

HFDLActiveFrequencies (v2.0)

This program extracts the active HFDL frequencies as advertised in the HFDL squitter messages.

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2. Installing

Install the [HFDLActiveFrequencies.exe](#) and the [HFDLActiveFrequencies.ini](#) in a directory of your choice. Make sure it also contains [System.Data.SQLite.dll](#).

Do not install it in any of the directories that are protected by Windows like **C:\Program Files (x86)** and **C:\Program Files**.

Note: If you are upgrading from a previous version it is best to just replace the .exe.

Be aware that if you rename the .exe or change its location you will have to re-enter all the options before the program will let you press “Start”.

2.1. The first time

You are reminded to configure these mandatory settings:

The input port at **Options > Miscellaneous**

The folder for the log files at **Options > Log Files**

The location of the HFDL System Table at **Options > Files and Folders**

3. Feeding HFDL messages

The HFDL messages (in text format) need to be send using UDP over a port of your liking.

You can sent the UDP messages directly from dumphfdl, from PC-HFDL (using **PCHFDLUdpFeeder** or from MultiPSK (using **MultiPSKFeeder**).

3.1. Using dumphfdl as the source:

Assuming you already have dumphfdl running the only thing you need to do is add an additional output like this:

```
--output decoded:text:udp:address=192.168.178.2,port=30098
```

Where the **address** and **port** match your environment.

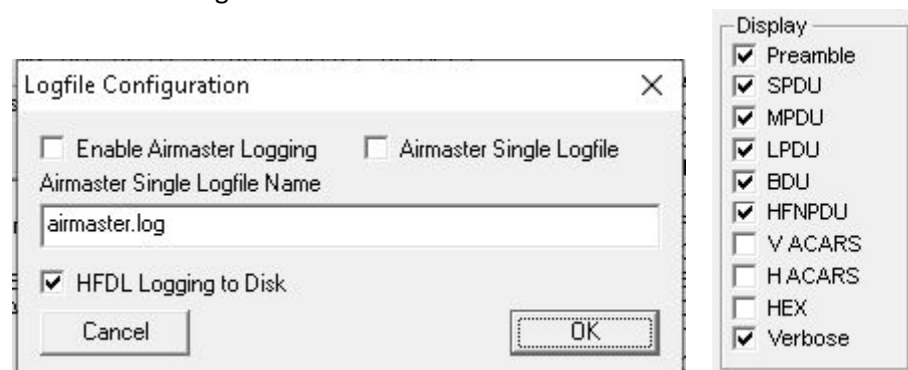
Also make sure you have used the parameter: **--utc**

3.2. Using PC-HFDL as the source:

Setup PC-HFDL to write the messages to a logfile.

Make sure you have at least the **SPDU** option set.

I use these settings:

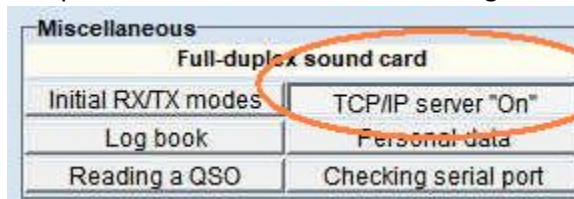


Next install **PCHFDLUdpFeeder** which can be found in the file section.

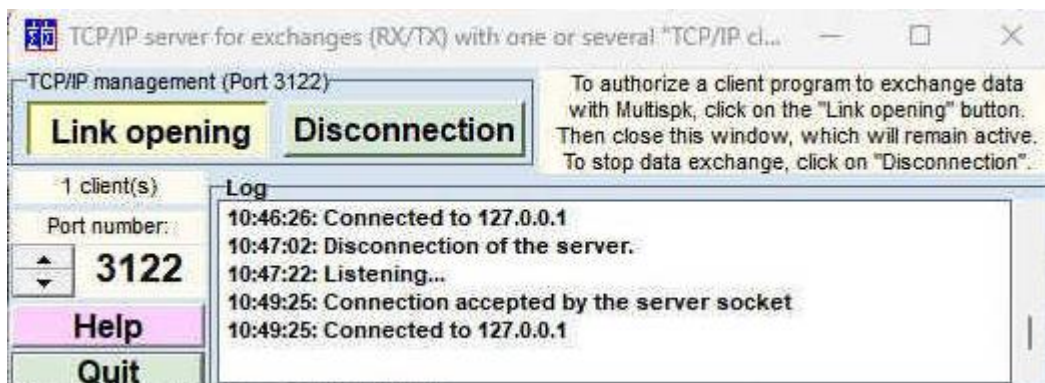
Configure it to read all your PC-HFDL directories and feed HFDLActiveFrequencies.

3.3. Using MultiPSK as the source:

Setup MultiPSK to offer the HFDL messages on the TCP/IP port.

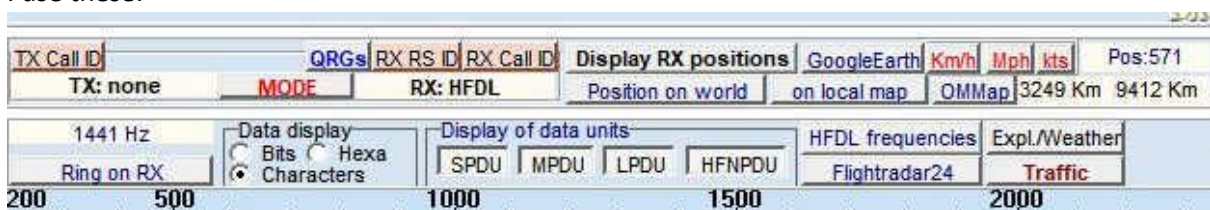


Select a Port number for this MultiPSK instance:



Make sure you have at least the **SPDU** option set.

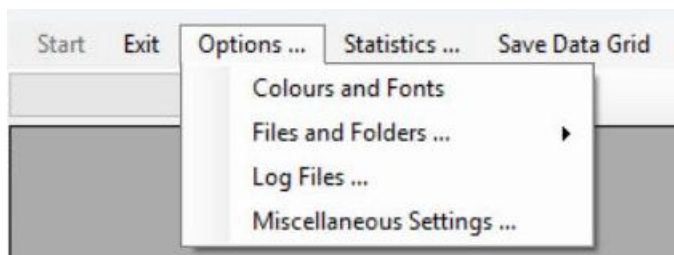
I use these:



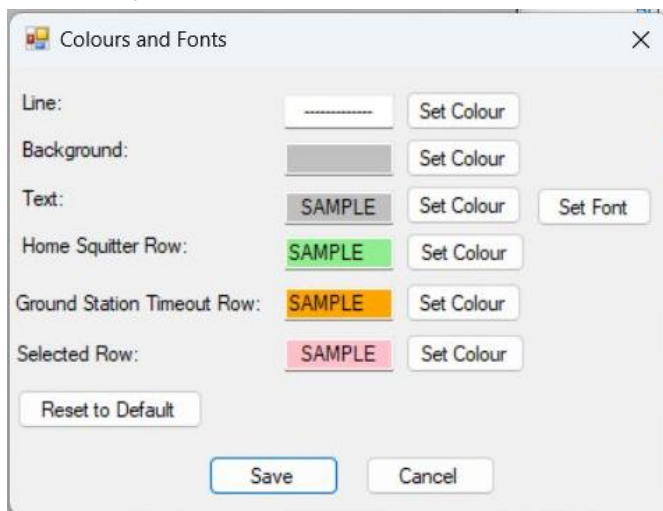
Next install **MultiPSKUdpFeeder** which can be found in the file section.

Configure it to read all your MultiPSK instances that decode HFDL and feed HFDLActiveFrequencies.

4. Setting Options



4.1. Options > Colours and Fonts



The examples in this document had the default Background configured as grey.

4.2. Options > Files and Folders

Here you **need** to configure the [HFDL SystemTable File](#) that will be used.



This can be either:

- the PC-HFDL System Table in readable text format.
- the dumphfdl one called systable.conf which can be found in the dumphfdl/etc directory.

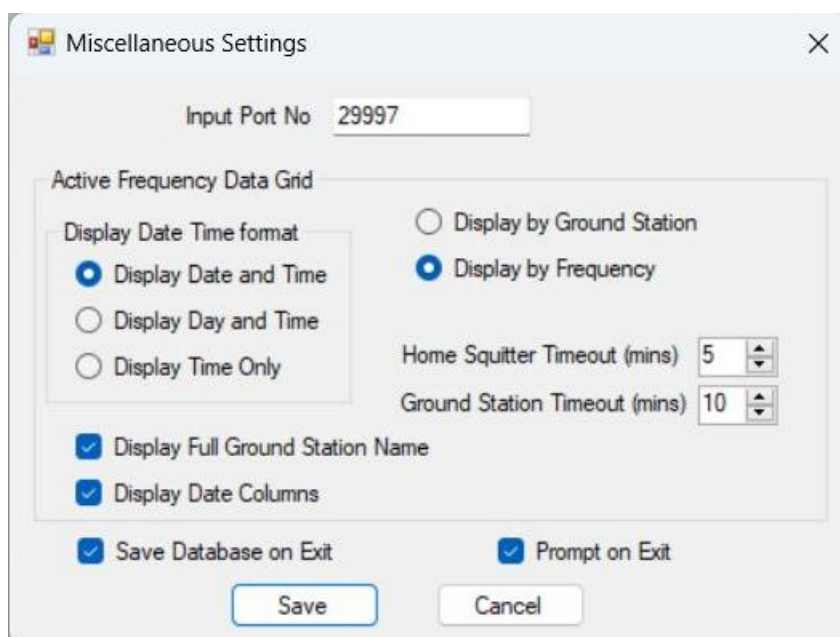
The most recent version of both are added to the distribution.

4.3. Options > Log Files

Here you **need** to configure the [directory](#) where the log files will be stored.

Besides showing the data in a grid, relevant data will be written to a log file and a database in a folder define here.

4.4. Options > Miscellaneous



Input Port No

The port you are sending the HFDL data to.

Display by Ground Station

Display by Frequency

This setting can only be changed when the program is executed but not yet started.

Home Squitter Timeout (mins)

Ground Station Timeout (mins)

As you might be aware a HFDL squitter contains the active frequencies of the GS that transmitted the squitter as well as the active frequencies of two other GS's. Based on experience we decided to consider the active frequencies of the GS that transmitted the squitter to be very reliable.

These active frequencies are called "Home squitter" and are given the "**Squitter**" status and in my case get the color green.

The active frequencies of the two other GS's in a squitter are considered "here say" as we have seen many occasions in which those active frequencies were not correct. We have not figured out why they sometimes don't match the reality.

Maybe, if a GS changes its active frequencies, it takes some time before other GS's show the new value of this other GS in their squitter.

Currently there is even one GS (Krasnoyarsk) that has not been active for over a year but still shows up in the squitter of other GS's, even with changing frequencies..

Anyway, these “here say” frequencies are given a “**Blanc**” status.

If a GS hasn’t appeared in any squitter for a configurable period it will show a “**Timeout**” status and the assigned color.

Hopefully all other settings speak for themselves.

5. Features

5.1. Grid functions

- You can sort the grid on any column.
- When you click a row it becomes “selected” and changes to the color you have defined. Clicking it again will unselect the row.
Currently there is no functionality that applies specifically to a select row.

Columns

- Received Sqtr the date/time the squitter was received containing these frequencies.
- HFDL Id ground station ID from the System Table.
- Gnd Station ground station name from the System Table.
- Freq Active frequency.
- Recd Date The date/time this frequency became active.
- Status Is be ‘empty’ or contain **Squitter** or **Timeout**.

5.2. Display by Ground Station

Although we haven’t yet seen ground stations that have more than 3 active frequencies, we decided to reserve space for 4 frequencies.

The grid is sorted on the Freq column.

HFDL Active Frequencies v1.0 © acarslogger 2024											
Start Exit Options ... Statistics ... Save Data Grid											
Received Sqtr	HFDL Id	Gnd Station	Freq	Recd Date	Freq	Recd Date	Freq	Recd Date	Freq	Recd Date	Status
20240718 11:57:57	2	Molokai, Hawaii	5514	20240718 03:05:51	13324	20240718 00:05:54	21937	20240717 17:26:39			
20240718 11:59:30	6	Hat Yai, Thailand	5655	20240718 05:30:45	13270	20240718 04:06:39					
20240718 11:59:30	5	Auckland, New Zealand	6535	20240718 10:17:13	13351	20240718 10:36:57					
20240718 11:57:25	1	San Francisco, California	6559	20240718 04:30:26	13276	20240718 11:36:09					
20240718 11:59:37	16	Agana, Guam	8927	20240717 15:54:13	11306	20240717 15:43:30	21928	20240717 15:43:30			
20240718 11:59:33	7	Shannon, Ireland	8942	20240718 06:04:31	10081	20240718 05:04:37					Squitter
20240718 11:58:58	3	Reykjavik, Iceland	8977	20240717 15:43:33	15025	20240717 15:43:33	17985	20240718 03:05:51			
20240718 11:58:33	11	Albrook, Panama	10063	20240717 15:44:41							
20240718 11:56:21	13	Santa Cruz, Bolivia	11318	20240718 10:20:21	17916	20240718 10:36:21					
20240718 11:59:01	8	Johannesburg, South Africa	11321	20240718 09:18:01	21949	20240718 09:37:45					
20240718 11:59:33	9	Barrow, Alaska	11354	20240718 07:04:15	17934	20240718 08:04:30					
20240718 11:58:58	4	Riverhead, New York	11387	20240718 11:15:34	17919	20240718 11:35:11					
20240718 11:56:21	14	Krasnoyarsk, Russia	13321	20240718 00:35:27							
20240718 11:59:37	17	Canarias, Spain	17928	20240718 07:30:49	21955	20240718 07:10:34					Squitter
20240718 11:59:33	10	Muan, South Korea	17958	20240718 09:04:27	21931	20240717 23:36:05					
20240718 11:59:30	15	Al Muharraq, Bahrain	17967	20240718 11:08:53	21982	20240718 04:00:47					Squitter

5.3. Display by Frequency

The grid is sorted on the Status column.

HFDL Active Frequencies v1.0 © acarslogger 2024					
Start Exit Options ... Statistics ... Save Data Grid					
Received Sqr	HFDL Id	Gnd Station	Freq	Recd Date	Status ▲
20240717 20:46:39	7	Shannon, Ireland	8942	20240717 12:43:21	Squitter
20240717 20:46:39	7	Shannon, Ireland	10081	20240717 12:43:21	Squitter
20240717 20:46:39	1	San Francisco, California	17919	20240717 12:49:45	
20240717 20:46:39	1	San Francisco, California	21934	20240717 15:34:01	
20240717 20:46:39	2	Molokai, Hawaii	13324	20240717 12:42:17	
20240717 20:46:39	2	Molokai, Hawaii	11348	20240717 17:06:17	
20240717 20:46:39	2	Molokai, Hawaii	21937	20240717 17:26:39	
20240717 20:42:55	3	Reykjavik, Iceland	8977	20240717 12:42:17	
20240717 20:42:55	3	Reykjavik, Iceland	15025	20240717 12:42:17	
20240717 20:42:55	3	Reykjavik, Iceland	17985	20240717 12:42:17	
20240717 20:43:27	4	Riverhead, New York	13276	20240717 12:42:49	
20240717 20:43:27	4	Riverhead, New York	21931	20240717 14:38:33	
20240717 20:43:27	5	Auckland, New Zealand	13351	20240717 18:15:05	
20240717 20:43:27	5	Auckland, New Zealand	5583	20240717 18:39:05	
20240717 20:44:31	9	Barrow, Alaska	11354	20240717 12:42:42	
20240717 20:44:31	9	Barrow, Alaska	17934	20240717 12:42:42	
20240717 20:44:31	10	Muan, South Korea	17958	20240717 12:44:25	
20240717 20:44:31	10	Muan, South Korea	13342	20240717 14:36:25	
20240717 20:45:02	11	Albrook, Panama	10063	20240717 12:44:25	
20240717 20:45:02	13	Santa Cruz, Bolivia	17916	20240717 12:45:03	
20240717 20:45:02	13	Santa Cruz, Bolivia	21997	20240717 12:45:03	
20240717 20:45:35	14	Krasnoyarsk, Russia	10087	20240717 20:01:13	
20240717 20:45:35	15	Al Muharraq, Bahrain	17967	20240717 12:42:42	
20240717 20:45:35	15	Al Muharraq, Bahrain	8885	20240717 17:01:29	
20240717 20:46:07	16	Agana, Guam	11306	20240717 12:45:29	
20240717 20:46:07	16	Agana, Guam	21928	20240717 12:45:29	
20240717 20:46:07	16	Agana, Guam	8927	20240717 15:57:29	
20240717 20:46:07	17	Canarias, Spain	17928	20240717 12:42:17	
20240717 20:46:07	17	Canarias, Spain	13303	20240717 20:10:17	
20240717 20:31:43	6	Hat Yai, Thailand	13270	20240717 12:43:21	Timeout
20240717 20:31:43	6	Hat Yai, Thailand	21949	20240717 20:31:43	Timeout
20240717 20:32:14	8	Johannesburg, South Africa	8834	20240717 18:35:53	Timeout
20240717 20:32:14	8	Johannesburg, South Africa	13321	20240717 20:19:59	Timeout

5.4. Statistics



5.5. Save Data Grid

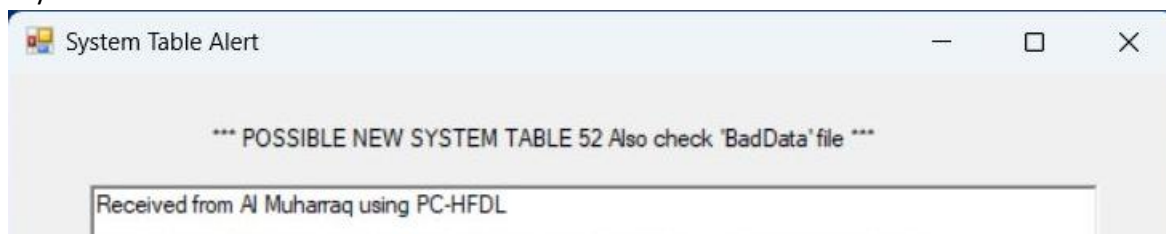
This function will create an .txt as well as an .csv file with the data shown in the grid. Both files will be saved in the log folder. (see Options > Log Files)

6. Notes

1. "Possible new System Table nn"

When a squitter is received referring to a System Table version that is not equal to the one you have loaded in **Options > Files and Folders** then:

- If the System Table version in the squitter is one (1) higher than the one you are using a "System Table alert" window like this



will pop-up showing you the details of the squitter received.

- If the System Table version in the squitter is lower or more than one (1) higher the **HFDLActiveFrequencies_BadData** file will contain a message like this:
"dumphfdl Incoming squitter feed System Table version 51 is not the same as your defined System Table version 52".
These squitter messages will be ignored.

2. "PC-HFDL Incorrect frequency 21955 assigned to Reykjavik"

PC-HFDL is known to sometimes show the frequency of a previous station in the list of active frequencies. This is a known bug and we will have to live with it.

In the PC-HFDL log it will look like this:

```
[Preamble TS(0) 300 bps 1.8 sec Interleaver FREQ ERR 9.04 Hz Mag 38 Votes 13 ][OK]
GND 15:26:33 UTC CANARIAS - SPAIN DB = 52 SV = 0 GS UP HEAVY OFFSET 4
CANARIAS - SPAIN UTC LOCKED Active freqs (Hz) 21955 KHz 17928 KHz
REYKJAVIK - ICELAND UTC LOCKED Active freqs (Hz) 21955 KHz 15025 KHz 8977 KHz
RIVERHEAD - NEW YORK UTC LOCKED Active freqs (Hz) 21931 KHz 13276 KHz
```

3. Why do I need to re-enter the options?

This program is build using VB.NET, a Microsoft framework / development environment.

All options entered are saved in a file called **user.config** stored in a user related folder.

Based on my user name that is: **C:\Users\Dick\AppData\Local\HFDLActiveFrequencies**

In that folder you will find one or more folders with a **unique code**,

like: **HFDLActiveFrequencies.exe_Url_3dwpvj44bq3bhh40wcf4erhkhqamp0w**

In that folder you will find yet another folder named: **0.0.0.0** in which you finally will find the **user.config** file. ☺

This **unique code** depends on the name and the location of the .exe.

So if you change the name of the .exe or change the path it sits in, the program will create an new user.config file in a new unique named folder and force you to enter the required options.

--//--