WSPR Log file creator: a solution from I2GPG

How to extract a logfile for a given call sign out of the huge Wsprnet historical database ? This was the brain exercise of the last week. And I was amazed to find that with a short program coded in python language the solution was easier and simpler than expected. My friend Ivo, IW2FSK was so excited of the result that convinced me to publish the program and explain it in the best understandable way for any one so that other WSPR users can play with it.

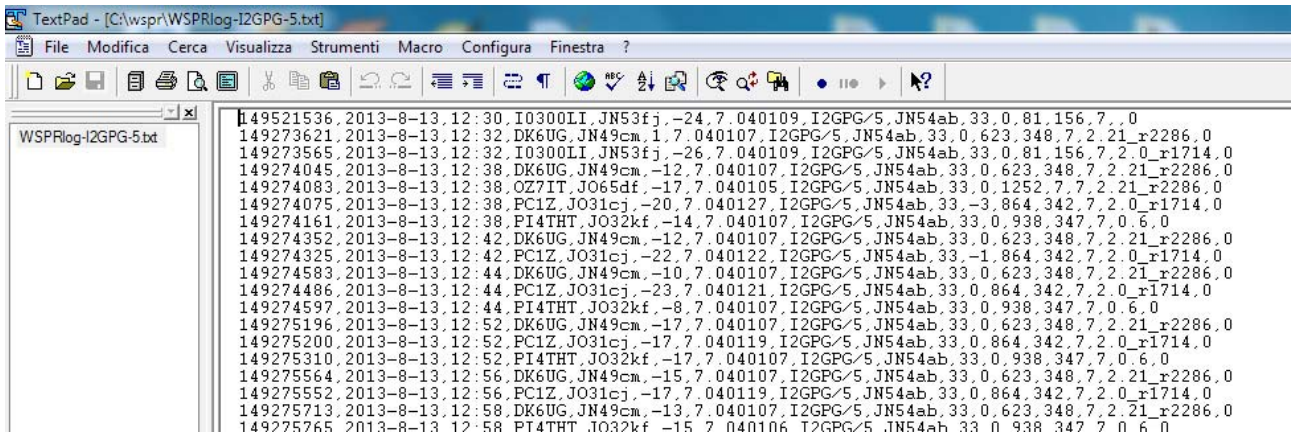
How does it work ?

The total size of the database conserved in Wsprnet server is today about 6 Gigabytes of compressed gzip or zip files. So it can be stored on a double layer DVD. For the purpose of my exercise I downloaded and stored it in a folder of my computer main hard disk (C:/WSPR) .

WSPR-logfile.py Log file creator (the name of my program), developed and tested on Windows 7 machine can be easily modified by Linux users. The program needs Python 2.7 installed in our PC.

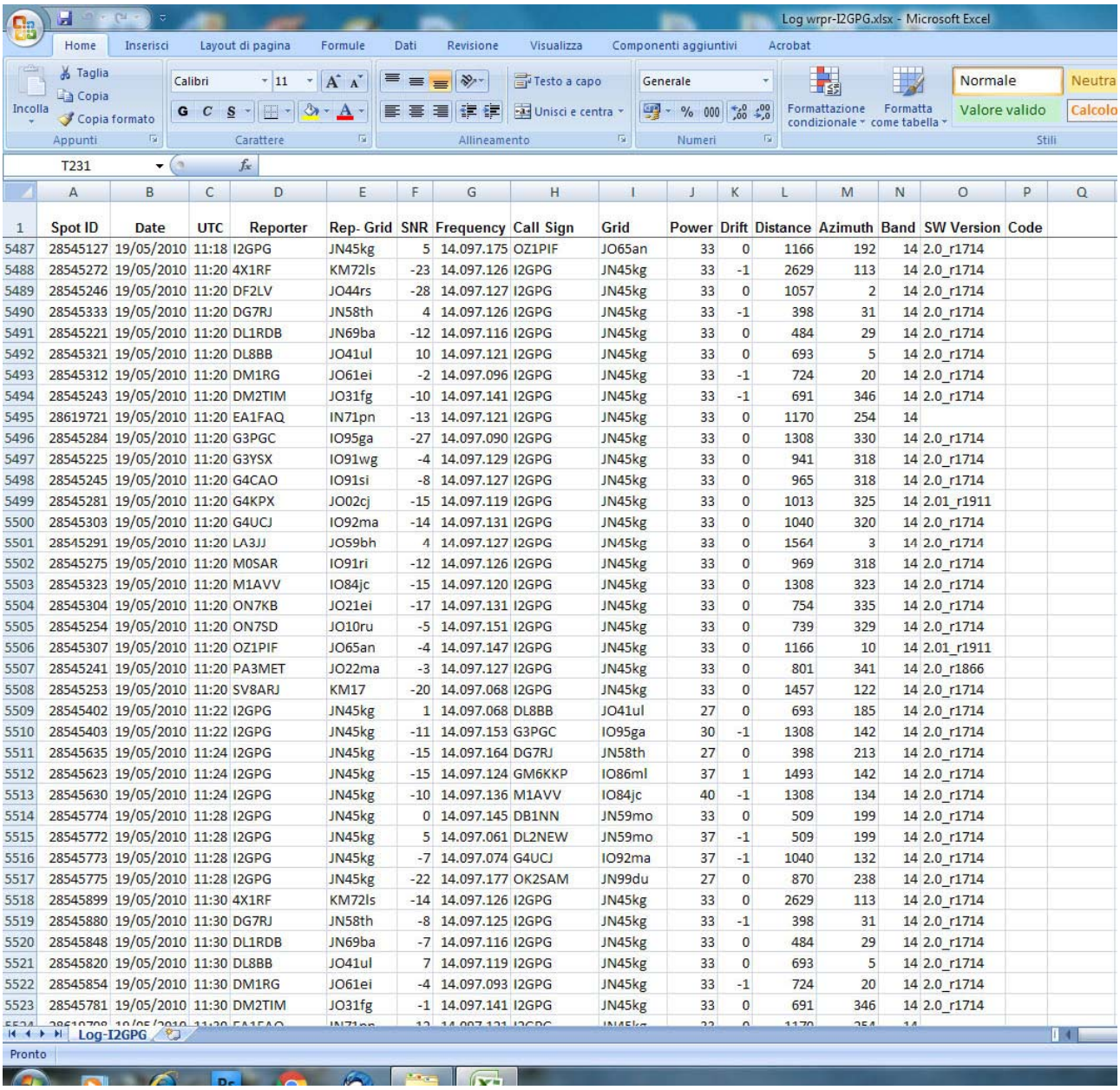
Python is a programming language and an open source interpreter freely available from www.python.org/ that can read and execute the instructions contained in a text file saved with .py suffix.

When started, WSPR-logfile.py asks for a call sign and then explores all the historical monthly database files we have previously downloaded from WSPRnet.org (in .gz format)and stored in folder of our PC. (c:/wspr as default). Any line matching the call sign is appended to the output log text file. The program also converts the "seconds from 1970" timestamp into date and time (more human readable).



screenshot of log lines 1

The log file produced can easily be opened or imported with any spreadsheet program for further processing. (I tested with Microsoft Excel 2007 which allows more than 65000 lines).



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Spot ID	Date	UTC	Reporter	Rep- Grid	SNR	Frequency	Call Sign	Grid	Power	Drift	Distance	Azimuth	Band	SW Version	Code	
5487	28545127	19/05/2010	11:18	I2GPG	JN45kg	5	14.097.175	OZ1PIF	JO65an	33	0	1166	192	14	2.0_r1714		
5488	28545272	19/05/2010	11:20	4X1RF	KM72ls	-23	14.097.126	I2GPG	JN45kg	33	-1	2629	113	14	2.0_r1714		
5489	28545246	19/05/2010	11:20	DF2LV	JO44rs	-28	14.097.127	I2GPG	JN45kg	33	0	1057	2	14	2.0_r1714		
5490	28545333	19/05/2010	11:20	DG7RJ	JN58th	4	14.097.126	I2GPG	JN45kg	33	-1	398	31	14	2.0_r1714		
5491	28545221	19/05/2010	11:20	DL1RDB	JN69ba	-12	14.097.116	I2GPG	JN45kg	33	0	484	29	14	2.0_r1714		
5492	28545321	19/05/2010	11:20	DL8BB	JO41ul	10	14.097.121	I2GPG	JN45kg	33	0	693	5	14	2.0_r1714		
5493	28545312	19/05/2010	11:20	DM1RG	JO61ei	-2	14.097.096	I2GPG	JN45kg	33	-1	724	20	14	2.0_r1714		
5494	28545243	19/05/2010	11:20	DM2TIM	JO31fg	-10	14.097.141	I2GPG	JN45kg	33	-1	691	346	14	2.0_r1714		
5495	28619721	19/05/2010	11:20	EA1FAQ	IN71pn	-13	14.097.121	I2GPG	JN45kg	33	0	1170	254	14			
5496	28545284	19/05/2010	11:20	G3PGC	IO95ga	-27	14.097.090	I2GPG	JN45kg	33	0	1308	330	14	2.0_r1714		
5497	28545225	19/05/2010	11:20	G3YSX	IO91wg	-4	14.097.129	I2GPG	JN45kg	33	0	941	318	14	2.0_r1714		
5498	28545245	19/05/2010	11:20	G4CAO	IO91si	-8	14.097.127	I2GPG	JN45kg	33	0	965	318	14	2.0_r1714		
5499	28545281	19/05/2010	11:20	G4KPX	JO02cj	-15	14.097.119	I2GPG	JN45kg	33	0	1013	325	14	2.01_r1911		
5500	28545303	19/05/2010	11:20	G4UCJ	IO92ma	-14	14.097.131	I2GPG	JN45kg	33	0	1040	320	14	2.0_r1714		
5501	28545291	19/05/2010	11:20	LA3JJ	JO59bh	4	14.097.127	I2GPG	JN45kg	33	0	1564	3	14	2.0_r1714		
5502	28545275	19/05/2010	11:20	M0SAR	IO91ri	-12	14.097.126	I2GPG	JN45kg	33	0	969	318	14	2.0_r1714		
5503	28545323	19/05/2010	11:20	M1AVV	IO84jc	-15	14.097.120	I2GPG	JN45kg	33	0	1308	323	14	2.0_r1714		
5504	28545304	19/05/2010	11:20	ON7KB	JO21ei	-17	14.097.131	I2GPG	JN45kg	33	0	754	335	14	2.0_r1714		
5505	28545254	19/05/2010	11:20	ON7SD	JO10ru	-5	14.097.151	I2GPG	JN45kg	33	0	739	329	14	2.0_r1714		
5506	28545307	19/05/2010	11:20	OZ1PIF	JO65an	-4	14.097.147	I2GPG	JN45kg	33	0	1166	10	14	2.01_r1911		
5507	28545241	19/05/2010	11:20	PA3MET	JO22ma	-3	14.097.127	I2GPG	JN45kg	33	0	801	341	14	2.0_r1866		
5508	28545253	19/05/2010	11:20	SV8ARJ	KM17	-20	14.097.068	I2GPG	JN45kg	33	0	1457	122	14	2.0_r1714		
5509	28545402	19/05/2010	11:22	I2GPG	JN45kg	1	14.097.068	DL8BB	JO41ul	27	0	693	185	14	2.0_r1714		
5510	28545403	19/05/2010	11:22	I2GPG	JN45kg	-11	14.097.153	G3PGC	IO95ga	30	-1	1308	142	14	2.0_r1714		
5511	28545635	19/05/2010	11:24	I2GPG	JN45kg	-15	14.097.164	DG7RJ	JN58th	27	0	398	213	14	2.0_r1714		
5512	28545623	19/05/2010	11:24	I2GPG	JN45kg	-15	14.097.124	GM6KKP	IO86ml	37	1	1493	142	14	2.0_r1714		
5513	28545630	19/05/2010	11:24	I2GPG	JN45kg	-10	14.097.136	M1AVV	IO84jc	40	-1	1308	134	14	2.0_r1714		
5514	28545774	19/05/2010	11:28	I2GPG	JN45kg	0	14.097.145	DB1NN	JN59mo	33	0	509	199	14	2.0_r1714		
5515	28545772	19/05/2010	11:28	I2GPG	JN45kg	5	14.097.061	DL2NEW	JN59mo	37	-1	509	199	14	2.0_r1714		
5516	28545773	19/05/2010	11:28	I2GPG	JN45kg	-7	14.097.074	G4UCJ	IO92ma	37	-1	1040	132	14	2.0_r1714		
5517	28545775	19/05/2010	11:28	I2GPG	JN45kg	-22	14.097.177	OK2SAM	JN99du	27	0	870	238	14	2.0_r1714		
5518	28545899	19/05/2010	11:30	4X1RF	KM72ls	-14	14.097.126	I2GPG	JN45kg	33	0	2629	113	14	2.0_r1714		
5519	28545880	19/05/2010	11:30	DG7RJ	JN58th	-8	14.097.125	I2GPG	JN45kg	33	-1	398	31	14	2.0_r1714		
5520	28545848	19/05/2010	11:30	DL1RDB	JN69ba	-7	14.097.116	I2GPG	JN45kg	33	0	484	29	14	2.0_r1714		
5521	28545820	19/05/2010	11:30	DL8BB	JO41ul	7	14.097.119	I2GPG	JN45kg	33	0	693	5	14	2.0_r1714		
5522	28545854	19/05/2010	11:30	DM1RG	JO61ei	-4	14.097.093	I2GPG	JN45kg	33	-1	724	20	14	2.0_r1714		
5523	28545781	19/05/2010	11:30	DM2TIM	JO31fg	-1	14.097.141	I2GPG	JN45kg	33	0	691	346	14	2.0_r1714		

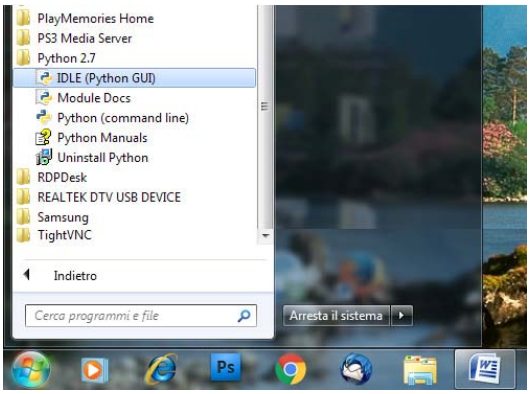
screenshot of log data opened in Excel 2007

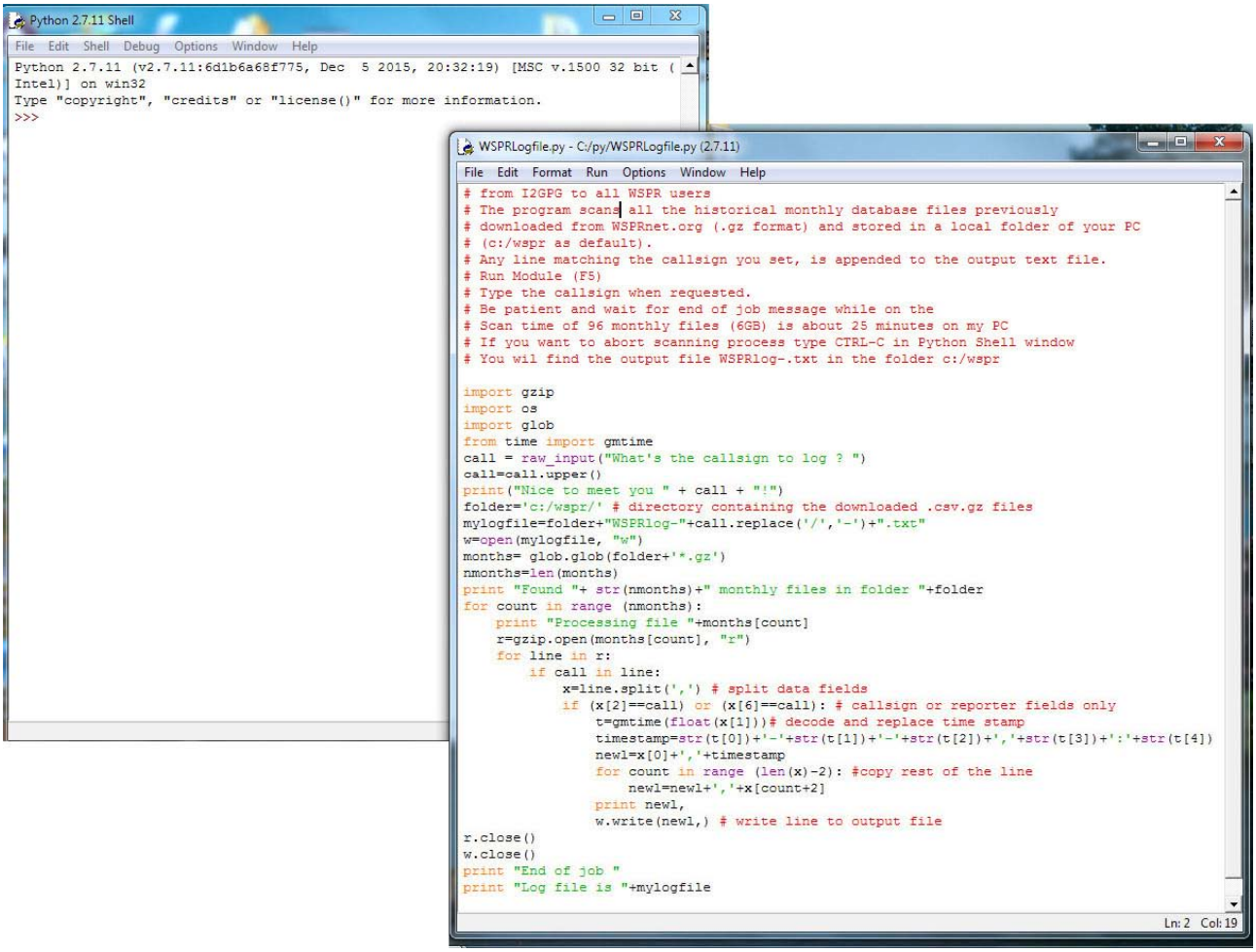
Preparing the PC (step by step operations for Windows machines):

1) Make sure you have enough free space on your computer drive C: (20 or more GByte (if not see final notes)
2) Create new folder C:\wspr
3) Download from http://wsprnet.org/drupal/downloads the database monthly files .gz and move them to the above C:\wspr folder. All 96 files will take about 6 Gigabyte of disk space.
4) If not already installed download Python 2.7.11 from https://www.python.org/ and install it following the instructions.

Creating a call sign log file:

1) Find IDLE (Python GUI)icon on the start menu (Start-All programs- Python 2.7 - IDLE (Python GUI) and click on it to open the Phython 2.7.11 Shell window.





5) Click on File-Open in the Shell window
6) Locate the script file WSPRLogfile.py and open it. The script will appear on a second window.
7) Run Module (F5)
8) Type in the call sign when requested.
9) Be patient and wait for end of job message while on the Shell window you see the database files and selected lines processed. Scan time of 96 monthly files (7GB) is about 25 minutes on my PC.

10) If you want to interrupt the program and abort scanning process type CTRL-C on Shell window.
11) You will find the output file WSPRlog-.txt in the folder c:/wspr

Notes:

- If you keep the database on your hard disk you have only to download the last monthly file every month to keep it updated.
- If you want to change location of the database on a different drive you have to edit the line of the script : folder='c:/wspr/' … with the new path/folder name .
- The program overwrites any previous log file with the same call sign.
- Beware of the size of the output files produced. Call signs very active in wisper can easily reduce or saturate your free disk space.
- This is a simple and raw program. Feel free to modify it at your wish if you know how to. Or report me any bug or desire of improvement.
- 73 an good luck I2GPG