



*International Civil Aviation Organization*

**REGIONAL PREPARATORY GROUP (RPG) MEETING FOR ITU  
WORLD RADIOCOMMUNICATION CONFERENCE 2015  
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**Agenda Item 3: The reality of frequency management in APAC; current practices and new challenges**

**WEBSITE FOR THE ICAO GLOBAL DATABASE OF FREQUENCY ASSIGNMENTS**

(Presented by the Secretariat)

**SUMMARY**

This paper presents work performed to date to implement a global database with frequency assignments for VHF air/ground communication systems operating in the frequency range 117.975 – 137 MHz.

**1. Introduction**

1.1 ICAO has uploaded to the ICAO website the first draft version of the Global database with frequency assignments for VHF air/ground communication systems operating in the frequency range 117.975 – 137 MHz. This database is essentially a concatenation of the different Regional COM lists, brought together in a single database and are using a single file format. This file format is compatible with the frequency assignment planning program Frequency Finder.

1.2 The Global database of frequency assignments has been developed with FileMaker Pro 12 (which is also the database program with which Frequency Finder has been developed). On the ICAO Server, the program FileMaker Server 12 Advanced has been installed to host the Global database. With the FileMaker API (Application Programming Interface) for PHP the data from the Global database is accessible through the web browser in strict xhtml5 format. The FileMaker API for PHP is based on PHP 5.

1.3 The final format of this website has been reviewed, together with the ICAO Regional Offices and the ITU and is being implemented. Some relative minor issues with regard to secure full XHTML5 compliance, the presentation of (by ICAO compiled) T12/T13 notices for registration of the relevant frequency assignment with the ITU are being addressed. It is expected that in its final format, the website with the Global database is operational during the spring of 2014. The website as it is completed to date has been developed taking into account specific requirements from the ITU.

1.4 The website is only accessible with the most recent version of Firefox, Internet Explorer or Google Chrome. The global database itself can also be viewed with an iPad with the installation of the (free) FileMaker iPad APP.

## 2. Purpose of the website

2.1 The purpose of the website is primarily to provide States and other relevant entities with access to the Global database of frequency assignments to support frequency assignment planning. However, the database can also be integrated with other mapping and design solutions to improve communication and navigation in airspace.

2.1.1 The website can be accessed with the URL <http://gis.icao.int/FF1/FF1.php>. The website provides currently (for testing purposes) data relevant to VHF COM air/ground communication systems and for SSR II codes.

2.2 The home page of the website is as in figure 1.

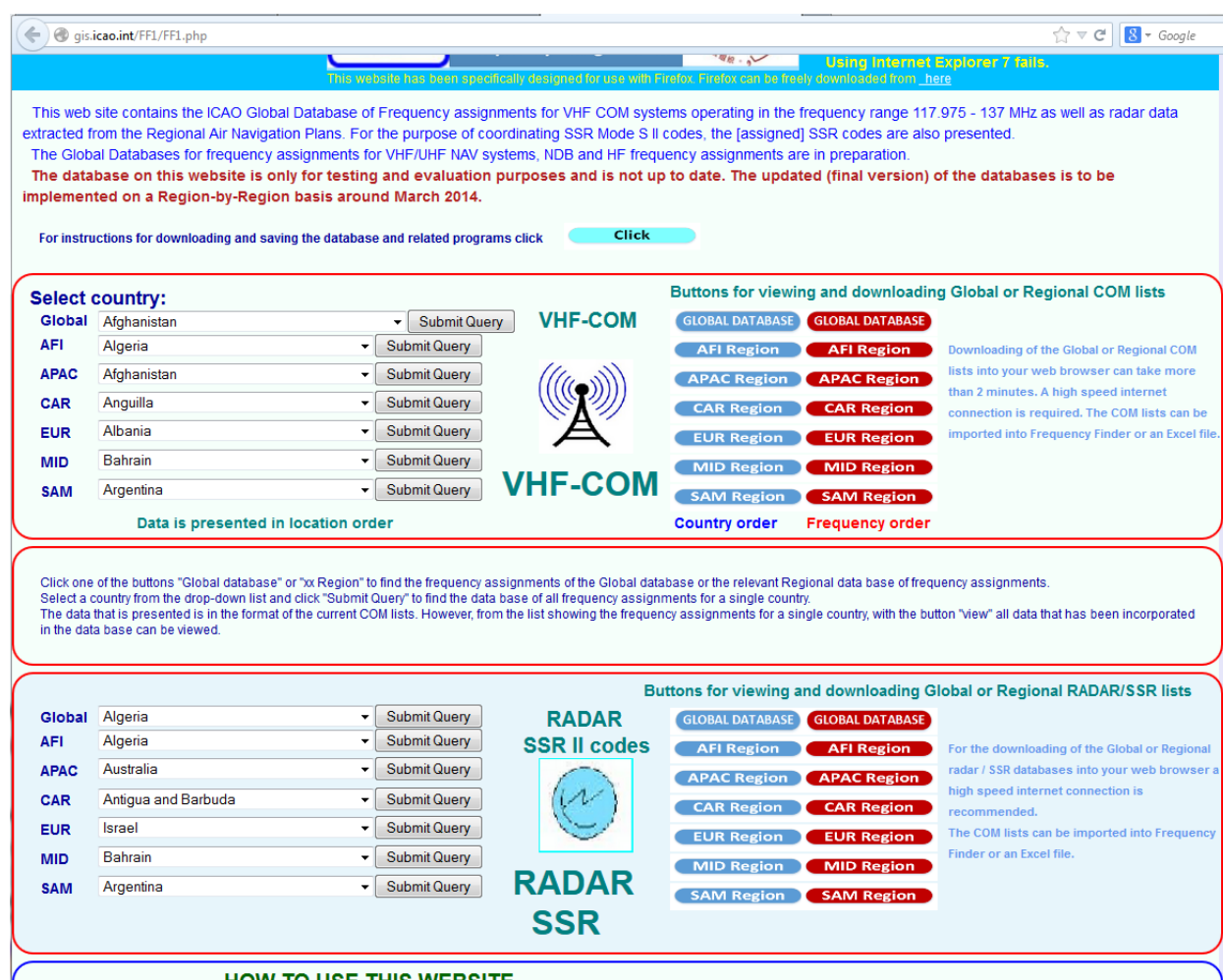


Figure 1 – Home page of the ICAO website for COM lists.

2.2.1 From this page the Global database can be downloaded in a normal web-browser. Downloading of the Global database (as a whole) or the Regional sub-divisions of the database is possible with the red and the blue buttons on the home page. For downloading these databases a high speed internet connection is required to reduce the download time. Initial testing has shown that on a high speed internet connection downloading of the Global database (24000 records) may take two or more minutes.

2.3 Downloading and viewing the Global or Regional databases with a web-browser.

2.3.1 When clicking one of the red or blue buttons on the home page as shown in Figure 2, the relevant database will be downloaded in the web-browser.

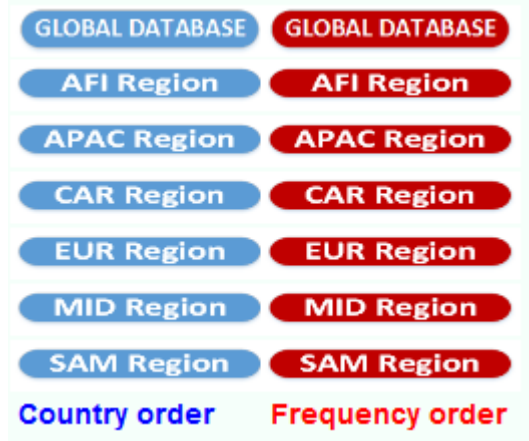


Figure 2 – Buttons for viewing and downloading of the Global COM list 3 as well as the Regional COM list 3.

2.3.2 The format in which the database for the AFI Region is presented to the user is as in Figure 3:

DR	Key	Region	Country full	Ctry	Location	Frequency	DOC	CoordLat	NS	CoordLong	WE	ER	FIR name	PolyID	Cat	Remarks	ChDate	ChBy
E	40047	AFI	Algeria	ALG	ADRAR ADRAR	119.700	TWR 25/40	27D50'00"	N	000D11'00"	W				ICAO	OP 06-18	09/25/1983 01:02:03	
E	40046	AFI	Algeria	ALG	ADRAR test	128.100	ACC-U 260/450	27D50'00"	N	000D11'00"	W				ICAO		01/09/2013 01:02:03	Gatewa y64
E	40087	AFI	Algeria	ALG	ALGER ACC	123.800	ACC-L /250	36D42'00"	N	003D13'00"	E				ICAO	SOUTH	09/25/1983 01:02:03	
E	40088	AFI	Algeria	ALG	ALGER ACC	124.100	FIR-U 260/450	36D42'00"	N	003D13'00"	E				ICAO	ER SE	10/28/2012 01:02:03	G64
E	40089	AFI	Algeria	ALG	ALGER ACC	124.600	ACC-U 260/450	36D42'00"	N	003D13'00"	E				ICAO		09/25/1983 01:02:03	
E	40090	AFI	Algeria	ALG	ALGER ACC	124.900	ACC-L /250	36D42'00"	N	003D13'00"	E				ICAO		09/25/1983 01:02:03	
E	40091	AFI	Algeria	ALG	ALGER ACC	125.400	ACC-L /250	36D42'00"	N	003D13'00"	E				ICAO		09/25/1983 01:02:03	
E	40092	AFI	Algeria	ALG	ALGER ACC	125.700	ACC-L /250	36D42'00"	N	003D13'00"	E				ICAO		09/25/1983 01:02:03	
E	40093	AFI	Algeria	ALG	ALGER ACC	126.800	VOLMET 260/450	36D42'00"	N	003D13'00"	E				ICAO		09/25/1983 01:02:03	
E	40094	AFI	Algeria	ALG	ALGER ACC	127.300	ACC-L /250	36D42'00"	N	003D13'00"	E				ICAO		09/25/1983 01:02:03	
E	40095	AFI	Algeria	ALG	ALGER ACC	128.100	FIR-U 260/450	36D42'00"	N	003D13'00"	E				ICAO	SW	09/25/1983 01:02:03	
E	40096	AFI	Algeria	ALG	ALGER ACC	131.300	FIR-U 260/450	36D42'00"	N	003D13'00"	E				ICAO	ER S	09/25/1983 01:02:03	
E	40097	AFI	Algeria	ALG	ALGER ACC	132.450	ACC-U 260/450	36D42'00"	N	003D13'00"	E				ICAO		09/25/1983 01:02:03	
E	40098	AFI	Algeria	ALG	ALGER ACC	132.750	ACC-U 260/450	36D42'00"	N	003D13'00"	E				ICAO	NORTH	09/25/1983 01:02:03	
E	40099	AFI	Algeria	ALG	ALGER ACC	132.800	ACC-U 260/450	36D42'00"	N	003D13'00"	E				ICAO	SOUTH	09/25/1983 01:02:03	
E	40100	AFI	Algeria	ALG	ALGER ACC	133.400	ACC-U 260/450	36D42'00"	N	003D13'00"	E				ICAO	SOUTH	09/25/1983 01:02:03	
E	40101	AFI	Algeria	ALG	ALGER ACC	133.500	ACC-U 260/450	36D42'00"	N	003D13'00"	E				ICAO	SOUTH	09/25/1983 01:02:03	
E	40103	AFI	Algeria	ALG	ALGER ACC	135.500	ACC-U 260/450	36D42'00"	N	003D13'00"	E				ICAO		09/25/1983 01:02:03	
E	40102	AFI	Algeria	ALG	ALGER ACC test	133.800	ACC-U 260/450	36D42'00"	N	003D13'00"	E				ICAO	SOUTH	09/25/1983 01:02:03	

Figure 3 – Presentation of the COM list in the web-browser.

2.3.3 In the current version, all details relevant to the frequency assignment and which are in the COM list 3 are presented. This data may be limited in the future to essential data which would increase the download time while all details are to be presented on a separate page (see paragraph 2.5).

2.3.4 Note that the scroll bar for scrolling through all frequency assignments has been placed on the left side of the window. When scrolling, the heading of the columns remains on the window (the heading of the table is “floating”).

2.4 Viewing of the database is also possible on a country-by-country basis.

2.4.1 For easy selection of the frequency assignments of a single country, drop-down menus for each of the six ICAO Regions have been placed on the home page (Figure 4). These drop-down menus only show the countries within the relevant Region (Figure 5).

*Note: These drop-down menus were inserted initially at the request of the ITU but are considered also useful for States when using the website. A drop down menu for the whole of the Global COM list has been implemented to meet specific requirements from the ITU. The regional-based drop down menus have the advantage that the user can only select countries from within a single Region for quick and easy selection*

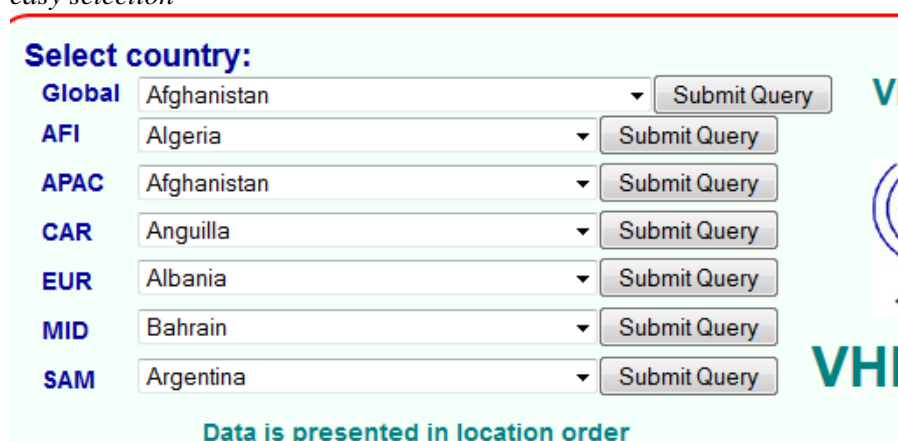


Figure 4 – Selection of a single country from the website.



Figure 5 – Drop down menu for the selection of the COM list for a single country

2.4.2 When, as an example, from the drop-down menu Thailand has been selected, all frequency assignments that have been registered with ICAO for Thailand are shown as in Figure 6

DR	Key	View	Region	Country full	Ctry	Location	Frequency	DOC	CoordLat	NS	CoordLong	WE	ER	FIR name	PolyID	Cat	Remarks	ChDate	ChBy	RecID
E	23131	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	118.100	TWR 25/40	13D54'52" N		100D36'00" E					ICAO		11/07/2003 01:02:03	LIPENG	73878
E	23118	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	119.100	APP-1 75/250	13D54'52" N		100D36'00" E					ICAO	Surveillance radar	11/07/2003 01:02:03	LIPENG	73870
E	23577	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	120.400	ACC-U 260/450	13D54'52" N		100D36'30" E					NAT	FI 12Jun00; Clearance delivery	11/07/2003 01:02:03	LIPENG	73884
E	23121	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	120.500	ACC-U 260/450	12D41'00" N		100D50'00" E					ICAO	RCAG at Chonburi; Also ACC-L	11/07/2003 01:02:03	LIPENG	73872
E	23136	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	121.700	AS 5/1	13D54'52" N		100D36'00" E					ICAO		11/07/2003 01:02:03	LIPENG	73881
E	23138	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	121.800	AS 5/1	13D54'52" N		100D36'00" E					NAT	DEP WEST	11/07/2003 01:02:03	LIPENG	73883
E	23137	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	121.900	AS 5/1	13D54'52" N		100D36'00" E					ICAO		11/07/2003 01:02:03	LIPENG	73882
E	24137	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	122.500	AS 5/1	13D54'52" N		100D36'00" E					NAT		09/21/2005 01:02:03	PLI	73868
E	23123	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	123.950	ACC-U 260/450	07D00'52" N		100D31'40" E					ICAO	RCAG at Hat Yai; Also ACC-L	11/07/2003 01:02:03	LIPENG	73873
E	23119	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	125.500	APP-1 75/250	13D54'52" N		100D36'00" E					ICAO	Surveillance radar	11/07/2003 01:02:03	LIPENG	73871
E	23115	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	125.700	ACC-U 260/450	09D29'55" N		100D00'00" E					ICAO	RCAG at SAMUI	11/13/2008 01:02:03	PLI	73888
E	23122	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	125.700	ACC-U 260/450	08D08'01" N		098D19'46" E					ICAO	RCAG at PHUKET	11/13/2008 01:02:03	PLI	73889
E	23578	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	125.950	ACC-U 260/450	13D54'52" N		100D36'30" E					NAT	FI Clearance Delivery; Clearance delivery	11/07/2003 01:02:03	LIPENG	73885
E	23117	<a href="#">view</a>	APAC	Thailand	THA	BANGKOK	126.400	ATTIS 260/450	13D54'52" N		100D36'30" E					NAT		11/07/2003 01:02:03	LIPENG	73869

Figure 6 – Frequency assignments for Thailand (partial)

2.5 Viewing details.

2.5.1 It is also possible to view all the details for a single frequency assignment in a single window. This would allow for only essential data being presented in the Global database thus reducing the download time of the Global or Regional database. When clicking on the field/button/hyperlink “view” the data for a single frequency assignment can be viewed in a single window as follows:

Name	Details
Record ID	862
Draft record	E
Key	40863
Region	AFI
Frequency (MHz)	112.100
Country	GABON
Country abbr.	GAB
Location	LIBREVILLE LEON MBA
Latitude	00D27'00" N
Longitude	009D25'00" E
Service	VOLMET
DOC	VOLMET 260/450
Height (max.)	45000
Range (max.)	260
Extended range	
FIR name	
Polygon ID (EUR)	
Polygon remarks	
Change by	
Change date	1983-09-25
Category (ICAO/NAT)	ICAO
Status (OP/NOP)Record ID	
Cond (??)Record ID	OP
Remarks	OP. ATIS
Remarks CNS	
Country (full name)	Gabon

This page can be expanded with additional information pertaining to this frequency assignment. It would be possible to include, as an example, draft T12/T13 notices for registration of the frequency assignment with the ITU and actual information on the registration of the frequency assignment with the ITU.

## 2.6 Updating of the Global database.

2.6.1 The updating of the Global database is the exclusive prerogative of the Regional Offices. The Regional Offices typically insert modifications to the database after successful coordination with relevant States, as necessary. For this updates, a FileMaker based solution has been developed in close coordination with the relevant Regional Officers. This solution is to be tested and implemented in the APAC Region in the near future.

2.6.2 Modifying the Global database can only take place through the relevant ICAO Regional Offices

## 3. Downloading of the Global or Regional database.

3.1 It is possible to download from the web browser the Global or Regional database directly into an Excel file. It is also possible to import the Global database (or Regional or country based sub-sets of it) directly into Frequency Finder.

## 4. Further work

4.1 On a Regional basis, the data in the Global COM list needs to be validated. States are to be invited to review the frequency assignments for their country in the Global database and, where necessary, provide updated information to ICAO. It is recommended to review this, together with an implementation of the use of Frequency Finder and the coordination methods for the Global database by the Regional Offices through a Seminar or workshop. Such an activity should include a complete review of all frequency assignments in the AFI Region.

4.2 When the implementation of the global VHF COM list is completed, further work is expected to involve the completion of a global database for SSR II code assignments, followed by implementing the Global databases for VHF/UHF navigation systems (ILS, VOR and DME, NDB systems and HF-air-ground communications. These activities are expected to run in parallel with the updating of frequency assignment planning material for the relevant systems in the ICAO Handbook, Volume II.

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