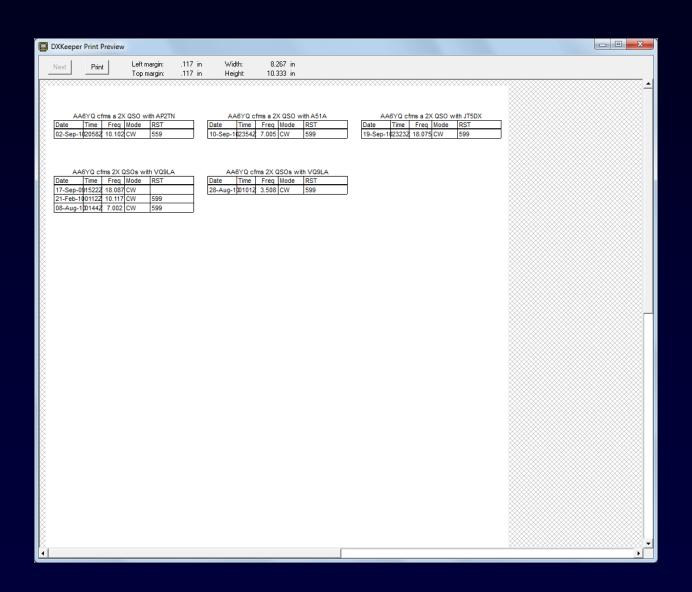
# **QSL Card Printing**



# **QSL Card Printing**



### **QSL Label Printing**



### **QSL** "Aging"

```
AA6YQ QSL aging analysis @ 2014-09-04
   missing DXCC entities:
                                   0
   missing DXCC entity-bands:
   missing DXCC entity-modes:
   missing VUCC grid-bands:
   missing WAS states:
                                   0
   missing WAS state-bands:
                                   0
   missing WAS state-modes:
                                   0
   missing WAZ zones:
   missing WAZ zone-bands:
                                   0
   missing WAZ zone-modes:
   missing WAZ zone-band-modes
   missing WPX prefixes:
                                   0
   missing WPX prefix-bands:
   missing WPX prefix-modes:
call
        Band Mode
                      QSO Date DXCC Grid1 State CQ
                                                       WPX
                                                              QSL Date Weeks
                                                                              Need
LA6SL
                    2001-11-21
                                  LA
                                     JP50
                                                       LA6
                                                            2001-11-24
                                                                          667
                                                                               VUCC, WPX
CE4WJK
               SSB
                    2011-09-19
                                  CE
                                     FF45
                                                   12 CE4
                                                            2011-10-05
                                                                          152 VUCC, WPX
                                  TJ JJ53
                                                                               DXCC (entity-band), VUCC, WAZ, WPX
TJ3SN
                    2014-05-10
                                                   36 TJ3 2014-07-09
```

### **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

# **DXing With DXLab**

- Introduction to the DXLab Suite
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#### **Drivers**

#### 1. User-driven iterative development

- Open Yahoo group with 4000+ participants
- Defect repairs get highest priority; goal is < 24 hours</li>
- 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, and 8

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

# **DXing With DXLab**

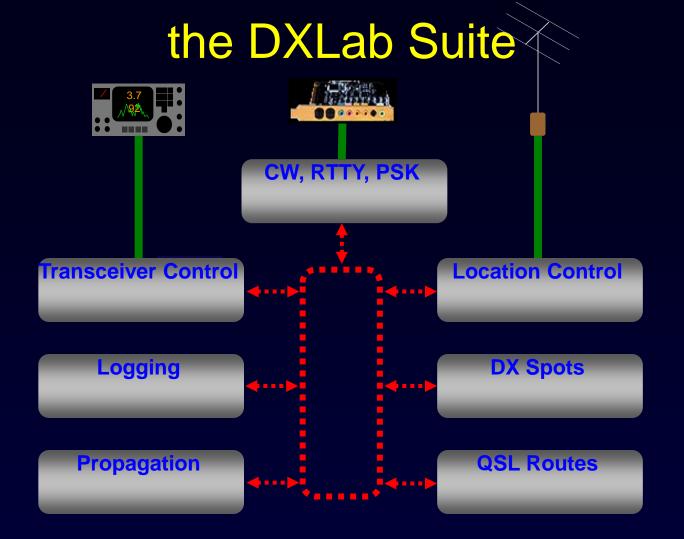
- Introduction to the DXLab Suite
  - Drivers
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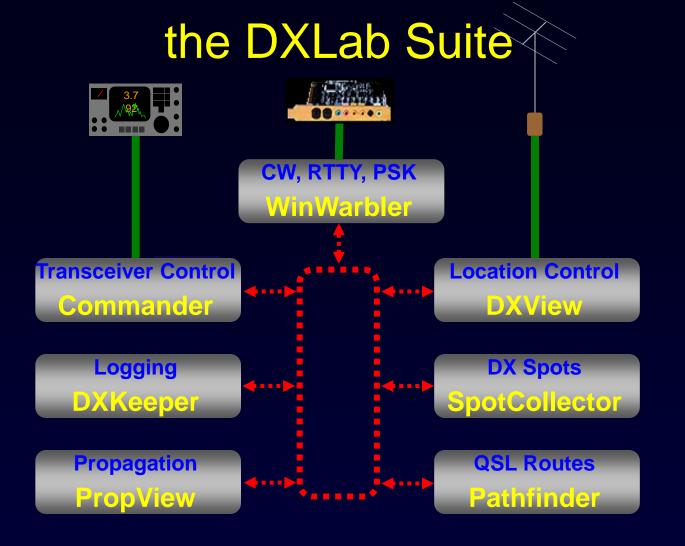
### the DXLab Suite

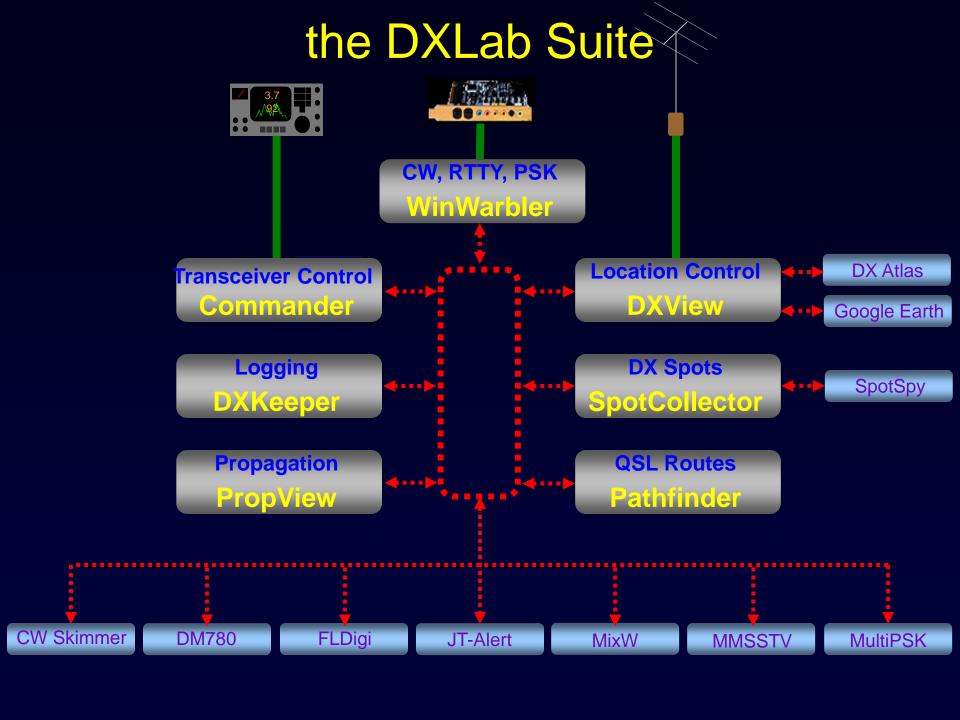
Eight free applications that run individually but

when run simultaneously sense each other's presence and

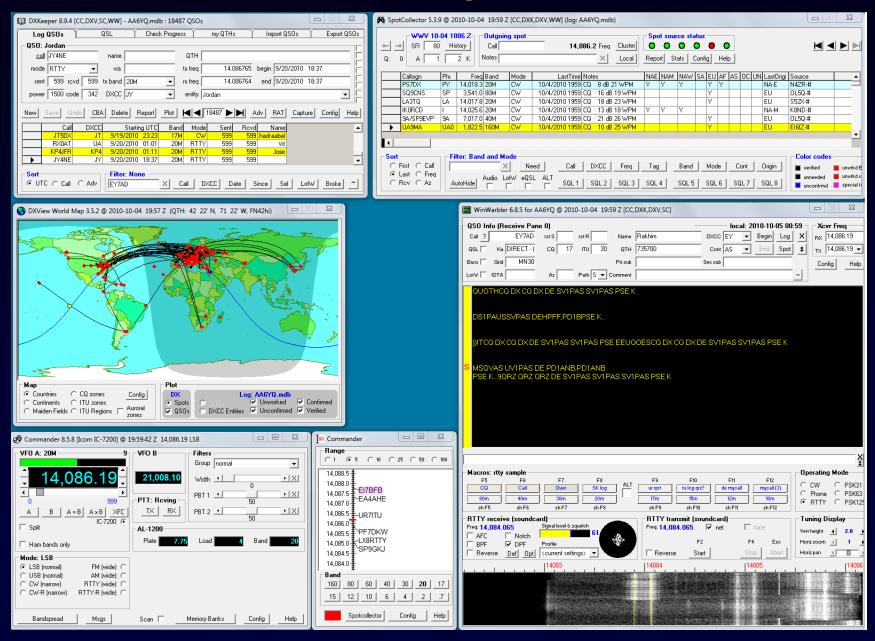
interoperate automatically



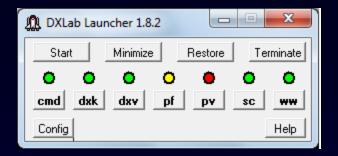




# A Suite of DXing Applications



## Single Point of Control: DXLab Launcher

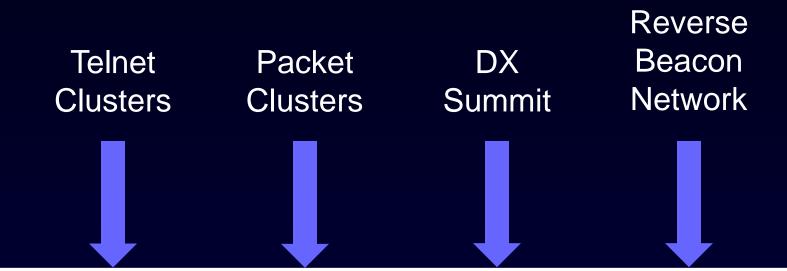


- Installation
- Upgrade
- Startup
- Shutdown

# DXing With DXLab

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

### **Active DX Database**



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			

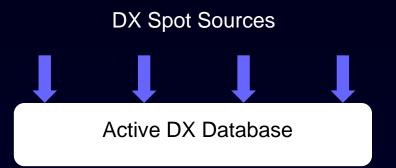
# Multiple Views of Active DX

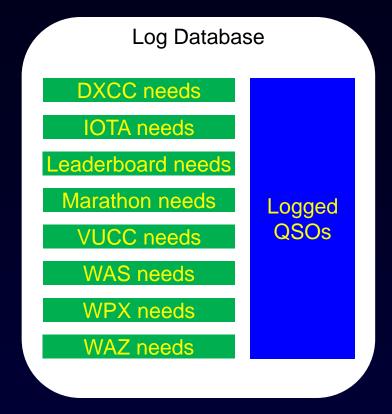
**DX Spot Sources** 



What DX stations are QRV?

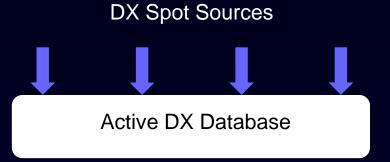
### Multiple Views of Active DX





What QSOs and QSLs are "Needed" for the awards I'm pursuing?

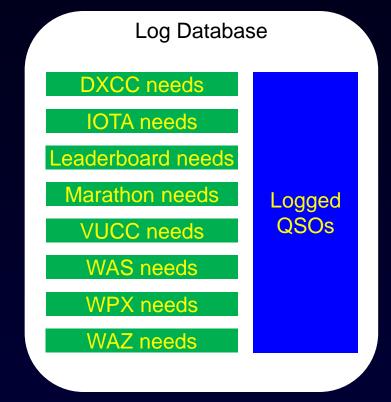
### Multiple Views of Active DX

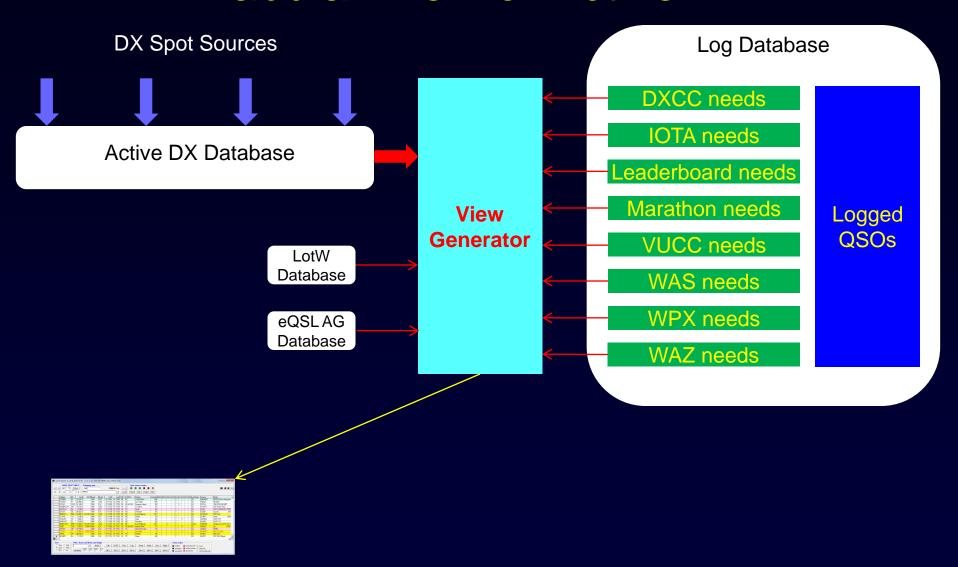


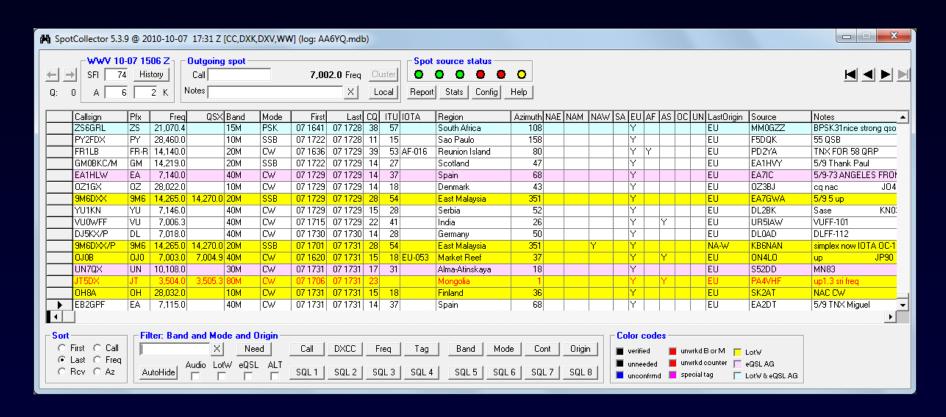
LotW Database

eQSLAG Database

What DX stations QSL via LotW and eQSL?







Font color indicates "needed" DX stations

Background color indicates LotW and eQSL participation

#### "Needed DX Only"



Font color indicates "needed" DX stations

Background color indicates LotW and eQSL participation

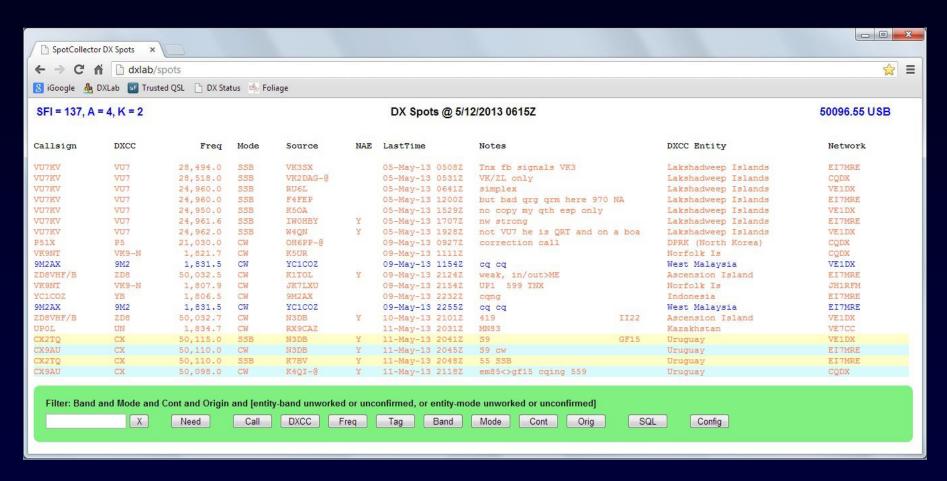
"Needed and spotted from NA-E"



Font color indicates "needed" DX stations

Background color indicates LotW and eQSL participation

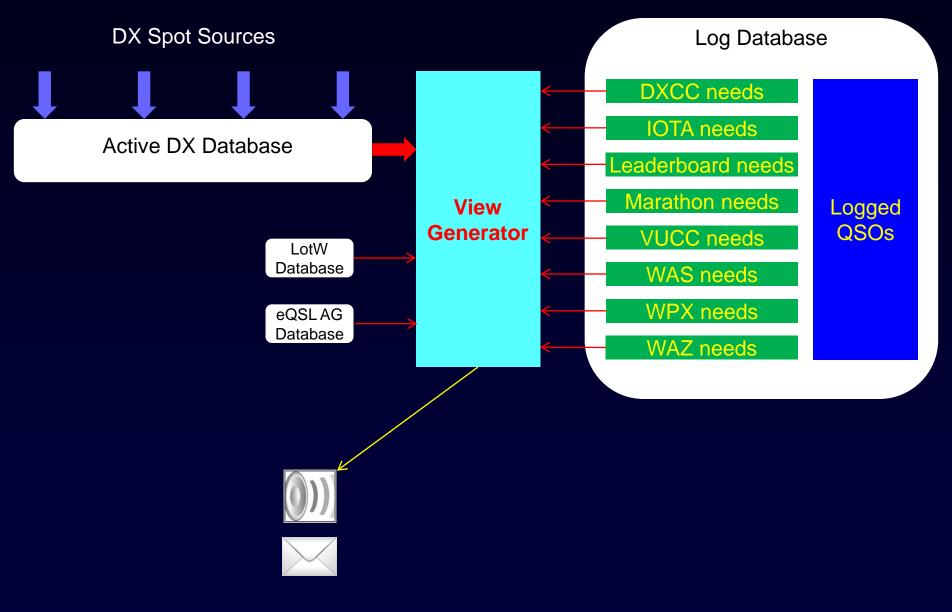
#### in a web browser from anywhere



in a web browser from anywhere



### Audio and Email Views of Active DX

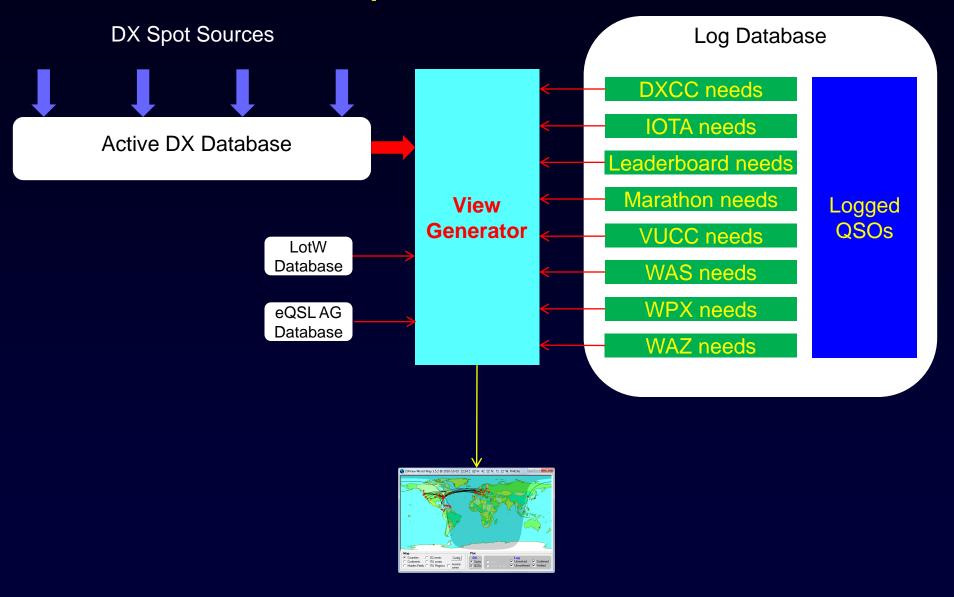


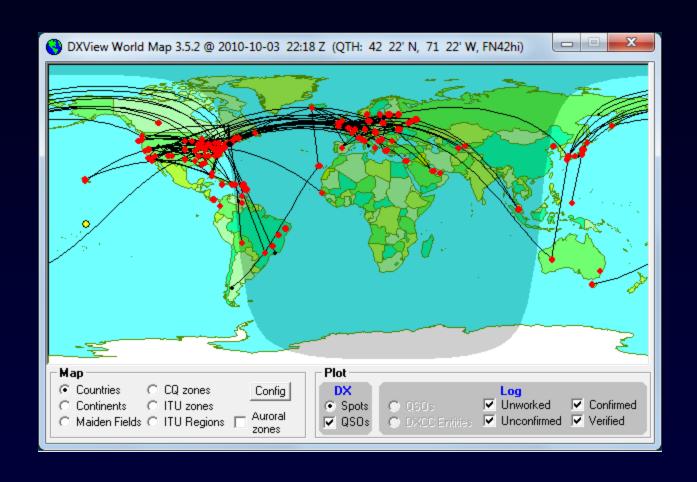
Audio & Email

### Audio and Email Views of Active DX

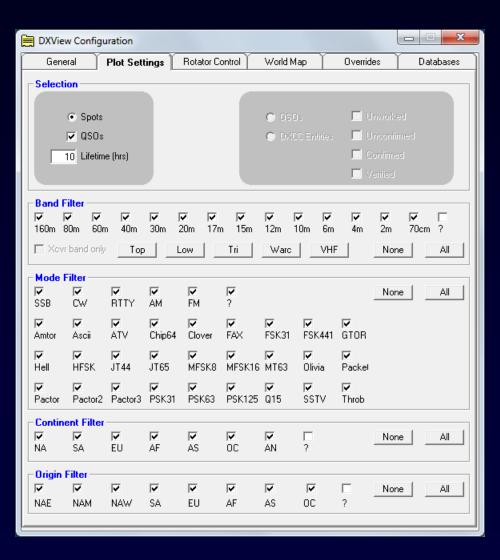
Creation of a new Active DX Database Entry for a needed DX station can trigger

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

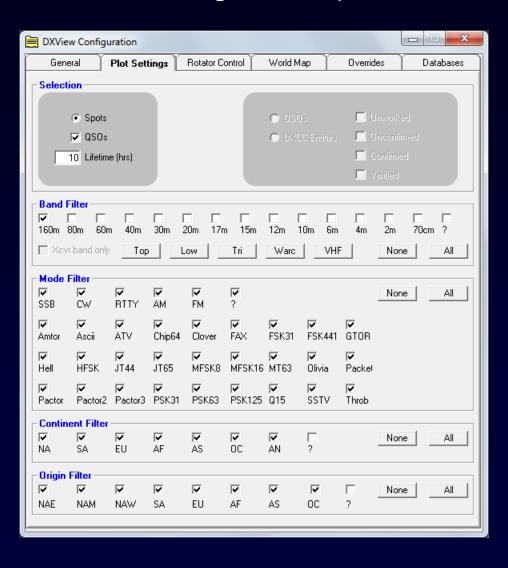




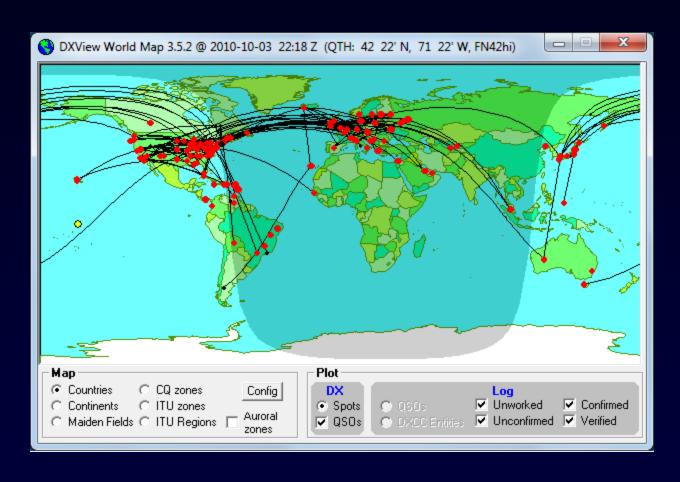
#### Controlling the Map View



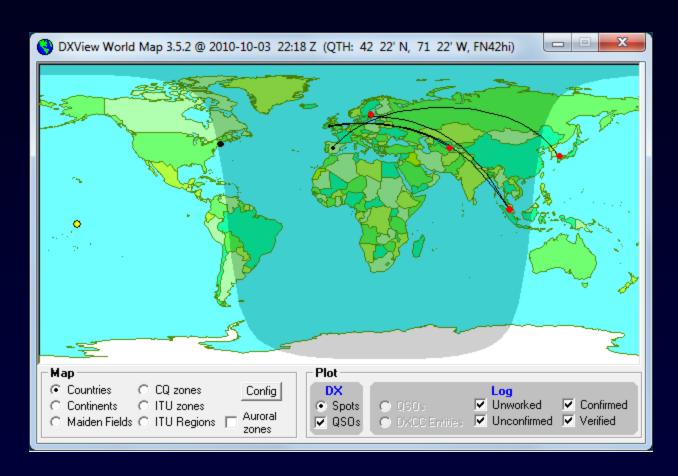
#### Controlling the Map View



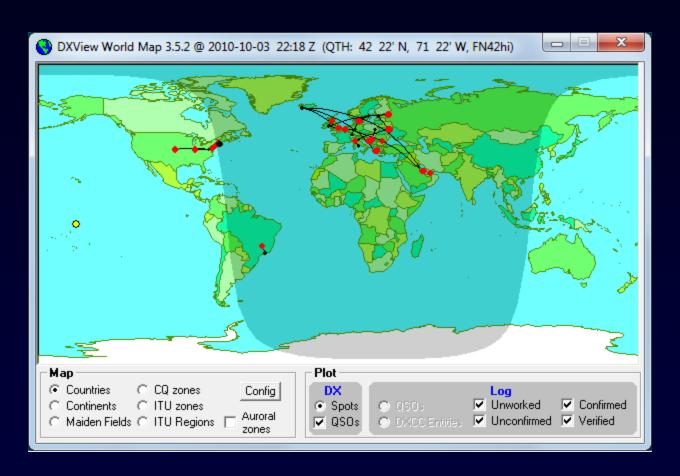
#### "all active DX"



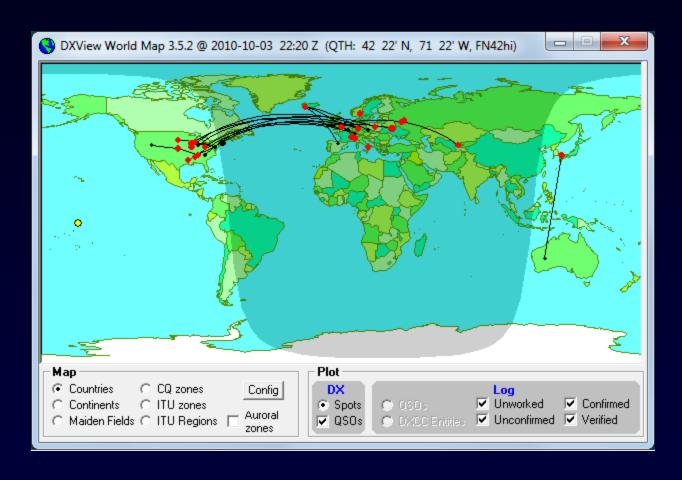
"160m"



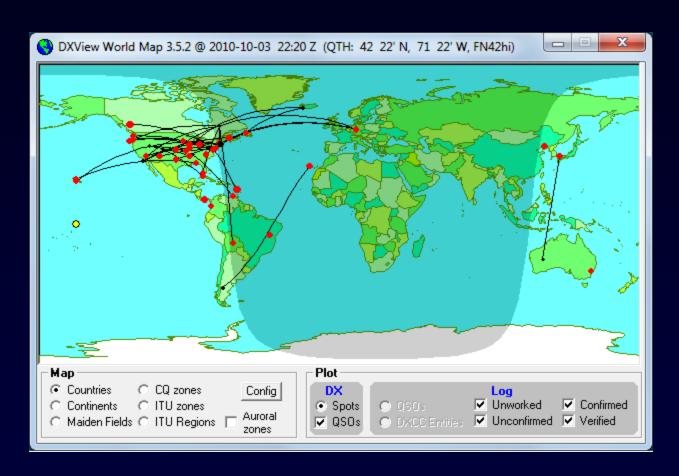
#### "80m"



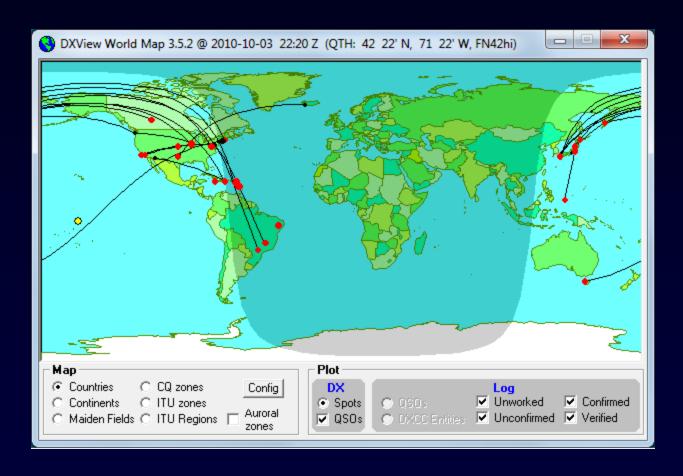
"40m"



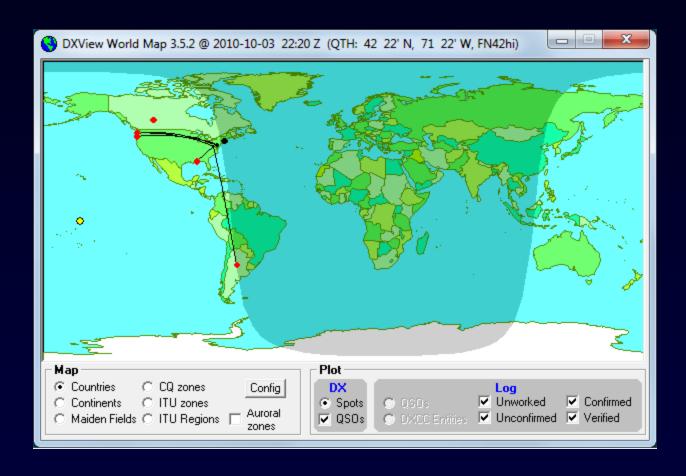
#### "20m"



"17m"



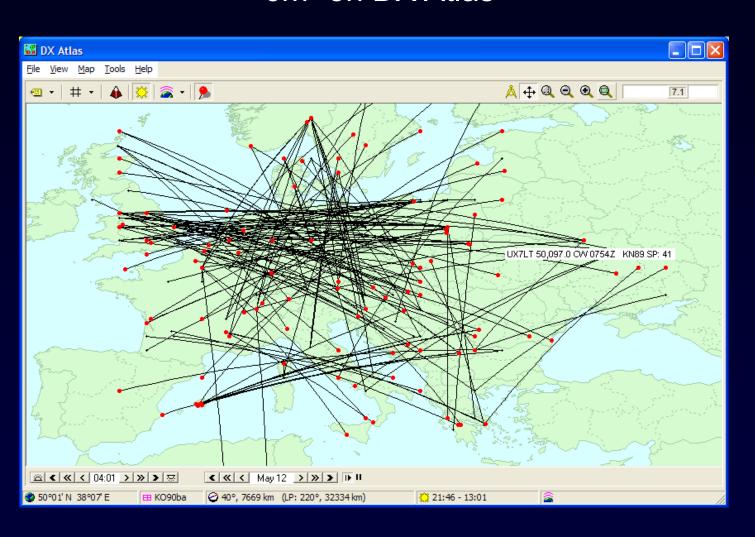
"15m"



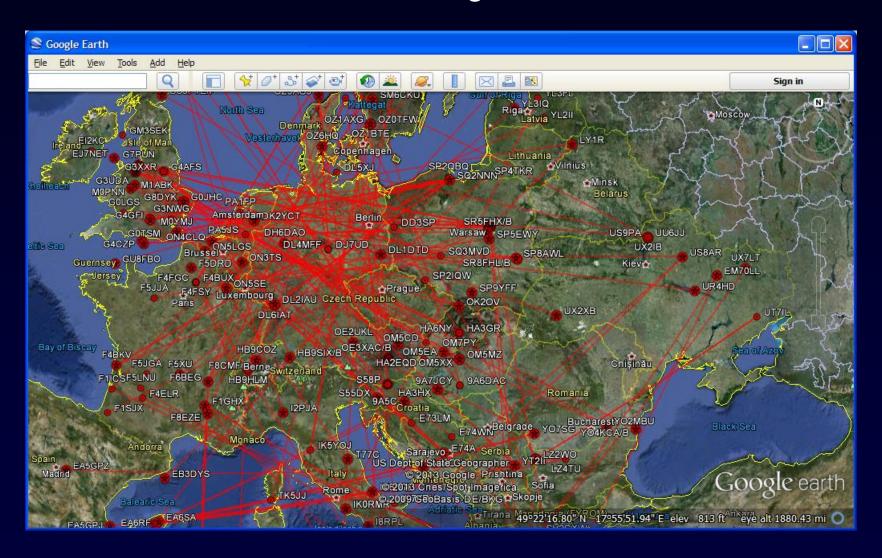
"spotted by a station in NA-E"



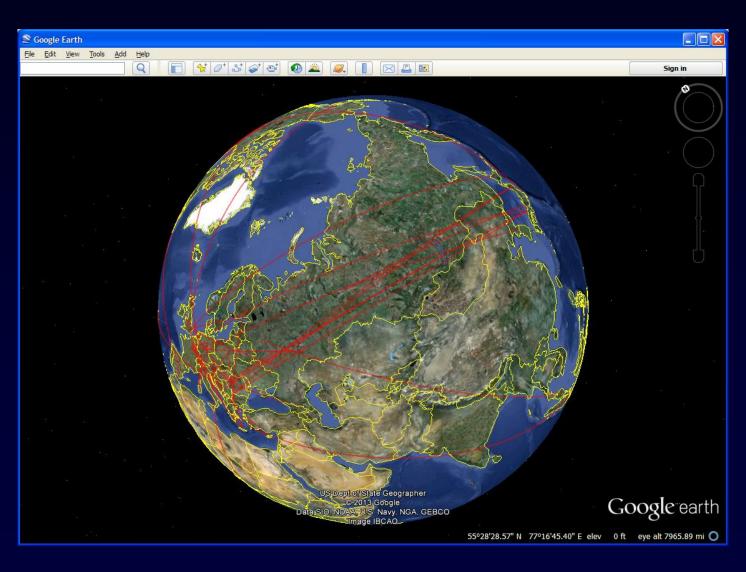
#### "6m" on DX Atlas



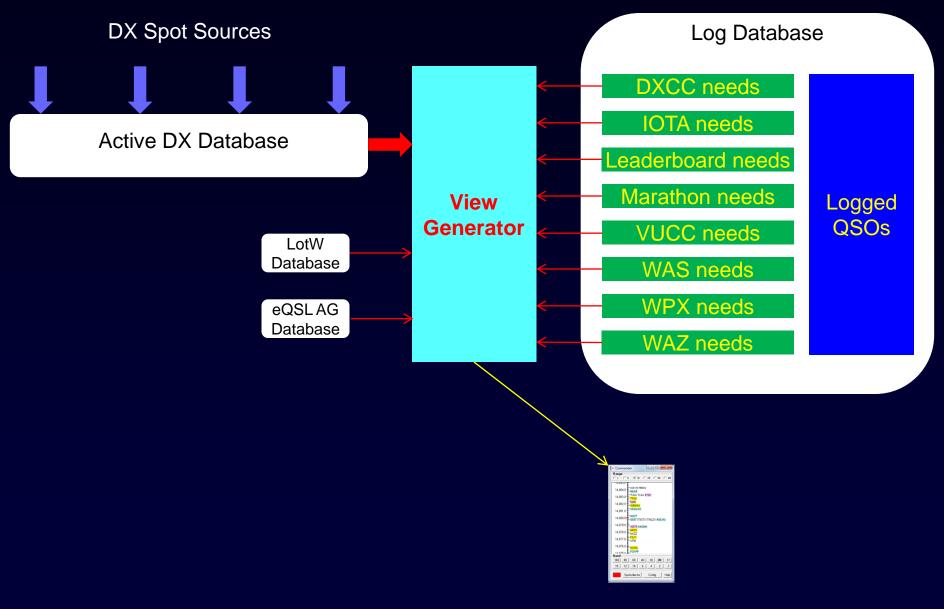
#### "6m" on Google Earth



"12m" on Google Earth

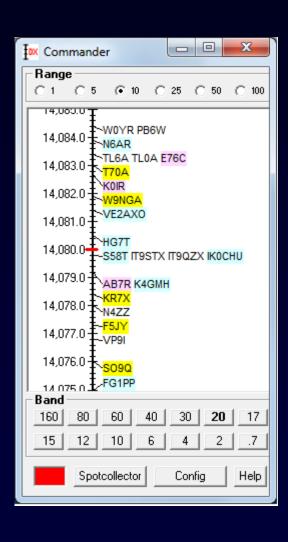


## Bandspread View of Active DX

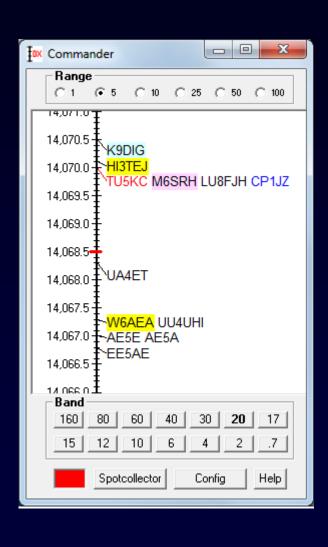


Bandspread

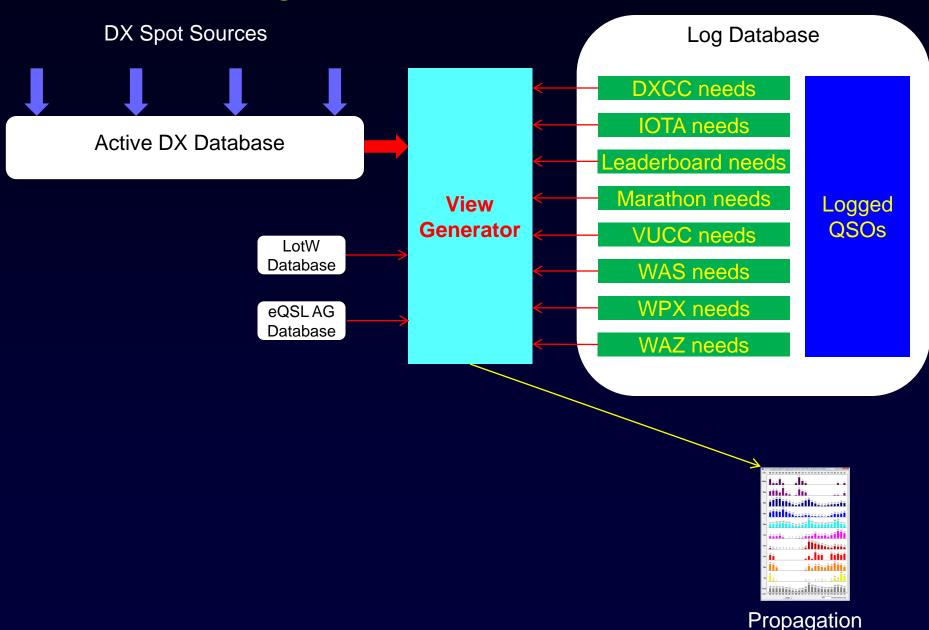
## Bandspread View of Active DX



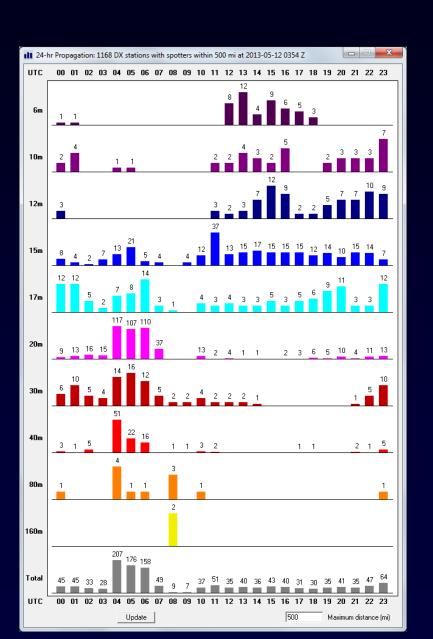
## Bandspread View of Active DX



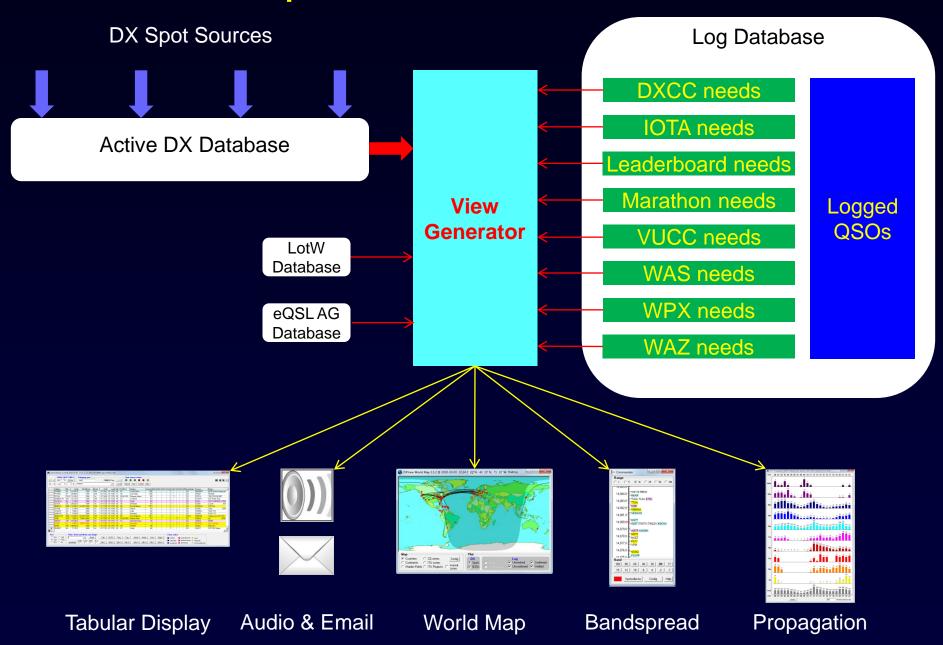
## Propagation View of Active DX



# Propagation View of Active DX



## Multiple Views of Active DX



## 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

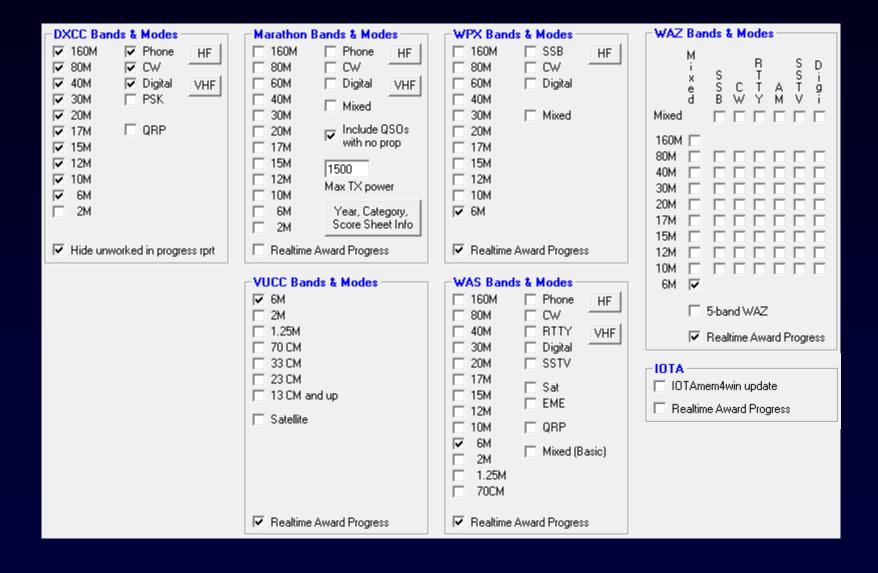
## DXing With DXLab

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

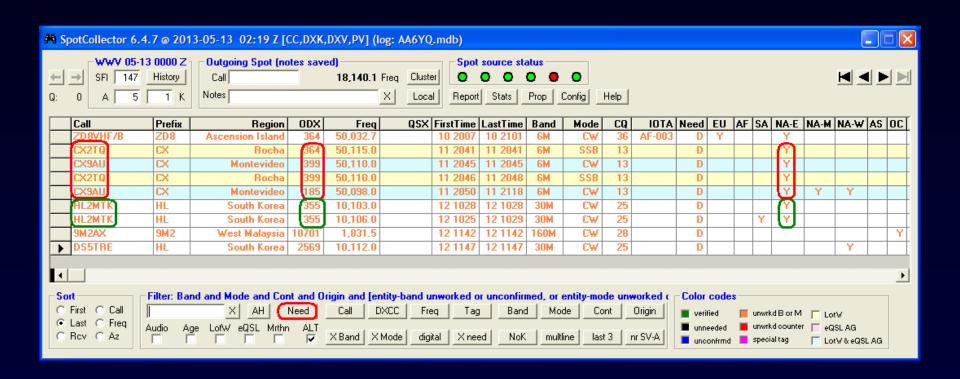
# Finding and Working Needed DX

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

## What Are My DXing Objectives?



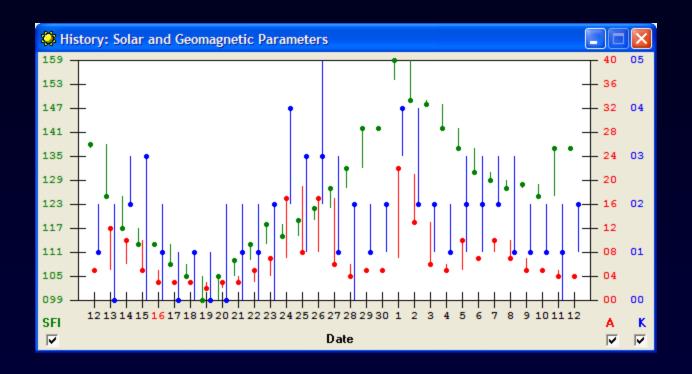
#### What's Been QRV that I Need?



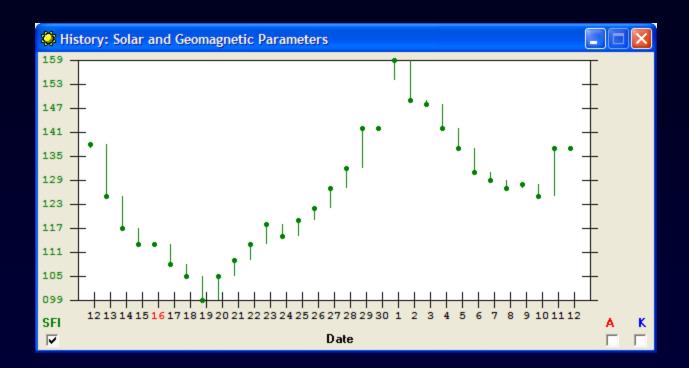
CX on 6m?

Is HL on 30m a plausible target?

## Check the Solar & Geomagnetic Indices



## Isolate the Solar Flux Index



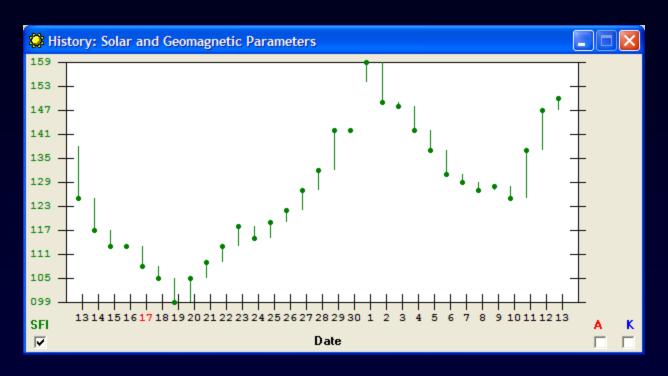
High-band conditions improving

#### CX on 6m: the Plan

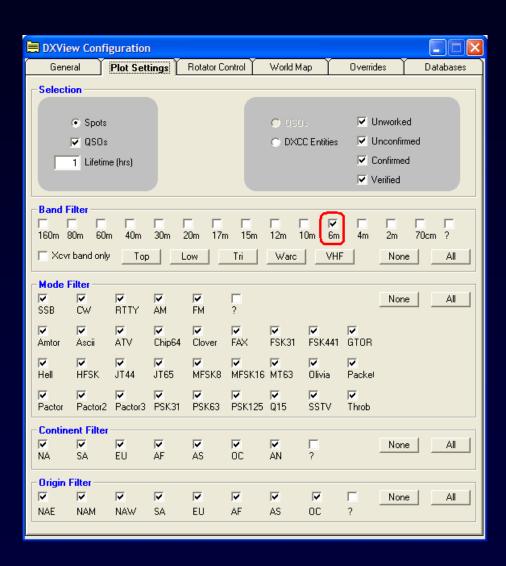
- 1. Monitor 6m activity on the World Map
- 2. Listen for CX stations on 6m DX frequencies around 2030Z

## Two Days Before Dayton Departure...

#### SFI Looking Good!

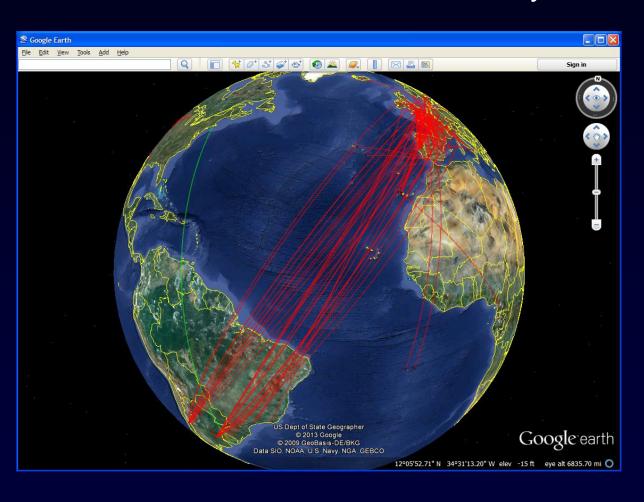


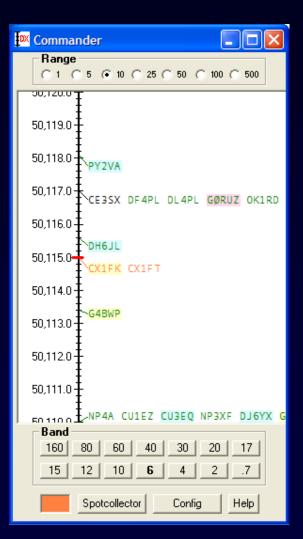
# **Monitoring 6m**



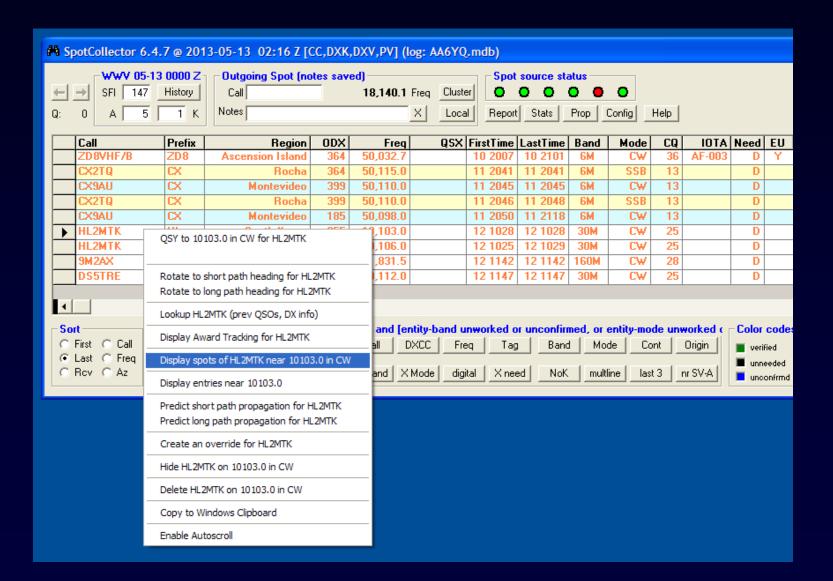
# Monitoring 6m

Get ready!

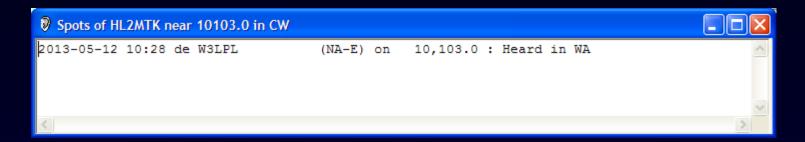


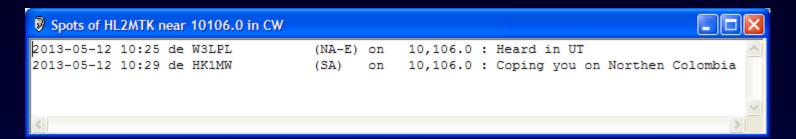


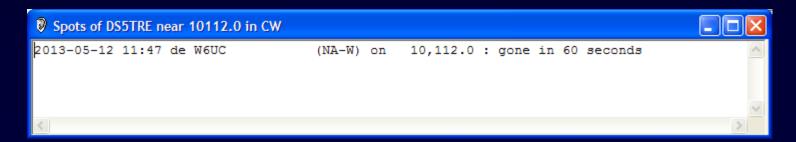
#### HL on 30m? Check Spots



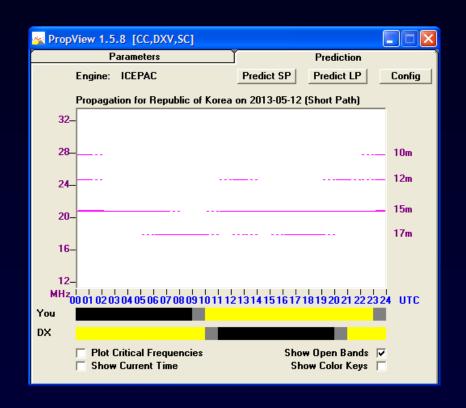
#### 30m HL Spots

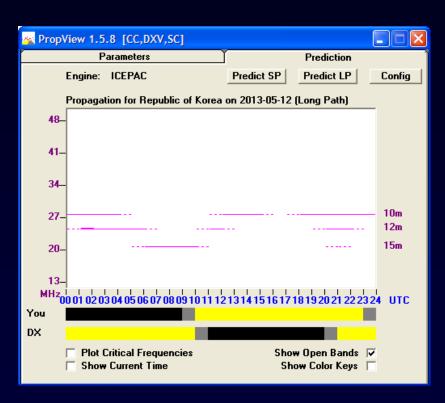






## Check Propagation to HL on 30m





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

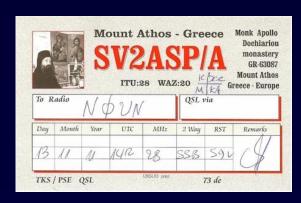
LUB	LOG		Home About	Settings	Upload	Donate	Expeditions
	ue						
	DXCC	Most Wan	ted List				
arts			d in this report is empirical, using sidered to be worked, and only logs			XCCs worked. Ad	dditionally, only QSO
	QSES COII	illittled are cons	sidered to be worked, and only logs	s active iii tile last I:	years are useu.		
rts		reports are impi se - thank you!	oved by greater participation. Pleas	se sign up if you are	e willing to add you	r QSOs to Club L	og, and help improv
narts	uatabas	se - mank you:					
pector	The most	wanted charts	are rebuilt once per month, on aver	rage.			
atching	⊙ No N	lode Filter	Ocw	OPhone	00	ata	
ue Tables	Filter by	band: All band	ls 🗸	Filter by continent: Use global log			
Leagues							
Leagues	Gener	ate Most-Want	ed Listor Analyse a specific l	DXCC entity			
Leagues							
C Challenges	Rank	Prefix	Entity Name			% Users	
	1.	KP1	NAVASSA ISLAND			87.83	
r League	2.	P5	DPRK (NORTH KOREA)			86.65	
ues League	3.	3Y/B	BOUVET ISLAND			83.68	
Log tools	4.	VP8S	SOUTH SANDWICH ISLANDS			83.30	
luster	5.	FT5W	CROZET ISLAND			82.86	
Search	6.	FT5Z	AMSTERDAM & ST PAUL ISLAN	IDS		82.50	
Tester	7.	VK0H	HEARD ISLAND			82.43	
Wanted	8.	KH5K	KINGMAN REEF			80.87	
C Analysis	9.	FR/T	TROMELIN ISLAND			80.72	
	10.	FR/J	JUAN DE NOVA, EUROPA			80.43	
agation	11.	VP8G	SOUTH GEORGIA ISLAND			78.67	
t Circle Maps	12.	KH5	PALMYRA & JARVIS ISLANDS			78.51	
	13.	KH1	BAKER HOWLAND ISLANDS			78.06	
				DI ANDO			
	14.	ZS8	PRINCE EDWARD & MARION IS	DLANUS		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



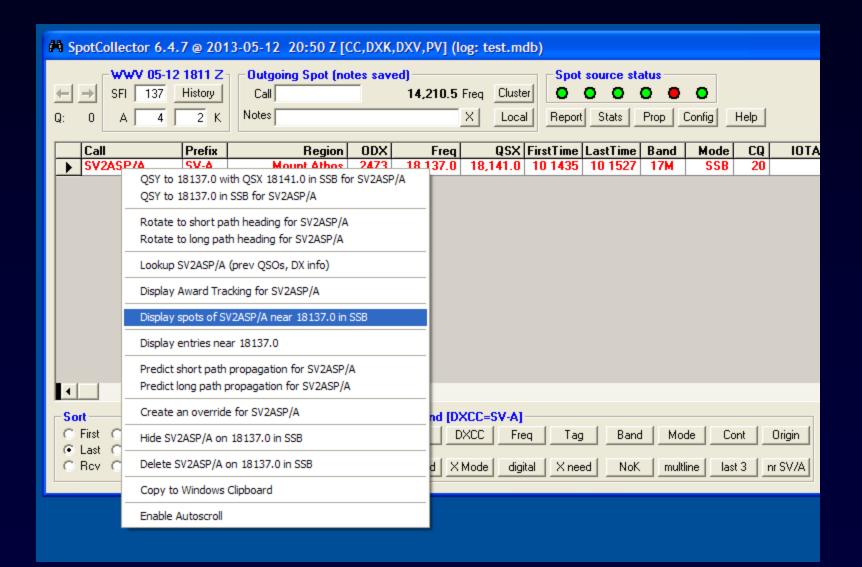
After a 39-year chase!

## Look for Recent Activity



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

### Check Spots

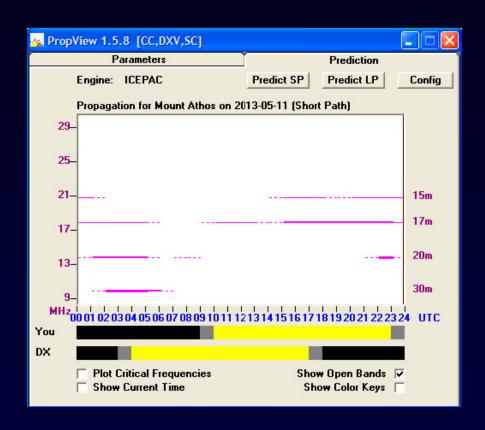


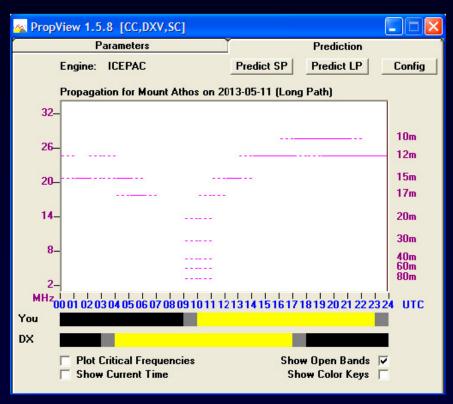
### **Check Spots**

```
Spots of SV2ASP/A near 18137.0 in SSB
2013-05-10 14:29 de F5PSG
                                    (EU)
                                                 18,137.0 : up 4
2013-05-10 14:32 de EA2DT
                                    (EU)
                                                 18,137.0 : QSX: 18141.0
2013-05-10 14:33 de EA1BUL
                                    (EU)
                                                18,137.0 : 4UP
                                           on
                                                18,137.0 : +4 up
2013-05-10 14:35 de OD5ZZ
                                    (AS)
2013-05-10 14:37 de 4X1ZQ
                                    (AS)
                                                 18,137.0 : up 4
2013-05-10 14:39 de IW1FGY
                                    (EU)
                                                18,137.0 : qsx 18.141
                                                18,137.0 : tnx - gd ears
2013-05-10 14:39 de DL2SWN
                                    (EU)
2013-05-10 14:43 de TF2CL
                                    (EU)
                                                 18,137.0 : Split,5/9:73!
2013-05-10 14:49 de EA3GLB
                                    (EU)
                                                18,137.0 : 4 up
                                           on
2013-05-10 15:01 de EA1VE
                                    (EU)
                                                 18,137.0 : 5/9 ANTENA DELTA LOOP 150
2013-05-10 15:02 de EA1PO
                                    (EU)
                                                18,137.0 : strong lisen up
2013-05-10 15:04 de 4X1WQ
                                    (AS)
                                                18,137.0 : TKS UP 4
                                           on
                                                 18,137.0 : up4"Mount Athos!5/9
2013-05-10 15:12 de IZ1GLT
                                    (EU)
2013-05-10 15:14 de IZ1WYO
                                    (EU)
                                                18,137.0 : Tnx up Monte Atos
2013-05-10 15:14 de OE8HIK
                                    (EU)
                                           on
                                                18,137.0 : up dxcc # 339 tnx
2013-05-10 15:23 de IW1GGR
                                    (EU)
                                                 18,137.0 : 73 good dx.
                                           on
2013-05-10 15:27 de DL3YA
                                    (EU)
                                                 18.137.0 : ? IOTA Nr.???
                                           on
```

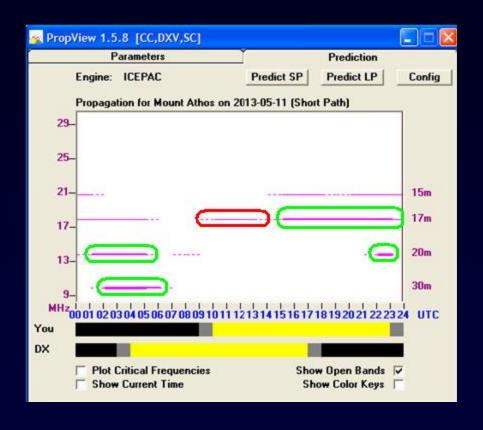
- Consistently "up 4"? slugfest
- EU spotters in DL, EA, F, I, OE, TF
- AS spotters in 4X and OD

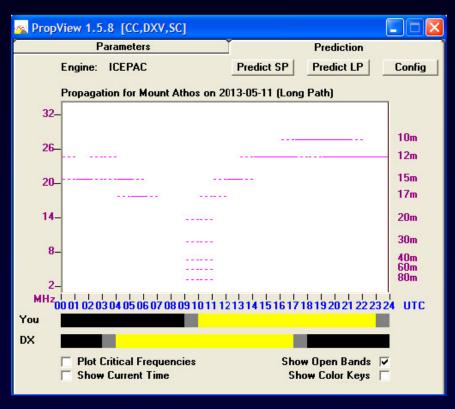
# Forecast Short- & Long-path Propagation





## Forecast Short- & Long-path Propagation

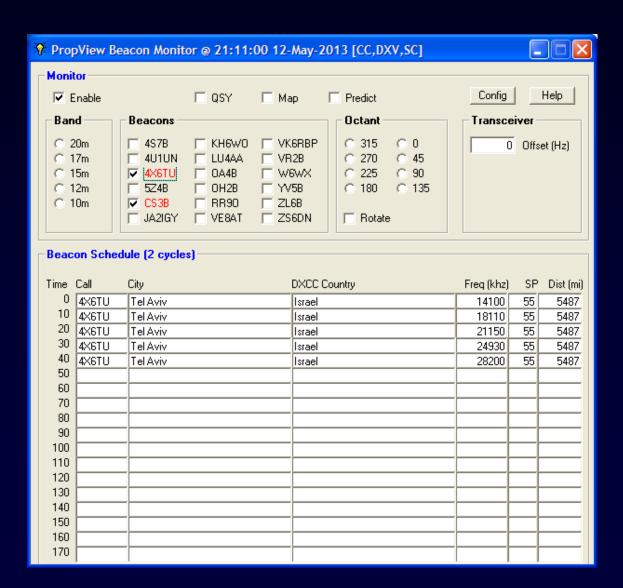




- 17m @ 14Z opening looks thin
- Stronger openings
  - 17m after 15Z
  - 20m, 30m

## Check "Actual" Propagation

#### No NCDXF Beacons are Close to SV-A



### Check "Actual" Propagation

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

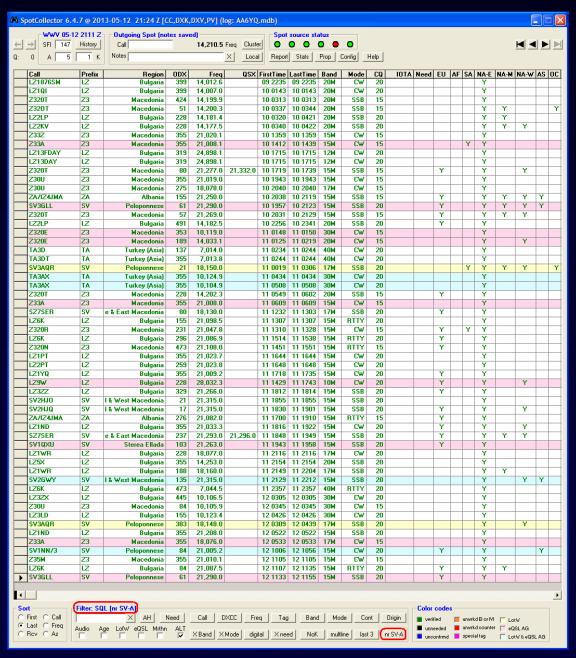
Define a "near SV-A" filter to Show Stations

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

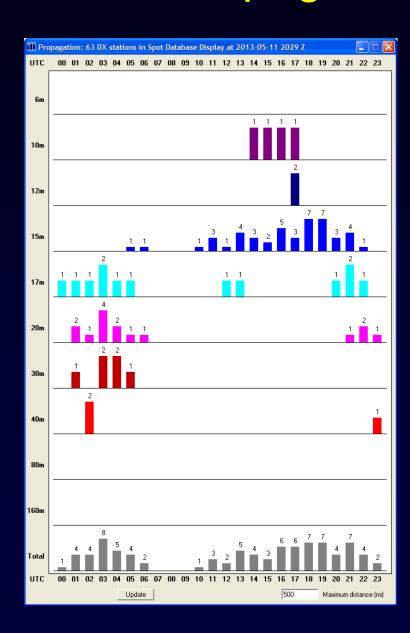
16 nr SV-A

((dxccprefix in ('SV-A','SV','LZ','Z3','ZA')) or ((callsign like 'TA1\*') or (callsign like 'TA3\*'))) and (ODX between 0 and 500)

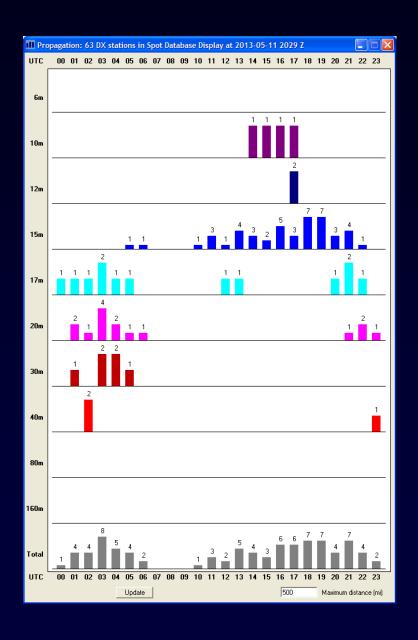
# Propagation from "Near Me" to "Near SV-A"

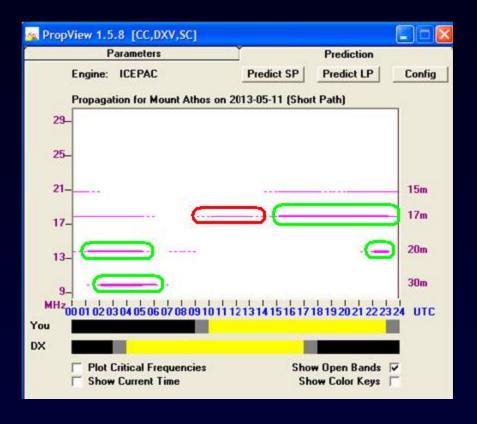


## Actual Propagation by Band & Time-of-Day



## Compare Actual & Forecast Propagation

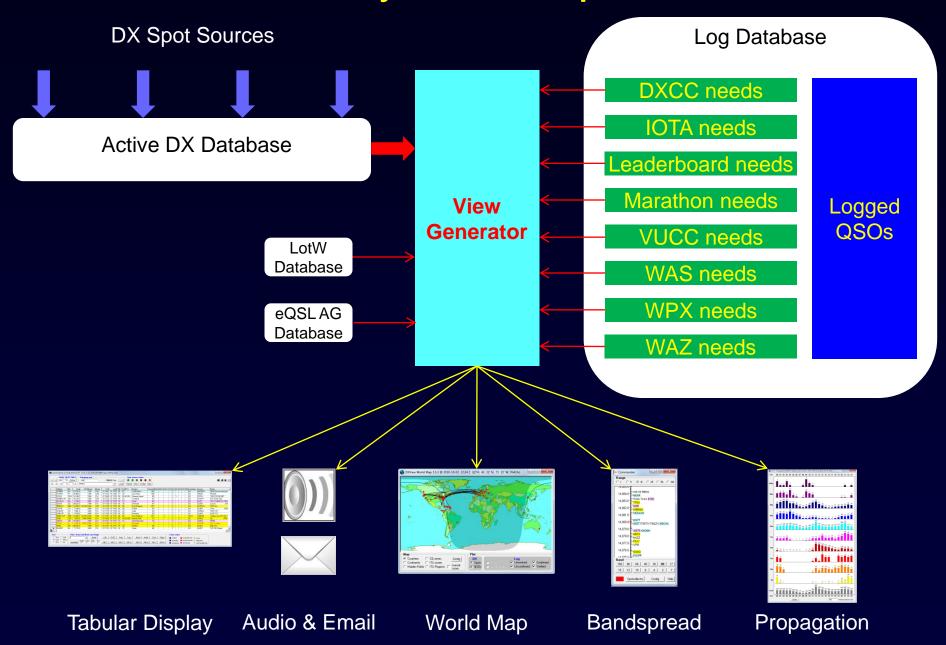




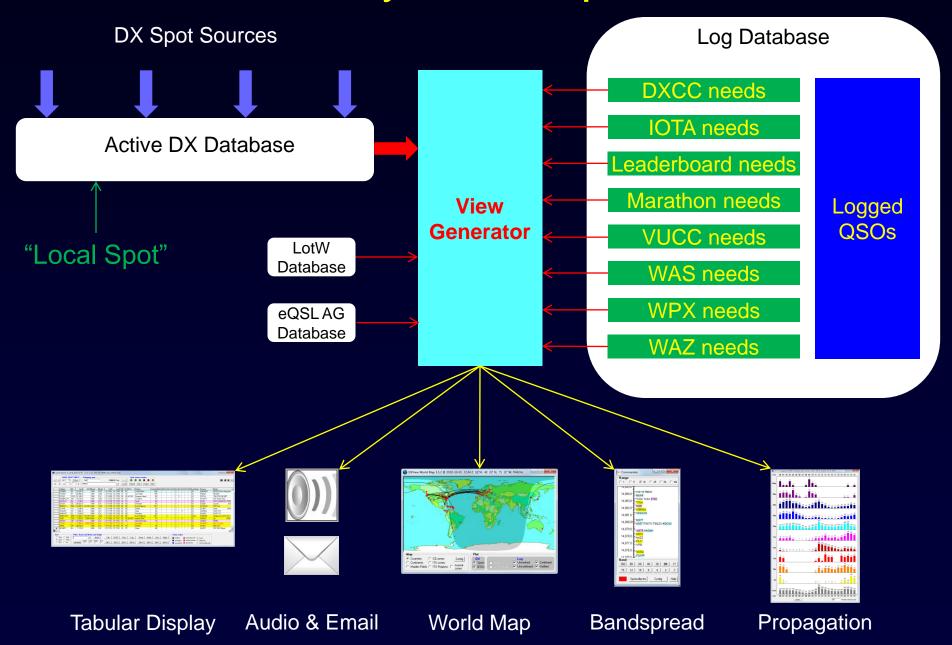
- 15m opening is stronger than forecast
- 17m can open as early as 12Z
- 20m is open when predicted
- 10m and 12m could support a QSO

- 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
- 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

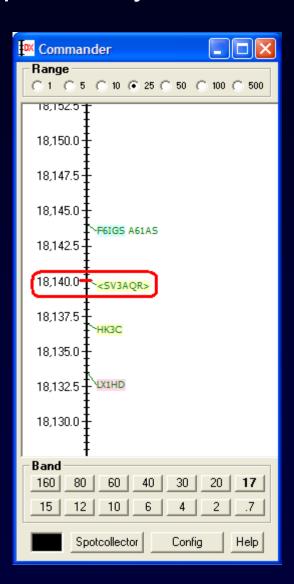


### Insert an Entry in the Spot Database



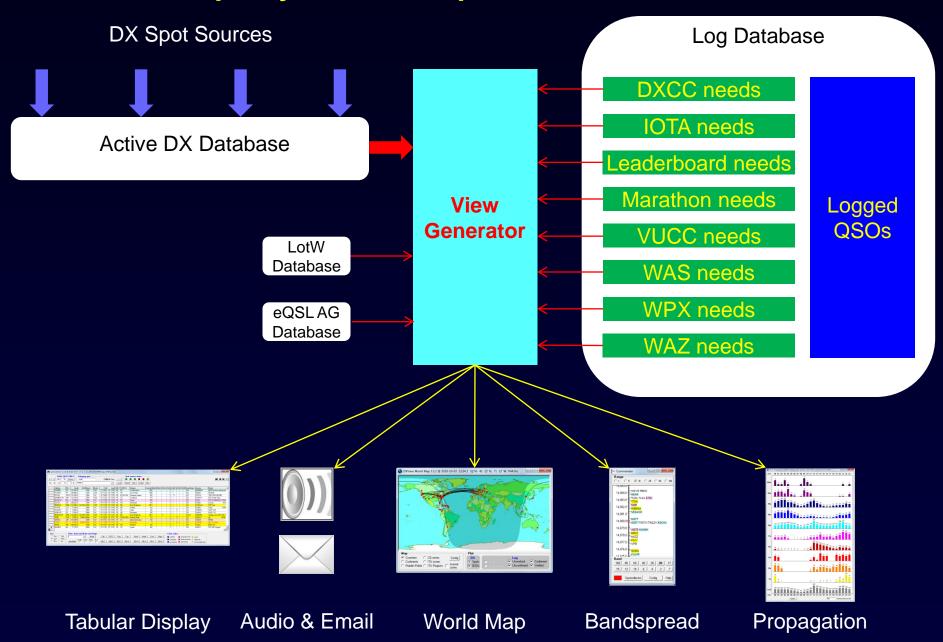
# Blueprinting the Band

"Locally Spot" Every Station You Identify

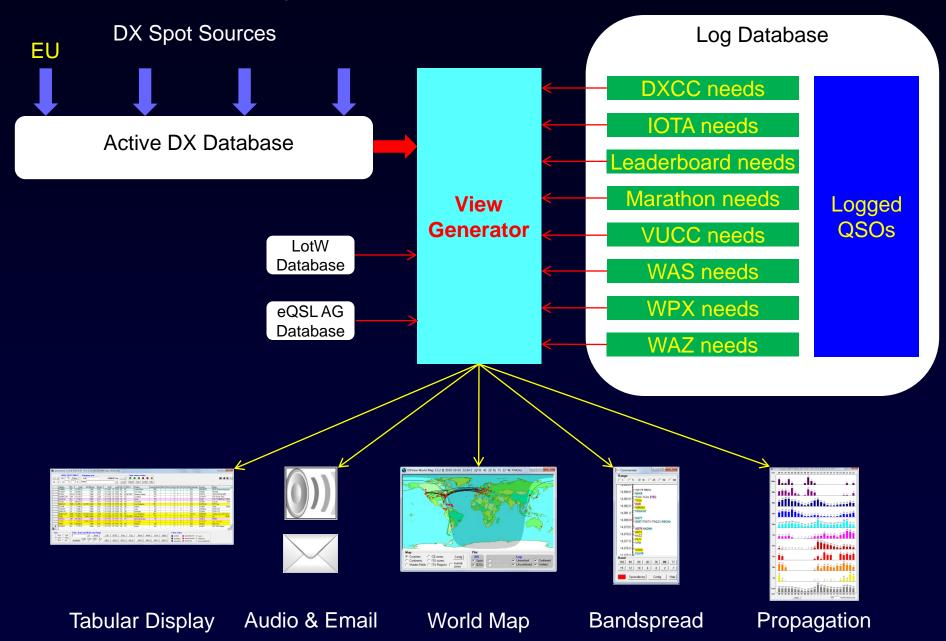


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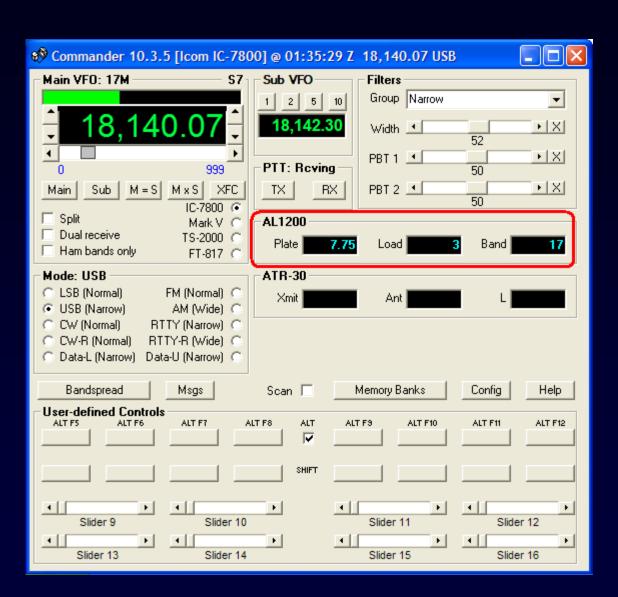
## Employ a European DX Cluster



## Employ a European DX Cluster

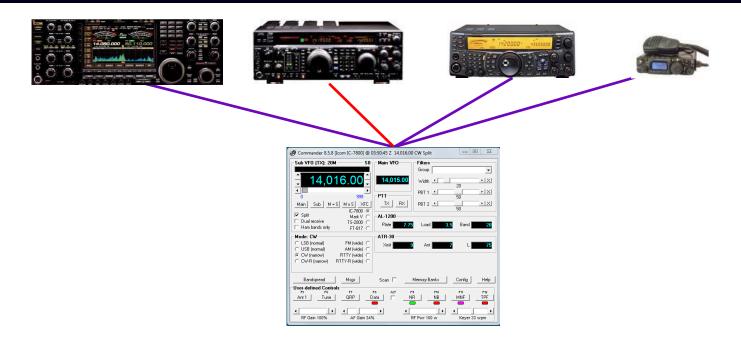


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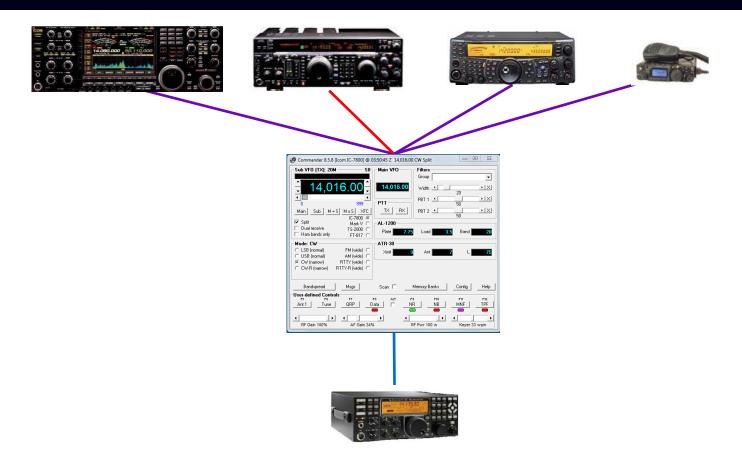
### Commander: Multiple Radio Support



#### Select one of four *primary* radios

- By button click
- Automatically as a function of frequency

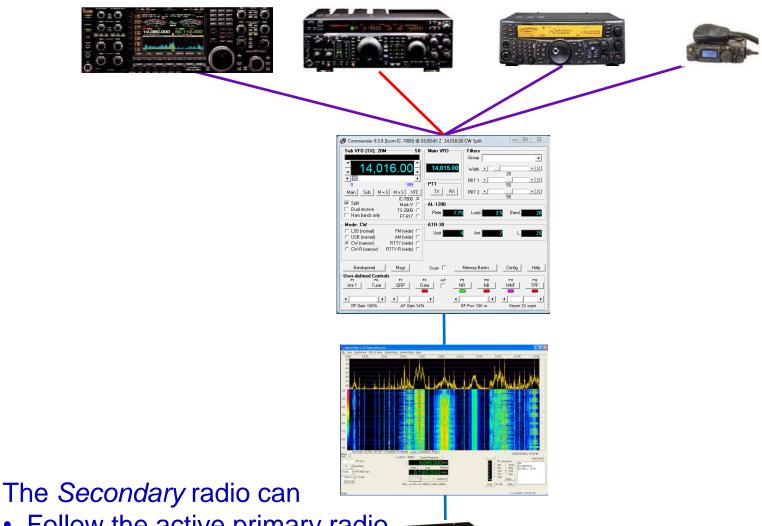
#### Commander: Multiple Radio Support



#### The Secondary radio can

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

#### Commander: Multiple Radio Support



Follow the active primary radio

Lead the active primary radio

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One More Thing...

One More Thing...



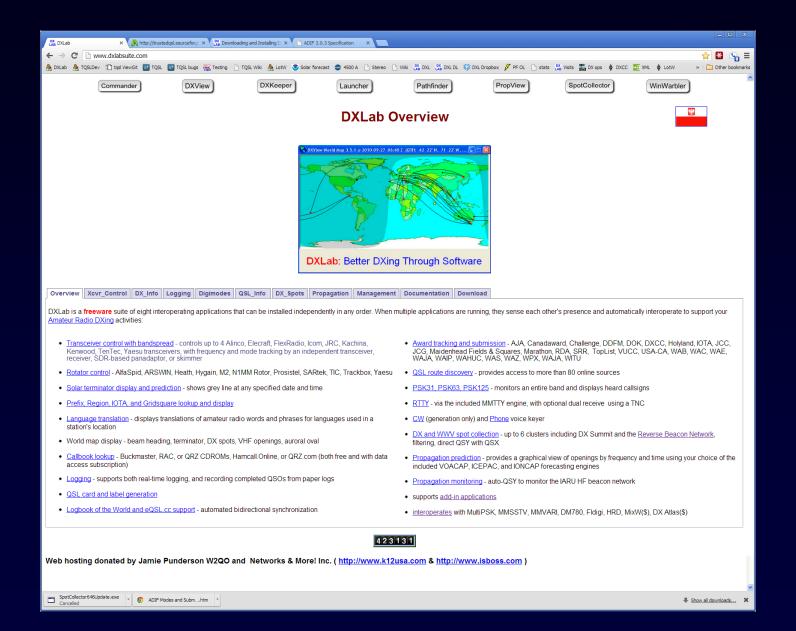
In a phone pileup, call

AA6YQ parakalo

## **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

#### www.dxlabsuite.com



#### www.dxlabsuite.com



## Better DXing Through Software

