

FCC Lookup Version 5

The screenshot shows the FCCLookup application window. The title bar reads 'FCCLookup'. The menu bar includes 'File', 'Options', 'Advanced Search', and 'Help'. Below the menu bar, there is a search section with a 'Callsign' field containing 'W1AW', a 'Wildcard charaters * = all ? = single character' note, and a 'Search' button. The main area is titled 'Callsign Data' and contains several fields: 'Call Sign' (W1AW), 'Previous Call Sign' (empty), 'License Class' (Club), 'Issue Date' (01/10/2001), 'Expire Date' (02/26/2011), 'Name' (ARRL HQ OPERATORS CLUB), 'Address' (225 MAIN ST), 'City' (NEWINGTON), 'State' (CT), 'Zip Code' (06111), 'US County' (Hartford), 'Grid Square' (FN31PQ), 'Latitude' (41.6886), 'Longitude' (-72.7291), 'Bearing' (62 degrees True), 'Distance' (3516 KM), 'Sunrise (UTC)' (14-Jul-2010 09:28:00), 'Sunset (UTC)' (15-Jul-2010 00:24:19), 'Ten-Ten #' (57575), and 'VP #' (empty). At the bottom, there is a copyright notice: 'Copyright (c) Steinkamp Software Solutions, Tucson, AZ'. A footer table contains the following data:

FCC Data: 07/11/2010	TenTen Data: 06/06/2010	VP Data: 05/31/2010
Version 5.114	15 Jul 2010	00:47:00 UTC

This new version of FCC Lookup replaces the version 4 software. I lost the source for Version 4 (due to a hard drive failure) and because there are so many users that have enjoyed this program over the years, I decide to completely rewrite the software into this new version 5. I took many of the lessons learned over the years of programming and incorporated them into this product.

Unlike Version 4.x which relied solely on text files, this version parses the text files into a relational database system using the SQLite Database Management System. SQLite is a lightweight Database Server contained in one Dynamic Link Library (DLL). A command Line program called sqlite3.exe is also installed into your system folder and can be called from any command line prompt to interface with the database server. Third party software such as SQLite Administrator, are available free of charge to allow a user to interface with the server on a Graphical User Interface level. A word of CAUTION: If you are not familiar with the Structured Query Language (SQL), proceed at you own risk, as you could

damage the database file structure in a nano second.

The database file and all the ancillary files to make this program function are located in c:\ProgramData\FCCLookup. The data file is called fccdata.s3db and when properly filled will occupy approximately 500MB of space. Remember, there are almost one million records in the FCC database, and we are using 3 of the 12 files provided by the FCC. The default program folder is c:\Program Files\FCCLookup_1

Initial Setup: When you run the program for the first time, it will take anywhere for 15 minutes to an hour to get all the files downloaded and setup. The time required will be largely dependent on the speed of your internet connection, the amount of memory your computer has and the speed of your processor. On my development machine, with a 3 GHz processor, 2GB of memory and a 10mb/sec LAN connection it took about 15 minutes to complete this process.

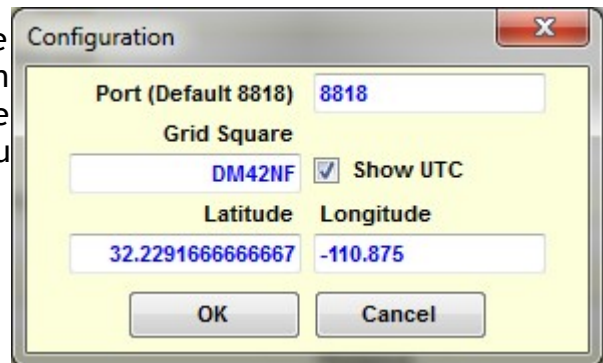
First, the FCC data file called l_amat.zip will be downloaded from the FCC's FTP site, followed by a TenTen data file from my web server. The necessary files will be extracted

using a command line extraction program called unzip.exe.

The TenTen data will then be formatted so it can be imported into the database file. The FCC file, en.dat, am.dat and hd.dat will be broken down into smaller chunks of 10,000 lines each. This process allows a faster import into the database than trying to import almost a million lines at one time.

Once the import of data has completed, the index files for the database must be created. This process will take the longest time, so please be patient.

Configuration: All that is required to configure the program is the user geographical location. You can enter the location in either Latitude and Longitude in degrees or your Maidenhead Grid Locator. If you don't know either, do a search on your callsign and a grid locator that represent the center of your zipcode will be displayed and you can use that.



The port is optional and defaults to 8818. You can change this to any number you like, but make sure that any other program that connects via the callsign server is using the same port.

Searching a Callsign: Enter a callsign and press the return key or click the search button. If a match is found, the data for that callsign will be displayed. The search criteria is performed only on records that are active. If the search fails, then a search of previous callsigns will look for a match and if one is found, then that callsign will be used and the data for that callsign will be displayed. In the event, multiple active callsign are found to match a previous callsign, a list of those calls will be presented in a drop down box for the user to choose from.

Wild Card Searches: A wild card is a character that will act as a substitution place holder in a string. You can use the Standard DOS wildcards or the Linux wildcards -the linux wildcards are the standard and the program will substitute the corresponding DOS wildcards.

The underscore (_) and the Question Mark (?) are for single character substitutions. If you type in N7Y?, it will return every active callsign starting with N7YA through N7YZ.

The percent (%) and the star symbols (*) are used to represent multiple characters. If we type in N7%, it will return, in the drop down box, a list of every active callsign from N7AA through N7ZZZ. Be extremely cautious using this substitution as you could easily return over 100,000 records and possibly starve your computer for memory.

Once a search for multiple records has completed, a drop-down box will appear with a list of callsigns found. Click on a callsign to perform a search for that specific callsign.

Database Updates: The FCC provides data in two methods, a weekly update and a daily transactional update. No attempt has been made to incorporate the daily update. The weekly update becomes available on the FTP site early Sunday morning around 0300 EST. It is this file that is downloaded when you select the Update menu item from the File menu. The process is exactly the same as the initial database load and setup described earlier.

Advanced Searches: Selecting this menu option will allow you to tailor a search based on any one of a number of the database fields. You simply select a field and a value to search in that field and click Add to add it to the end of the SQL statement. An SQL statement will be built to use as the searching criteria. A spreadsheet like grid will be returned with all the matching data.

The screenshot shows the 'Advanced Searching' interface. The SQL statement is:


```
select * from [fcc_en],[fcc_am],[fcc_hd] where
[fcc_en].unique_system_identifier=
[fcc_hd].unique_system_identifier and
[fcc_en].unique_system_identifier=
[fcc_am].unique_system_identifier and
[fcc_hd].license_status='A' and [fcc_en].city like 'jasper'
```

 The 'Field List' includes: first_name, mi, last_name, suffix, phone, fax, email, street_address, city (selected), state, zip_code. The 'Item to Search' is 'jasper'. The results table is as follows:

call_sign	entity_type	licensee_id	entity_name	first_name	mi	last_name
AA4PA	L	L01008451	SEAY, EDWARD A	EDWARD	A	SEAY
AA4QQ	L	L00141026	Lucas, John R	John	R	Lucas
AA9WD	L	L00742813	Merkley, John L	John	L	Merkley
AB5FH	L	L00174854	ROHRER, THOMAS J	THOMAS	J	ROHRER
AB5FZ	L	L00181372	WILLIAMS JR, WILBER A	WILBER	A	WILLIAMS
AB7UF	L	L00896401	LAMBERTY, LOIS M	LOIS	M	LAMBERTY
AE4GC	L	L00596737	WINDHAM, JAMES R	JAMES	R	WINDHAM
K4BEH	L	L00167360	HAYNES, MAURICE P	MAURICE	P	HAYNES
K4CEK	L	L00694336	KENT JR, SAMUEL D	SAMUEL	D	KENT
K4INU	L	L00306957	GILBERT, GERALD K	GERALD	K	GILBERT
K4ODL	L	L00159843	TUDOR, RANDALL O	RANDALL	O	TUDOR
K4QMH	L	L01178320	Baker, William K	William	K	Baker
K4SBS	L	L01484541	Williams, SHERRY S	SHERRY	S	Williams

In this example, we performed a search on a city named Jasper. It returned 316 records of callsigns for hams in the City of Jasper in a number of different states. We can further limit this search by specifying a state, such as GA, to discover there are 69 licensed hams in Jasper, GA.

This is a very powerful tool when used correctly. Again, be cautious when using wild cards as your return could exceed 100,000 records Ham club administrators could use this feature in locating prospective members that reside in a area by using a zipcode or city search.

The results can be exported to a Comma Separated Value (CSV) file which can be imported into any number of spreadsheet programs. From there, you can delete the unnecessary columns to create a data source for a simple mailing list or mail merge program. NOTE: While the records for Federally Licensed radio operators is a matter of public record, you should respect an individuals privacy and not use this feature to create spam or junk mail marketing list.

Batch Processing: This option under the file menu will take a file of call signs, perform a search, and output the result to a file. The callsign in the file must be separated by one of the following characters: CR/LF, Comma (,), Tab, Semi-Colon (;), Colon (:), Space, or Pipe character (|). The resultant output file will have the fields delimited by the same character as the input file with the exception of files that use the CR/LF. In this case the fields will be separated with a comma (,).

Options: The user has the ability to customize the GUI windows to their liking by selecting a suitable display font, emphasis, and color. The foreground and background colors can also be customized. All these user options are stored in the registry.

Once callsign data is displayed, the user can select the FCC ULS link to go directly to the holders online FCC record. Likewise the QRZ option will pull up the QRZ page for the selected callsign. The Google maps option will pull up a Google Map, showing the address that is on file with the FCC. This may not always work, especially with only a PO Box number instead of a physical address.

The TenTen and Vp option will allow the user to enter the respective number and cross reference it to a callsign.

Callsign Server: A mini TCP/IP callsign server has been included with this project. It will allow other programs to connect via a TCP port and retrieve callsign data. Currently my PSKExpress program provide that interface, but if you are a developer, connecting and retrieving data is quite simple.

To enable the server, select Server Enable from the option menu or click the red indicator next to the Search button. Once the server is enabled it will remain enable. If the program is closed and the server was enabled, the next time the program starts, the server will automatically be enabled. The status of the server is annunciated by the status indicator. Red = disabled, Green = enabled.

Developers: Intefacing with FCCLookup is quite simple. Establish a RAW TCP connection on port 8818 (or a port of you liking) on the local host. To retrieve callsign data,send a plain text string that begins with CL followed by the callsign in uppercase letters:

```
CLN7YG      to lookup N7YG
```

Do not terminate the string with any end of line characters such as carriage returns or line feeds.

If data is not found for the callsign, the server will return !ERROR. Any data returned by the server that is prefaced with the exclamation point (!), is a service message. If data is found you will receive a string of text where the fields are delimited with the pipe character (|) with the fields in the following order:

Callsign
Entity Name
Address
City
State
Zip Code
Grid Square
TenTen
VP
First Name
Last Name
Mi
County
Latitude
Longitude

FCCLookup can be downloaded from the [N7YG Web site](#)

SQLite can be downloaded for their [Web Site](#)

SQLite Administrator can be downloaded from its [Web Site](#).