Targeted DXing
Setting Up a 500-Mile Target List

John Cereghin, Smyrna, DE December 2009

I started ultralight DXing in December, 2007. My goal was, of course, to hear as much as I could on these pocket-sized wonders.

Most of my ultralight DXing is barefoot, as I do not have the technical expertise to roll giant loopsticks or build EWEs. This means that I would be concentrating mainly on domestic DX, although I certainly have no intention of neglecting foreign DX.

The beginning or casual ultralight DXer should have no problem logging a few hundred stations by randomly tuning the dials. But when the station totals reach several hundred stations or so, the "law of diminishing returns" begins to kick in. The same stations will be heard by random scans of the dial. To break that barrier and reach 500 stations and beyond (I'm currently at 655 ultralight stations logged), a specific DXing strategy needs to be employed, that of what I call "Targeted DXing" and the creation of "want lists".

The first step is to see what is "out there" that a DXer should be able to log. It makes good sense to "survey the field" to get some idea of what is out there and what stations can be heard in your area. An accurate, up-to-date station lists is needed. There are several stations lists floating around out there but I decided to go to the horses' mouth and scan the FCC database. This website is at http://www.fcc.gov/mb/audio/amq.html . What I like about the FCC data is that I can plug in different values and adjust the search results.

Gerald Westerberg also maintains AM and FM spreadsheets that are updated regularly. These spreadsheets can also calculate distances and are highly recommended. You can access them at http://www.dxfm.com/.

Once the necessary data was located, it was time to start setting up my "500 Mile Target List" using the FCC database.

I decided to set up a spreadsheet of all AM stations within a 500 mile radius of my home in Smyrna, Delaware. That's easy enough to do at the FCC site. You can plug in the radius in kilometers or miles and your starting geographical coordinates and the FCC does the rest, giving a report of all stations in their database within that radius.

There are several ways this data can be downloaded. I chose the "text file no delimiters" so I could dump the data into a spreadsheet. The results were staggering-over 1,400 stations within 500 miles, not including Canadians (portions of Ontario and Quebec fall within the 500-mile circle). That's a lot of targets!

After obtaining the FCC data, the second step is to organize that data into useable formats to set up a target list.

I didn't need all the info the FCC database gave me so I set my spreadsheet for frequency, calls, city of license, state (or province), distance in miles (the FCC data also gives distances in kilometers), day and night power in watts, liners, formats, and networks. The FCC does not keep records of station slogans and formats, so that is info that I would have to fill in myself based on my own listening and visiting station websites.

You could arrange the data in a text file using a word processing program or in a spreadsheet. I opted for the spreadsheet. The more ambitious among us could set up a personalized database program, but for my needs, a simple spreadsheet will suffice. With a spreadsheet, certain types of data can be arranged in various ways. Microsoft Excel is a standard spreadsheet program but it's not cheap. Open Office has an Excel-compatible spreadsheet program that works just fine and that is free. Open Office is a beast of a program but it is worth your consideration. You can download it from http://www.openoffice.org/.

A portion of the printout I get for 1000 khz is below (chosen because there aren't a lot of stations on 1000 in this area):

Tue Dec 15 12:13:03 2009 Eastern time

Search Parameters

Search radius:	800.00 km
Center lat / lon:	N 39 17 0.00 W 75 36 0.00
Lower Frequency	530
Upper Frequency	1700

```
WKVG       AM 1000 kHz NDD  Daytime          D B LIC  JENKINS                    KY US BL
--                 1.0   kW   40502        656.55 km  407.96 mi 251.20° MARTINS &
ASSOCIATES, INC.
WCMX       AM 1000 kHz NDD  Daytime          D B LIC  LEOMINSTER                 MA US BL
--                 1.0   kW   54850        484.91 km  301.31 mi  40.78° TWIN CITY
BAPTIST TEMPLE, INC.
WLNL       AM 1000 kHz NDD  Daytime          D B LIC  HORSEHEADS                 NY US BL
-19890303AH        5.0   kW   37481        335.97 km  208.76 mi 342.19° TRINITY MEDIA,
LTD
WLNL       AM 1000 kHz NDD  Critical Hours  D B LIC  HORSEHEADS                 NY US BL
-19890303AH        2.5   kW   37481        335.97 km  208.76 mi 342.19° TRINITY MEDIA,
LTD
WRTG       AM 1000 kHz NDD  Daytime          D B LIC  GARNER                     NC US BL
-19790917AG        1.0   kW   9072         475.52 km  295.47 mi 214.77° ESTUARDO
VALDEMAR RODRIGUEZ AND LEONOR RODRIGUEZ
WCCD       AM 1000 kHz DAD  Daytime          D B LIC  PARMA                      OH US BL
--                 0.5   kW   25522        569.77 km  354.04 mi 295.38° NEW SPIRIT
REVIVAL CENTER MINISTRIES, INC.
WIOO       AM 1000 kHz NDD  Daytime          D B LIC  CARLISLE                   PA US BL
-11094             1.0   kW   72985        167.67 km  104.18 mi 305.97° WIOO RADIO INC.
WKDE       AM 1000 kHz NDD  Daytime          D B LIC  ALTAVISTA                  VA US BL
--                 1.0   kW   21415        401.94 km  249.75 mi 234.45° D.J.
BROADCASTING, INC.,
WRAR       AM 1000 kHz NDD  Daytime          D B LIC  TAPPAHANNOCK              VA US
BML    -20060419AFE       0.3   kW   55170        184.77 km  114.81 mi 212.37°
A.C.T.I.O.N., INCORPORATED
```

Included in this printout are call, frequency, antenna pattern, day or night info, station class, whether the station is licensed or has a construction permit on file, city of license, internal FCC identification info, power, facility ID, distance, bearing and the station ownership. I naturally don't need all this info. I'm only interested in calls, frequency, powers and distance.

I then dump the data into a spreadsheet. I am not a spreadsheet guru, so I'll have to leave that to your ingenuity. But after the data dump and pruning unwanted data, I came up with something like this for 1000 khz:

FREQ	CALL	LOCATION	ST	MILE	DAY W	NIGHT W	LINER	FORMAT	NETWORKS
1000	**WIOO**	**CARLISLE**	**PA**	**103**	**1,000**			**C**	**ABC News**
1000	**WRAR**	**TAPPAHANNOCK**	**VA**	**116**	**300**		**Lifetalk Radio**	**T**	
1000	**WLNL**	**HORSEHEADS**	**NY**	**208**	**5,000**			**R**	
1000	WKDE	ALTAVISTA	VA	250	1,000			N	CNN Headline News
1000	WRTG	GARNER	NC	296	1,000			SS	
1000	WCMX	LEOMINSTER	MA	300	1,000			R	
1000	WCCD	PARMA	OH	353	500			G	
1000	WKVG	JENKINS	KY	408	1,000			G	

I actually have more columns than this, mainly for sports networks, but they wouldn't fit on the page. I also arranged the stations by distance, from nearest to farthest. The "format" column looks funny as I use abbreviations to note formats, R for Religious, C for Country, G for Gospel (usually urban gospel), SS for Spanish, N for News and T for Talk. And you'll also notice all of these stations are daytimers.

Three listings are in bold, WIOO, WRAR and WLNL. This means I have logged them are in my master log. You'll also notice WIOO and WLNL are highlighted in yellow. This shows I have logged them on an ultralight radio and are in my ultralight log. I have not logged WRAR on an ultralight (yet!), so its listing is not highlighted. This allows me to keep track of stations that are in my master log and which are in my ultralight log. This naturally allows me to see at a glance stations that I have not yet heard, as they are not in bold nor highlighted.

So I have my work cut out for me on 1000, with 6 stations not in my ultralight log.

This file serves as a master reference for me of all stations within 500 miles. I checked every station in Google to verify their formats. I also added sports networks and talk shows that the station airs. There are currently 1,426 stations in this spreadsheet. I can only imagine how many more there would be if I didn't have the Atlantic Ocean 50 miles to my east. I envy you DXers in the center part of the country!

Okay, I now have a spreadsheet with over 1,400 stations. What now? The third step is setting up a target list from that data.

I choose a 500-mile radius because I figured that I had a decent chance to hear the majority of these stations. Sure, I'd love to hear California and Newfoundland but that isn't going to happen very often from here in the Mid-Atlantic region. I can add those stations and well as foreign stations later. Right now, I am concentrating on "what's in my area?"

I then went through my 500-mile list and marked all the stations that I have heard. After finishing that, I am left with many stations that I have yet to hear. This is my target list. I maintain this list in a separate file. Because I suffer from terminal weirdness, I maintain this list in a text format (Word format) for quick and easy access and editing. My target list, pulled from my 500-mile spreadsheet, looks like this for 1000 khz:

1000

WRAR	**TAPPAHANNOCK VA**	**116**	**300**	**T**
WKDE	**ALTAVISTA VA**	**250**	**1,000**	**N**
WRTG	GARNER NC	296	1,000	SS
WCMX	LEOMINSTER MA	300	1,000	R
WCCD	PARMA OH	353	500	G
WKVG	JENKINS KY	408	1,000	SG
KOMO	**SEATTLE WA**	**2379**	**50000/50000**	
BRAZIL ZYK522 *R.Record*, São Paulo (23°33'S 46°38'W)				
VENEZUELA YVNM *R.Caribeña*, Morón (10°30'N 68°10'W)				

There are 6 stations within 500 miles that I have yet to log on an ultralight, the nearest being WRAR at only 116 miles, but at a paltry 300 watts of power. I have added the long-distance targets, like the Seattle station and the two South Americans. Good luck with that! The red text shows stations within 250 miles, which I consider prime DX targets.

What does all this info tell us? We have to be able to draw some conclusions and specific strategies with all of this data staring at us.

1. I find that I have 893 stations within a 500 miles radius that I have yet to log on an ultralight receiver. I keep reminding myself of that when I complain "there isn't anything to listen to!" during the lean DX times.

2. Some frequencies are "tapped out" where others still have lots of possibilities. I can categorize frequencies as either a basic "waste of time" (not much left to hear) or "camp here for a while" (lots still to hear). My "don't waste your time frequencies" (stations with 2 or fewer stations left unheard) are 620, 640, 650, 670, 690, 700, 720, 760, 780, 820, 830, 850, 870, 890, 1020, 1040, 1100, 1120, 1180 and 1210. My major target frequencies, with at least 10 unheard stations, would include 800, 900, 970, 1050, 1110, 1270, 1280, 1300-1350, 1380, 1410-1460, 1520, 1540, 1570, 1590 and 1600. These are the frequencies I should be concentrating on, including the graveyard channels.

3. Just because a station is nearby doesn't mean it's easy to hear. You have to take into account antenna patterns and other stations on the same frequencies. WLAN-1390

in Lancaster, PA is only 65 miles away but I have yet to hear it on an ultralight, mainly because the antenna pattern is not directed toward me. WCHE-1520 in West Chester, PA is only 46 miles distant but it is also not in my ultralight log, for the same reason, not to mention the serious competition from WWKB in Buffalo.

Organization is a key to successful DXing, so hopefully, you'll be able to cull some ideas from my strategies to increase your DX enjoyment!

John Cereghin
Smyrna DE
www.pilgrimway.org/dx