



The

Broadcasters' Desktop Resource

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... edited by Barry Mishkind – the Eclectic Engineer

Focus On Regulation

Finding An Open LPFM Channel



By James Pollock

[July 2011] On July 12th, the FCC will hold an open meeting which will include discussion of a Third Further Notice of Proposed Rule Making to get comments on the impact of the Local Community Radio Act on the future licensing of LPFM and FM translator stations.

Potential applicants will be hoping for an announced Window to apply for these. To help plan for it, Jim Pollock shows how to determine if an open channel is likely in a given area.

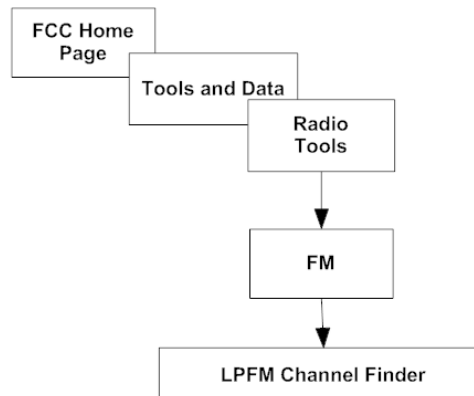
Many of those people or groups seeking to construct a low power station have discovered that finding an open frequency in the area they want to serve is not always easy. Many of the reasons for this were discussed in my [recent article on the difficulty in finding LPFM allocations](#).

THE FCC WEBSITE DRILLDOWN DIAGRAM

While we await the FCC's actions this month, let us take a look at one of the tools the FCC does supply for those hoping to find a spot on the dial.

The LPFM Channel Finder is based on the current criteria in FCC 73.807, the LPFM spacing requirements under the current Rules. However, it has not been updated for the LCRA (Local Community Radio Act). At the very least, it will serve quite well as a litmus test as to what possibilities exist.

One way to get there is by going to the FCC's website and then drilling down to the LPFM Finder Page.



Alternatively, you can use the following link and go right to the Finder Page.

http://transition.fcc.gov/mb/audio/lpfm/lpfm_channel_finder.html

WHAT THE CHANNEL FINDER WILL DO

Based on a given set of NAD-27 Coordinates, you will get:

- Those frequencies which qualify under §73.807 as it exists now.
- A list of all pertinent stations considered with distance and true bearing from those stations.
- NAD-27 Coordinates of all the reported stations.
- List of Airports with in 8 km.
- List of AM stations with in 3.2 km.

WHAT THE CHANNEL FINDER ILL NOT DO:

- Identify a Community of License.
- Identify any opportunities based on the removal of 3rd adjacent channel spacing requirements.
- Identify the exact primary and auxiliary facilities.
- Indicate in which direction and by what distance that you must move in order to obtain a viable location for your tower, and/or antenna.
- Identify where the proposed station can be located if the first site of choice is not compliant.

OBSERVATIONS:

As you use the Finder Page, there are some quirks which have been observed with this application.

I will start by using Punxsutawney in West-Central Pennsylvania as an example location, so you can see why you need to be careful in using the Finder.

Using reference coordinates of Punxsutawney, 40-57-36 N, 79-0-8 W, I found:

- The FCC has apparently not updated the data since 2006

- Some “results” will not be useable as full power stations have been built on those frequencies.
- Out of date call signs appeared in the list.

LPFM Channel Finder -- Data Entry

Enter NAD 27 Coordinates: (degrees, minutes, seconds latitude and longitude)

FM Station Latitude: 40 57 36

FM Station Longitude: 79 0 8

GPS - determined coordinates are WGS84 / NAD83 and must be [converted to NAD27 using NADCON](#).

[Decimal degrees must be converted to Degrees Minutes Seconds before entry here.](#)

Results only
 Show List of Stations Considered

Submit the Data Clear the Form

*** Database updated May 20, 2006 ***

- Coordinates differed from FM Query by +/- 1 second, although this really is not a big deal.
- Multiple channels were assigned to the same call sign in a locality. (It was just a call sign mix-up.) Several of those were spotted in the listing.
- An auxiliary station for one facility was listed as Class “A.” The main facility is a class “B” station.
- A non-existent LPFM station, whose distance from the reference coordinates, appeared well within the 67 km spacing threshold of a co-channel Class “A” FM station.

The search radius reaches more than a 200 km radius from the coordinates of interest. Thus there is a “ton” of information to pore through.

However, since it is free, it leaves little justification for complaints. And, it is an excellent way to crosscheck results obtained by other methods.

LPFM CHANNEL FINDER – SOME SAMPLE RESULTS

Our initial results were not too promising.

The coordinates entered on Page 1:

40 57' 36" latitude, 79 0' 8" longitude

(or 40.9600, 79.0022 in decimal degrees)

cannot be used to apply for a low power broadcast station on ANY FM channel due to interference caused to authorized FM broadcast stations.

As a result, an application for this site for a LPFM station cannot be accepted for processing.

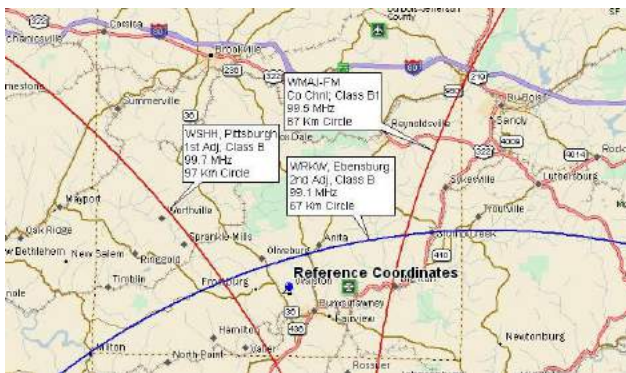
Not quite the desired solution

In order to score “hit” with this tool, your coordinates usually must be well clear of urban areas on all flanks. If you do not score a “hit,” then the probability of finding a post-LCRA compliant channel is about 25%.

Of course, under the current Rules if you are seeking opportunity in an urban setting *it is 100% certain that the band is saturated and there is no more room.* But with this simple and free tool, you have nothing to lose in trying it anyway.

If you cannot find a positive solution, it is time to contact someone capable of generating a full report for the coordinates. From that report, your consultant can determine if there are any areas where a short move would make it viable.

For example, a zone of opportunity for using 99.5 MHz in the Punxsutawney-Brookville area in western Pennsylvania is shown on the following map. In this example, an LPFM can be located above the **BLUE** line and between the **RED** lines.



Slightly outside the desired city a site is possible
So, according to the map, just moving slightly more than 3 km into the zone of opportunity would have registered at least one hit with the tool.

ANOTHER TRY

Moving a bit further, by relocating the coordinates 26 km from Punxsutawney to Brookville, two ‘hits’ were scored.

The coordinates entered on Page 1:

41 9' 50" latitude, 79 5' 10" longitude

(or 41.1639, 79.0861 in decimal degrees)

have passed the minimum spacing tests: a channel or channels exist on which a LPFM station could operate in accordance with the LPFM spacing rules.

Channels Available for LPFM LP100 Use
[Channels 201 to 300, [corresponding to 88.1 to 107.9 MHz](#)]

Channel 258 — 99.5 MHz
Channel 260 — 99.9 MHz

A more positive result

For each new location, you must run the tool again, using the new coordinates. Sometimes new frequencies will appear, while others may be disqualified and removed from the list. If you get a “hit” it is very likely that you will be able to file in the next FCC LPFM Window.

CHECK AROUND

If the exact location of the station is not critical you can continue to move around a bit and might find an adjacent rural area that will give you access to the city or town of your interest.

The result table which follows on the next page summarizes several different searches made in different areas of the country.

The results show that it is indeed possible to find an opportunity in the rural areas as I have mentioned.

LPFM 73.807 Compliant Opportunities prior to Enactment of the LCRA			
Location	Coordinates	Opportunity	Comments
Greencastle, Pa	39-47-26 77-43-20	99.1 MHz	100-110 km north of Baltimore MD Washington DC, and 90 km SE of Harrisburg, PA
Hood River, Or	45-42-06 121-32-05	99.1 MHz, 99.9 MHz	120 km east of Portland, OR
Walker, WV.	39-10-46 81-23-03	101.1 MHz 104.1 MHz	114 km SSW of Wheeling, WV 91 km NNE of Charleston, WV
Punxsutawney, Pa	40-57-36 79-0-8	“0” hits	100 km NNE of Pittsburgh, PA 27 km South of Dubois, PA 71 km north of Johnstown, PA 67 km NW of Altoona, PA
Brookville, Pa	41-9-50 79-5-10	99.5 MHz 99.9 MHz	110 km NNE of Pittsburgh, PA 27 km West of Dubois, PA 81 km NNW of Johnstown, PA 91 km NW of Altoona, PA

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Return to The BDR Menu