DataLinks Polygon Search

Introduction

This tutorial was designed to introduce DataLinks users to the Polygon Search tool. New users or users unfamiliar with the DataLinks system may need to refer to Tutorials #1 and #2 before using the Polygon search. This document assumes the user is familiar with concepts covered in the first two tutorials and using Google Earth.

Inside This Tutorial

Polygon Search Overview

The Polygon Search allows users to search for data within a specific geographic region. With the Polygon Search users can define boundaries that are not limited to traditional shapes like circles (Radius Search) or squares/rectangles (Box Search). The regions can be irregular shaped polygons are not limited to a specific number of sides and the sides can be varied in length.

To use the Polygon Search, users must first log in to the DataLinks system. From the list of database categories, select Tools and then select Polygon Search from the list of available tools.

Tools	What's in it.
Find Available Frequencies	- Online -
Find Available Frequencies - Public Safety	- Online -
Co-Channel / Adj.Channel Analysis (Single Freq.)	- Online -
Find Available Frequencies - US & Canada	- Online -
Find Available Frequencies - Public Safety-US & Can	- Online -
Find Associated Callsign	- BETA -
Find Available Frequencies With Options	- Online -
Find Available Frequencies - Line Segment / Buffer	- Online -
Polygon Search ← Polygon Search	- Online -
Find Available Microwave Frequencies	- BETA -
Manual Carey Curve Generator	- Limited Preview - Beta -
Line Segment / Buffer Search	- Online -
Find Available Freq. - Single Location w/ Freq. List	- BETA -
Find Available Freq. - Location and Frequency List	- BETA -
Antenna Registration Line Segment / Buffer Search	- Online -

Polygon Search Overview - continued

The main Polygon Search window will be presented and allows the users to define the following parameters:

Polygon Search

Polygon Boundary Points

```
<?xml version="1.0" encoding="UTF-8"?>
<kml xmlns="http://www.opengis.net/kml/2.2" xmlns:gx="http://www.google.com/kml/ext/2.2"
xmlns:kml="http://www.opengis.net/kml/2.2" xmlns:atom="http://www.w3.org/2005/Atom">
<Document>
    <name>BUF Region Polygon.kml</name>
    <Style id="sn_ylw-pushpin">
        <IconStyle>
            <scale>1.1</scale>
            <Icon>
                <href>http://maps.google.com/mapfiles/kml/pushpin/ylw-pushpin.png</href>
            </Icon>
            <hotSpot x="20" y="2" xunits="pixels" yunits="pixels"/>
        </IconStyle>
        <LineStyle>
            <color>ff4c46ff</color>
```

Frequency Information

Frequency - Low (Required): `108.00`

Frequency - High (Required): `154.54`

OUTPUT FORMAT
ACTIVE ONLY
NO NEXTEL
STATISTICS

- ✓ Detail
- Detail With Links
- Summary

☑

[Submit] [Reset]

Polygon Boundary Points: This field is used to enter or paste the region coordinate boundary data.

> **Note:** The screenshot above shows .KML data obtained from Google Earth. See the section **Obtaining Polygon Boundary Data** for more details on the acceptable forms of data that can be entered into the Polygon Boundary Points text box.

Frequency - Low: Low frequency in MHz.

Frequency - High: High frequency in MHz.

Output Format: Select from Detail, Detail With Links or Summary output options. See the Output Options section for more details on the difference between each option.

Active Only: Selecting Active Only will exclude any non-active records from the search.

No NEXTEL: Selecting No NEXTEL will exclude any NEXTEL records from the search.

Statistics: Selecting Statistics will include the number of records returned, processing time and a date / timestamp.

Obtaining Polygon Boundary Data

The Polygon Search requires boundary data to be entered directly or pasted from another source into the Polygon Boundary Points text box. The easiest method to obtain the polygon boundaries is to draw a polygon in Google Earth. To use Google Earth to create a polygon region, do the following:

Creating a polygon region in Google Earth

To create a polygon using Google Earth, do the following:

Step 1: After loading Google Earth, zoom and move to the desired geographic region where the polygon will be drawn.

Step 2: When the appropriate geographic area is displayed on the map, click the Add Polygon button.

Add Polygon

Step 3: Clicking the Add Polygon button will display a New Polygon pop-up window and change the cursor to a crosshair style box cursor when moved over the map. Click on the first corner point, move the cursor to the next corner, click on that point and then repeat until the region is created.

Crosshair Cursor   Hand Cursor

Step 4: If the polygon region needs to be modified, existing corner points can be moved. Corner points are identified as red points on the boundary of the polygon. As the cursor is moved over a corner point it will change from the crosshair style to a hand/pointing finger style and the point will change color from red to green. Click and drag the point to the desired new location.

Step 5: Click OK on the Add Polygon pop-up when the desired region is contained in the polygon.

Step 6: The complete polygon will be listed in the "**Places**" list on the left side of the Google Maps window. Right-click on the polygon name and select **Copy** to copy the polygon region to the clipboard. Click on the Polygon Boundary Points text box in the Polygon Search and paste the data into the field.

```
<styleUrl>#msn_ylw-pushpin</styleUrl>
        <Polygon>
                <tessellate>1</tessellate>
                <outerBoundaryIs>
                        <LinearRing>
                                <coordinates>
                                        -78.6970489479725,42.93801300272026,0
        -78.6969699659456,42.96521815600962,0 -78.72422464838061,42.96613042794619,0
        -78.76648219994999,42.95911915988465,0 -78.76608142600111,42.92505513689895,0
        -78.6970489479725,42.93801300272026,0
                                </coordinates>
                        </LinearRing>
                </outerBoundaryIs>
        </Polygon>
    </Placemark>
</Document>
```

Creating a polygon region string

A polygon region can also be entered directly into the Polygon Boundary Points text box. The search requires a string of latitude / longitude coordinates in the same format as defined within a Google Earth .KML <coordinates> tag. This format uses a longitude, latitude, altitude string with the 3 parameters separated by commas. No additional characters or formatting is required between each coordinate.

The coordinate string has the following requirements for each parameter:

Longitude: A decimal degree longitude with a leading "-". Please note, since the search currently only uses data from the US, a leading "-" is necessary.

Latitude: A decimal degree latitude.

Altitude: The .KML <coordinate> tag has an altitude parameter. However, the Polygon Search does not make use of this of an altitude so a "0" is sufficient.

A sample point string of 3 points would look like the following:

-78.72435782909837,42.96621485305055,0 -78.7664013734438,42.95915218268494,0-78.76622451779441,42.92498853649888,0

Note: A minimum of 3 points is required to define a region.

Output Options - Detail

The Polygon Search has the following output options:

Detail

The Detail output format displays search results in a summarized web page with 9 fields of data for each record. The fields are included in the following order:

Callsign, **Radio Service Code**, **Class of Station Code**, **DBA Name**, **Transmitter City**, **Transmitter State**, **Number of Units** (if applicable), **ERP** (in Watts)

Polygon Search DETAIL REPORT

SEARCH RESULTS 11/27/2023 17:22:58

Right-click on either .KML link to save the files locally for use with Google Earth.

The boundaries of your search are also in the following file: KML Boundary file

The results of your search are also in the following file: KML file

The results of your search are also in the following file: Frequency Found XLS file

Right-click on the .XLS link to save the files locally for use with Google Earth.

Frequency Found :   108.00000000 – Count   1
WRLT4954 AR RLT UNITED AIR LINES, INC., DEBTOR-IN-POSSESSION   CHEEKTOWAGA   NY   0 Unit(s)   Watts

Frequency Found :   108.10000000 – Count   1
WRLT4954 AR RLT UNITED AIR LINES, INC., DEBTOR-IN-POSSESSION   CHEEKTOWAGA   NY   0 Unit(s)   Watts

Frequency Found :   122.87500000 – Count   1
WQLC321 AF FA   AIRCRAFT SERVICE GROUP, INTERNATIONAL   CHEEKTOWAGA   NY   0 Unit(s)   Watts

Frequency Found :   122.95000000 – Count   2
KYR6   AF FAA PRIOR AVIATION SERVICE   BUFFALO   NY   0 Unit(s)   Watts
WQVJ533 AF FAA TREGO DUGAN AVIATION OF GRAND ISLAND   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   128.92500000 – Count   2
WQJL848 AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts
WYO4   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   129.20000000 – Count   1
KGW8   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   129.25000000 – Count   1
WLD3   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   129.30000000 – Count   1
WQL2   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   129.40000000 – Count   1
KFV7   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   129.42500000 – Count   1
KKQ9   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   130.10000000 – Count   1
KFI7   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   130.12500000 – Count   1
KIA3   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

The Detail output also provides links for a Google Earth .KML file for the Boundary and Search. In addition, a Microsoft Excel .XLS file download link is also included. The Excel file includes all 75 fields of data for each record. Right-click on a link to save the results to the desired format.

Detail With Links

The Detail With Links output format displays search results in the same summarized web page as the Detail output format. However, 3 of the fields include links that allow the user to perform a new search by simply clicking on one of the linked fields. The following fields have linked the search feature:

City, DBA Name, Transmitter City

Clicking on the Callsign link will perform a new search returning all records for that Callsign. Clicking the DBA Name link will return all records matching that DBA Name regardless of location. Lastly, clicking on the City name will return all records for that specific city and state.

Polygon Search DETAIL REPORT

SEARCH RESULTS 11/27/2023 17:41:48

The boundaries of your search are also in the following file: KML Boundary file

The results of your search are also in the following file: KML file

The results of your search are also in the following file: Frequency Found XLS file

Frequency Found :   108.00000000 – Count   1
WRLT4954 AR RLT UNITED AIR LINES, INC., DEBTOR-IN-P CHEEKTOWAGA   NY   0 Unit(s)   Watts

Frequency Found :   108.10000000 – Count   1
WRLT4954 AR RLT UNITED AIR LINES, INC., DEBTOR-IN-P CHEEKTOWAGA   NY   0 Unit(s)   Watts

Frequency Found :   122.87500000 – Count   1
WQLC321   AF FA   AIRCRAFT SERVICE GROUP, INTERNATION CHEEKTOWAGA   NY   0 Unit(s)   Watts

Frequency Found :   122.95000000 – Count   2
KYR6   AF FAA PRIOR AVIATION SERVICE   BUFFALO   NY   0 Unit(s)   Watts
WQVJ533   AF FAA TREGO DUGAN AVIATION OF GRAND ISLAN BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   128.92500000 – Count   2
WQJL848   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts
WYO4   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   129.20000000 – Count   1
KGW8   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   129.25000000 – Count   1
WLD3   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   129.30000000 – Count   1
WQL2   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   129.40000000 – Count   1
KFV7   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   129.42500000 – Count   1
KKQ9   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   130.10000000 – Count   1
KFI7   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

Frequency Found :   130.12500000 – Count   1
KIA3   AF FA   AVIATION SPECTRUM RESOURCES INC   BUFFALO   NY   0 Unit(s)   Watts

The Detail With Links output also includes the same Google Earth .KML and Microsoft Excel .XLS file output options found in the Detail output.

Summary

The Summary output format provides a simple web page displaying each frequency found within the geographic region as well as the number of records for each frequency. The Summary page also includes the same Google Earth .KML and Microsoft Excel .XLS file output options found in the Detail output.

Polygon Search SUMMARY REPORT

SEARCH RESULTS 11/27/2023 17:42:06

The boundaries of your search are also in the following file: <u>KML Boundary file</u>

The results of your search are also in the following file: <u>KML file</u>

The results of your search are also in the following file: <u>Frequency Found XLS file</u>

Frequency Found :	108.00000000 – Count	1
Frequency Found :	108.10000000 – Count	1
Frequency Found :	122.87500000 – Count	1
Frequency Found :	122.95000000 – Count	2
Frequency Found :	128.92500000 – Count	2
Frequency Found :	129.20000000 – Count	1
Frequency Found :	129.25000000 – Count	1
Frequency Found :	129.30000000 – Count	1
Frequency Found :	129.40000000 – Count	1
Frequency Found :	129.42500000 – Count	1
Frequency Found :	130.10000000 – Count	1
Frequency Found :	130.12500000 – Count	1
Frequency Found :	130.40000000 – Count	1
Frequency Found :	130.42500000 – Count	1
Frequency Found :	130.45000000 – Count	1
Frequency Found :	130.52500000 – Count	1
Frequency Found :	130.67500000 – Count	1
Frequency Found :	130.75000000 – Count	1
Frequency Found :	130.92500000 – Count	1
Frequency Found :	130.95000000 – Count	2
Frequency Found :	131.45000000 – Count	1
Frequency Found :	131.55000000 – Count	1
Frequency Found :	131.72500000 – Count	1
Frequency Found :	131.75000000 – Count	1
Frequency Found :	131.80000000 – Count	1
Frequency Found :	131.92500000 – Count	1
Frequency Found :	136.50000000 – Count	1
Frequency Found :	136.52500000 – Count	1
Frequency Found :	136.62500000 – Count	1
Frequency Found :	136.65000000 – Count	1
Frequency Found :	136.80000000 – Count	1
Frequency Found :	136.97500000 – Count	3
Frequency Found :	151.67000000 – Count	1
Frequency Found :	151.77500000 – Count	1
Frequency Found :	151.83500000 – Count	1
Frequency Found :	153.33500000 – Count	1
Frequency Found :	154.54000000 – Count	1

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