Introduction to the Worldwide Table of Frequency Allocations

Tutorial #9 Last Revision: January 2018

Introduction

This tutorial is designed to introduce users to the new PerCon Worldwide Table of Frequency Allocations (WTFA) search that has been added to the DataLinks system. This tutorial will show users how to perform bandplan searches and demonstrate how the PerCon WTFA can be applied to real world applications and analysis.

INSIDE THIS TUTORIAL

Overview

Countries and telecommunications agencies use TOA or Bandplas to define frequency usage for radio and microwaves within their geographic area. The PerCon Worldwide Table of Frequency Allocations previously known as the Worldwide Bandplan is the first product of its kind to combine data from these organizations to create a database with nearly complete worldwide coverage. The PerCon bandplan database is compilation of National Frequency Allocation Tables from approximately 150+ countries and regional telecommunications organizations. PerCon has compiled the bandplan information from a variety of sources and data formats and combined it into a uniform database format described on page 16 of this tutorial.

The database contains frequency allocation data from 9.000 KHz to 1000000.000 GHz. Using any of the 25 queries, users can perform searches based on Country, Country Codes, Frequency, Frequency Range, Frequency Band, ITU Region, Service and Usage. Several output formats are available including web pages, text files, databases, EFIS XML, JSON, spreadsheets and .KML files.

Note: Due to differences between countries, some fields of information such as notes, may not be available for every country. However, critical fields, such as frequency or usage of information are available and make the database extremely useful when analyzing frequencies and their usage on a global scale.

All frequency searches are in MHz. However, a frequency description field is available for viewing the record in the standard frequency format. When possible, services are displayed in upper case for primary usage and lower for secondary allocations. The database contains several country code formats and ITU regions. Notes are included in the system and linked into a note file for additional information relating to a particular band. Additional comments are available if provided by the original documents.

DataLinks Log In & Searching the Worldwide Bandplan

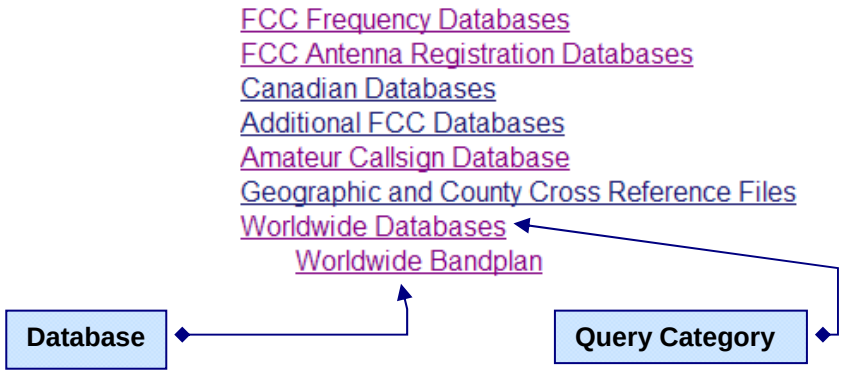
To access the PerCon Worldwide Bandplan, do the following:

Step 1: Login to DataLinks system using the User ID and password provided by PerCon. Enter the User Id in the **Username** field and enter the password in the **Password** field.

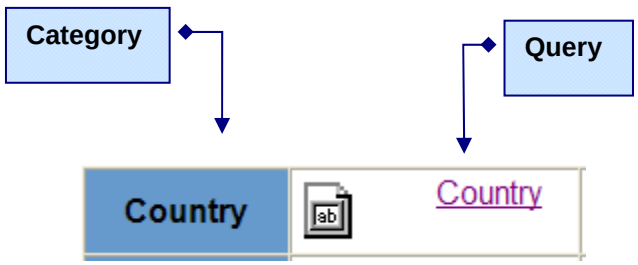
Step 2: Click **Login** to log in to the DataLinks system.

> **Note:** DataLinks User ID's and passwords are case-sensitive and must be entered in appropriate case to work properly.

Step 3: After logging in to the system, a list of database categories is displayed. The categories contain collections of similar databases typically grouped by database type or source. Clicking on a category will expand the category and display a list of databases within that category. Click on **Worldwide Databases** to expand that category and then click on the **Worldwide Bandplan** database option.



Step 4: After selecting a category and database, a list of search queries is displayed divided into rows. Each row contains a collection of queries grouped together based on a similar field or group of fields. The rows are arranged alphabetically based on primary field name.



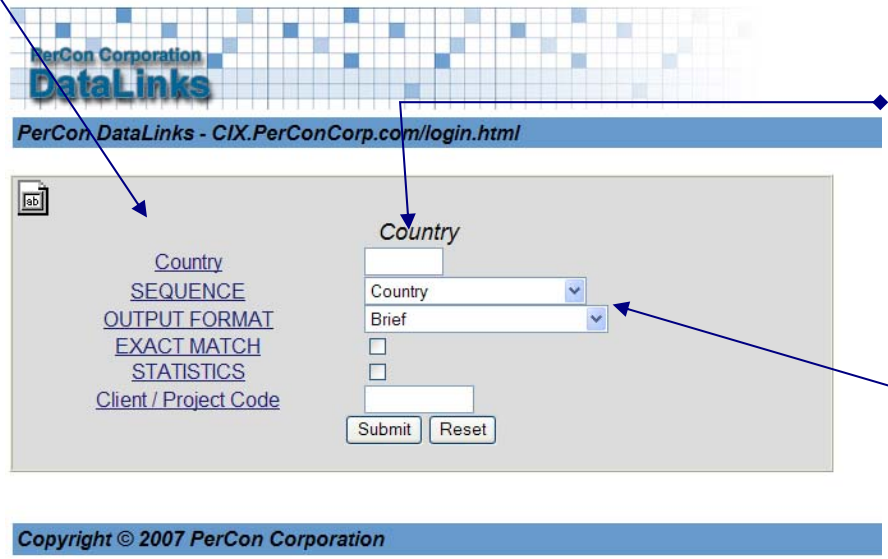
Step 5: Clicking on a query link will display an entry form used to enter the search criteria. The following table provides descriptions and examples for some searchable fields.

Field Name	Description	Example
Country	3-character country code	Ex: ARM
Country Name	Full country name	Ex: ARMENIA
Country Code - FIPS	2-character FIPS country code	Ex: AM
Country Code - IS02	2-character ISO2 country code	Ex: AM
Country Code - CITEL	CITEL country code	Ex:
Frequency Low	Low Frequency in MHz	Ex: 4.75
Frequency High	High Frequency in MHz	Ex: 4.75
Frequency Description	Frequency Range Description	Ex:
ITU Region	1-digit ITU region code	Ex: 3
Service	Service description	Ex: FIXED
Usage	Usage description, used to determine Gov., Military or Civil	Ex: GOVERNMENT

In addition, users can change how the data is ordered using the **Sequence** option and select the desired output by changing the **Output Format** option. Refer to the next section for more information on the available output formats. Click the **Submit** button to run the search.

Pop-Up Help: Click on any field name to display pop-up help.

All of the entry forms displayed within the DataLinks system link to pop-up help windows. The pop-up windows are designed to help new and experienced users. By clicking on the field name on any form will display the help window and depending on the field type, various instructions and trouble-shooting information will be provided.



Text Fields: Click on a field and enter the search criteria.

Depending on the database and search selected, the entry form will display one to ten text entry fields. In the space provided, the user can enter the criteria for their search.

Sequence & Output Format: Click on the fields and select the sequence and output format from the available choices.

The Sequence allows the user to define the sort order of the search results. The Output Format allows the user to define format of the search results. The sequence and output options vary, but new users should use the default values when running searches.

Output Formats

Results from Worldwide Bandplan searches can be returned as standard web pages as well as a variety of file types for use with other applications. The following output options are available:

Brief - Displays search results in a web page with 5 or more key fields of information in separate columns.

Brief w/ Links - Brief format, but search results include searchable links. Clinking on a link will run a new search using the data from that field as the search criteria.

Table – Brief format, but search results are displayed in a table with visible borders.

DBF File - Returns search results in a database file (.DBF) compatible with software capable of reading a Microsoft FoxPro or DBase table.

Excel File - Returns search results in a spreadsheet file (.XLS) compatible with Microsoft Excel.

ASCII File - Returns results in a comma delimited text file (.TXT).

ASCII-SDF File - Returns search results in a fixed-length text file (.TXT).

JSON File - Returns search results in a JSON formatted text file (.JSON).

EFIS XML File - Returns search results in an XML formatted XML text file (.XML).

Google Keyhole File - Returns search results in a .KML file compatible with Google Earth.

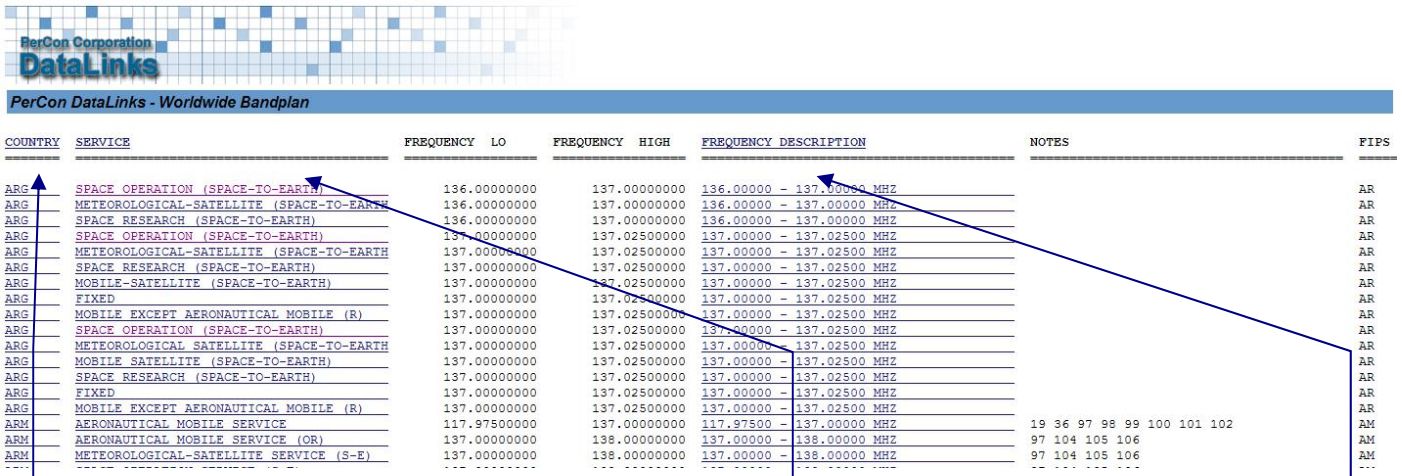
To change the output format, click on the Output Format list box and select the desired format. Output formats using web pages will display the results automatically. Searches using any of the file-based output formats will require the user to right-click on a link to save the file locally.

Note: The Brief format is the default output option. New users who are unfamiliar with the system or users running searches that may return large numbers of records should use this option.

Output Samples

The following screenshots show the results of a bandplan search in a variety of output formats.

Brief with Links



PerCon Corporation DataLinks

PerCon DataLinks - Worldwide Bandplan

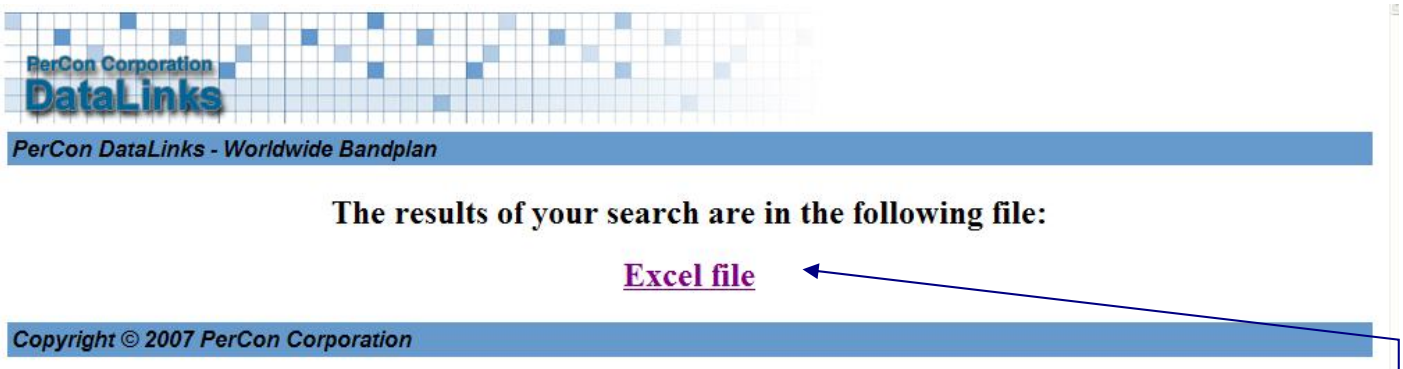
COUNTRY	SERVICE	FREQUENCY LO	FREQUENCY HIGH	FREQUENCY DESCRIPTION	NOTES	FIPS
ARG	SPACE OPERATION (SPACE-TO-EARTH)	136.00000000	137.00000000	136.00000 - 137.00000 MHZ		AR
ARG	METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH	136.00000000	137.00000000	136.00000 - 137.00000 MHZ		AR
ARG	SPACE RESEARCH (SPACE-TO-EARTH)	136.00000000	137.00000000	136.00000 - 137.00000 MHZ		AR
ARG	SPACE OPERATION (SPACE-TO-EARTH)	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	SPACE RESEARCH (SPACE-TO-EARTH)	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	MOBILE-SATELLITE (SPACE-TO-EARTH)	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	FIXED	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	MOBILE EXCEPT AERONAUTICAL MOBILE (R)	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	SPACE OPERATION (SPACE-TO-EARTH)	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	METEOROLOGICAL SATELLITE (SPACE-TO-EARTH	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	MOBILE SATELLITE (SPACE-TO-EARTH)	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	SPACE RESEARCH (SPACE-TO-EARTH)	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	FIXED	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARG	MOBILE EXCEPT AERONAUTICAL MOBILE (R)	137.00000000	137.02500000	137.00000 - 137.02500 MHZ		AR
ARM	AERONAUTICAL MOBILE SERVICE	117.97500000	137.00000000	117.97500 - 137.00000 MHZ	19 36 97 98 99 100 101 102	AM
ARM	AERONAUTICAL MOBILE SERVICE (OR)	137.00000000	138.00000000	137.00000 - 138.00000 MHZ	97 104 105 106	AM
ARM	METEOROLOGICAL-SATELLITE SERVICE (S-E)	137.00000000	138.00000000	137.00000 - 138.00000 MHZ	97 104 105 106	AM

Clicking on the *Country* field will run a new *Country* search based on the *Country* of the record selected.

Clicking on the *Service* field will run a new *Service* search based on the *Service* of the record selected.

Clicking on the *Frequency Description* field will run a new *Frequency Description* search based on the *Frequency Description* of the record selected.

Excel File



PerCon Corporation DataLinks

PerCon DataLinks - Worldwide Bandplan

The results of your search are in the following file:

Excel file

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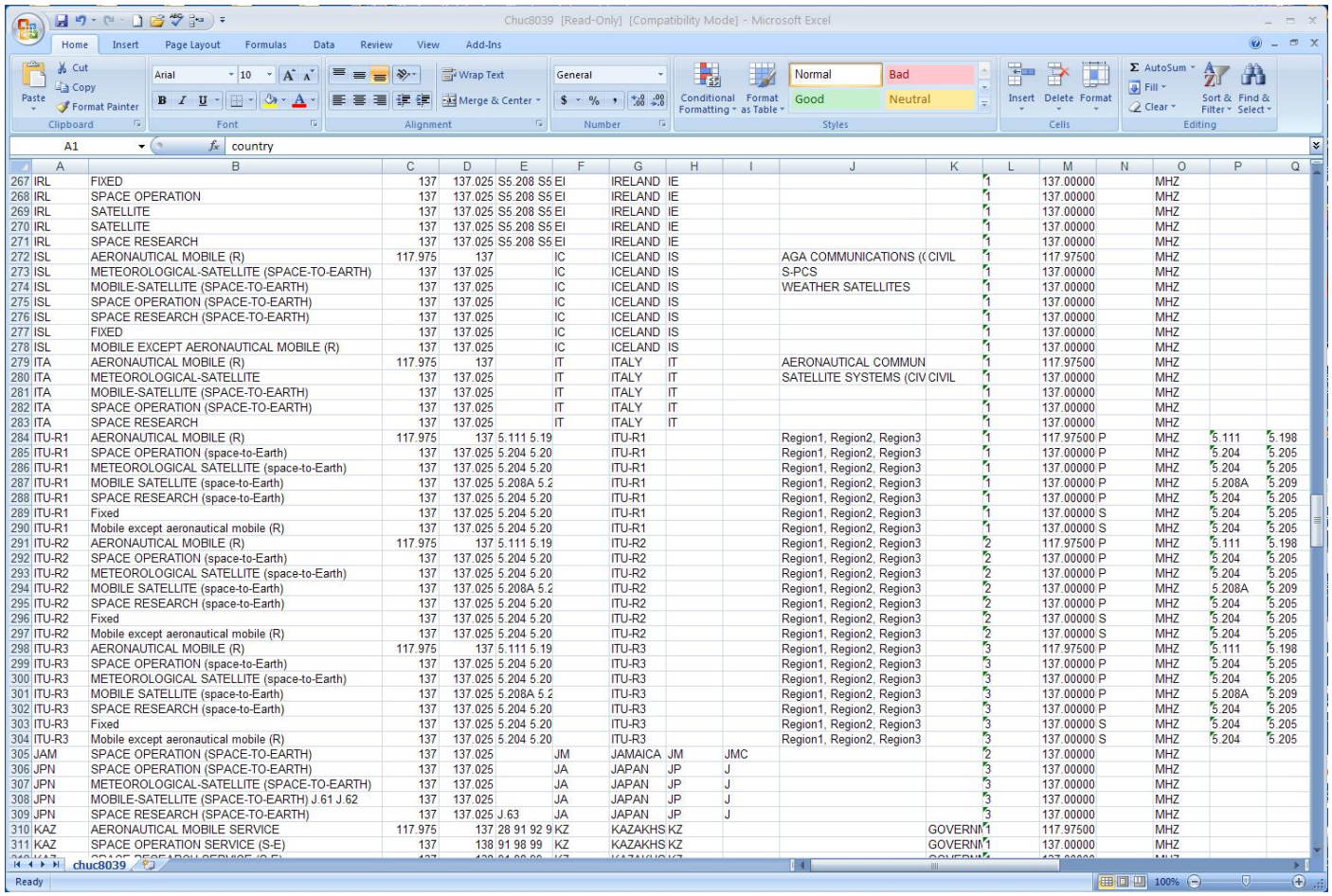
Opening Files: To automatically open a file in Excel simply click on links. If Excel or compatible program is properly installed the file will be downloaded and opened in Excel and will be ready for use on the desktop computer

Saving Files: To save a file in Internet Explorer, right-click on the file name and select Save Target As. To save a file in Netscape Navigator, right-click on the file name and select Save Link As. After the file download is complete, select the appropriate application to open the file from the hard drive.

Excel Output viewed in MS Excel



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
267	IRL	FIXED	137	137.025	S5.208 S5	EI	IRELAND	IE				1	137.00000		MHZ		
268	IRL	SPACE OPERATION	137	137.025	S5.208 S5	EI	IRELAND	IE				1	137.00000		MHZ		
269	IRL	SATELLITE	137	137.025	S5.208 S5	EI	IRELAND	IE				1	137.00000		MHZ		
270	IRL	SATELLITE	137	137.025	S5.208 S5	EI	IRELAND	IE				1	137.00000		MHZ		
271	IRL	SPACE RESEARCH	137	137.025	S5.208 S5	EI	IRELAND	IE				1	137.00000		MHZ		
272	ISL	AERONAUTICAL MOBILE (R)	117.975	137		IC	ICELAND	IS		AGA COMMUNICATIONS ((	CIVIL	1	117.97500		MHZ		
273	ISL	METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	137	137.025		IC	ICELAND	IS		S-PCS		1	137.00000		MHZ		
274	ISL	MOBILE-SATELLITE (SPACE-TO-EARTH)	137	137.025		IC	ICELAND	IS		WEATHER SATELLITES		1	137.00000		MHZ		
275	ISL	SPACE OPERATION (SPACE-TO-EARTH)	137	137.025		IC	ICELAND	IS				1	137.00000		MHZ		
276	ISL	SPACE RESEARCH (SPACE-TO-EARTH)	137	137.025		IC	ICELAND	IS				1	137.00000		MHZ		
277	ISL	FIXED	137	137.025		IC	ICELAND	IS				1	137.00000		MHZ		
278	ISL	MOBILE EXCEPT AERONAUTICAL MOBILE (R)	137	137.025		IC	ICELAND	IS				1	137.00000		MHZ		
279	ITA	AERONAUTICAL MOBILE (R)	117.975	137		IT	ITALY	IT		AERONAUTICAL COMMUN		1	117.97500		MHZ		
280	ITA	METEOROLOGICAL-SATELLITE	137	137.025		IT	ITALY	IT		SATELLITE SYSTEMS (CIV	CIVIL	1	137.00000		MHZ		
281	ITA	MOBILE-SATELLITE (SPACE-TO-EARTH)	137	137.025		IT	ITALY	IT				1	137.00000		MHZ		
282	ITA	SPACE OPERATION (SPACE-TO-EARTH)	137	137.025		IT	ITALY	IT				1	137.00000		MHZ		
283	ITA	SPACE RESEARCH	137	137.025		IT	ITALY	IT				1	137.00000		MHZ		
284	ITU-R1	AERONAUTICAL MOBILE (R)	117.975	137	5.111 5.19		ITU-R1			Region1, Region2, Region3		1	117.97500	P	MHZ	5.111	5.198
285	ITU-R1	SPACE OPERATION (space-to-Earth)	137	137.025	5.204 5.20		ITU-R1			Region1, Region2, Region3		1	137.00000	P	MHZ	5.204	5.205
286	ITU-R1	METEOROLOGICAL SATELLITE (space-to-Earth)	137	137.025	5.204 5.20		ITU-R1			Region1, Region2, Region3		1	137.00000	P	MHZ	5.204	5.205
287	ITU-R1	MOBILE SATELLITE (space-to-Earth)	137	137.025	5.208A 5.2		ITU-R1			Region1, Region2, Region3		1	137.00000	P	MHZ	5.208A	5.209
288	ITU-R1	SPACE RESEARCH (space-to-Earth)	137	137.025	5.204 5.20		ITU-R1			Region1, Region2, Region3		1	137.00000	P	MHZ	5.204	5.205
289	ITU-R1	Fixed	137	137.025	5.204 5.20		ITU-R1			Region1, Region2, Region3		1	137.00000	S	MHZ	5.204	5.205
290	ITU-R1	Mobile except aeronautical mobile (R)	137	137.025	5.204 5.20		ITU-R1			Region1, Region2, Region3		1	137.00000	S	MHZ	5.204	5.205
291	ITU-R2	AERONAUTICAL MOBILE (R)	117.975	137	5.111 5.19		ITU-R2			Region1, Region2, Region3		2	117.97500	P	MHZ	5.111	5.198
292	ITU-R2	SPACE OPERATION (space-to-Earth)	137	137.025	5.204 5.20		ITU-R2			Region1, Region2, Region3		2	137.00000	P	MHZ	5.204	5.205
293	ITU-R2	METEOROLOGICAL SATELLITE (space-to-Earth)	137	137.025	5.204 5.20		ITU-R2			Region1, Region2, Region3		2	137.00000	P	MHZ	5.204	5.205
294	ITU-R2	MOBILE SATELLITE (space-to-Earth)	137	137.025	5.208A 5.2		ITU-R2			Region1, Region2, Region3		2	137.00000	P	MHZ	5.208A	5.209
295	ITU-R2	SPACE RESEARCH (space-to-Earth)	137	137.025	5.204 5.20		ITU-R2			Region1, Region2, Region3		2	137.00000	P	MHZ	5.204	5.205
296	ITU-R2	Fixed	137	137.025	5.204 5.20		ITU-R2			Region1, Region2, Region3		2	137.00000	S	MHZ	5.204	5.205
297	ITU-R2	Mobile except aeronautical mobile (R)	137	137.025	5.204 5.20		ITU-R2			Region1, Region2, Region3		2	137.00000	S	MHZ	5.204	5.205
298	ITU-R3	AERONAUTICAL MOBILE (R)	117.975	137	5.111 5.19		ITU-R3			Region1, Region2, Region3		3	117.97500	P	MHZ	5.111	5.198
299	ITU-R3	SPACE OPERATION (space-to-Earth)	137	137.025	5.204 5.20		ITU-R3			Region1, Region2, Region3		3	137.00000	P	MHZ	5.204	5.205
300	ITU-R3	METEOROLOGICAL SATELLITE (space-to-Earth)	137	137.025	5.204 5.20		ITU-R3			Region1, Region2, Region3		3	137.00000	P	MHZ	5.204	5.205
301	ITU-R3	MOBILE SATELLITE (space-to-Earth)	137	137.025	5.208A 5.2		ITU-R3			Region1, Region2, Region3		3	137.00000	P	MHZ	5.208A	5.209
302	ITU-R3	SPACE RESEARCH (space-to-Earth)	137	137.025	5.204 5.20		ITU-R3			Region1, Region2, Region3		3	137.00000	P	MHZ	5.204	5.205
303	ITU-R3	Fixed	137	137.025	5.204 5.20		ITU-R3			Region1, Region2, Region3		3	137.00000	S	MHZ	5.204	5.205
304	ITU-R3	Mobile except aeronautical mobile (R)	137	137.025	5.204 5.20		ITU-R3			Region1, Region2, Region3		3	137.00000	S	MHZ	5.204	5.205
305	JAM	SPACE OPERATION (SPACE-TO-EARTH)	137	137.025		JM	JAMAICA	JM	JMC			2	137.00000		MHZ		
306	JPN	SPACE OPERATION (SPACE-TO-EARTH)	137	137.025		JA	JAPAN	JP	J			3	137.00000		MHZ		
307	JPN	METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	137	137.025		JA	JAPAN	JP	J			3	137.00000		MHZ		
308	JPN	MOBILE-SATELLITE (SPACE-TO-EARTH) J.61 J.62	137	137.025		JA	JAPAN	JP	J			3	137.00000		MHZ		
309	JPN	SPACE RESEARCH (SPACE-TO-EARTH)	137	137.025	J.63	JA	JAPAN	JP	J			3	137.00000		MHZ		
310	KAZ	AERONAUTICAL MOBILE SERVICE	117.975	137	28 91 92 9	KZ	KAZAKHS	KZ			GOVERNM	1	117.97500		MHZ		
311	KAZ	SPACE OPERATION SERVICE (S-E)	137	138	91 98 99	KZ	KAZAKHS	KZ			GOVERNM	1	137.00000		MHZ		

Table Output Format

PerCon Corporation DataLinks

PerCon DataLinks - Worldwide Bandplan

Frequency	Service	Comments	Country	Usage
14.000000 - 19.950000 KHZ	FIXED US294		USA-G	US-G
20.050000 - 59.000000 KHZ	FIXED US294		USA-G	US-G
61.000000 - 70.000000 KHZ	FIXED US294		USA-G	US-G
70.000000 - 90.000000 KHZ	FIXED US294	Private Land Mobile (90)	USA-G	US-G
110.000000 - 130.000000 KHZ	FIXED 5.64 US294	Maritime (80) Private Land Mobile (90)	USA-G	US-G
130.000000 - 160.000000 KHZ	FIXED 5.64 US294	Maritime (80)	USA-G	US-G
160.000000 - 190.000000 KHZ	FIXED US294	Aviation (87)	USA-G	US-G
1705.000000 - 1800.000000 KHZ	FIXED US240	Maritime (80) Private Land Mobile (90)	USA-G	US-G
2000.000000 - 2065.000000 KHZ	FIXED US340	Maritime (80)	USA-G	US-G
2107.000000 - 2170.000000 KHZ	FIXED US340	Maritime (80) Private Land Mobile (90)	USA-G	US-G

Clicking on the *Notes* link will pop up a new page of notes positioned at the selected *Note*. See next page.

231.500000 - 232.000000 GHZ	FIXED		USA-NG	US-NG
232.000000 - 235.000000 GHZ	FIXED		USA-NG	US-NG
	FIXED SATELLITE (space-to-Earth)		USA-NG	US-NG
238.000000 - 240.000000 GHZ	FIXED		USA-NG	US-NG
	FIXED SATELLITE (space-to-Earth)		USA-NG	US-NG
240.000000 - 241.000000 GHZ	FIXED		USA-NG	US-NG
252.000000 - 265.000000 GHZ	FIXED 5.554 US211 US342		USA-NG	US-NG
265.000000 - 275.000000 GHZ	FIXED 5.563A US342		USA-NG	US-NG
	FIXED SATELLITE (Earth-to-space) 5.563A US342		USA-NG	US-NG

FOUND 438 RECORDS IN 0.45 SECONDS
PROCESSED HTML IN 0.08 SECONDS
DATE: 10/26/07
Time: 11:19:45

PREVIOUS CREDIT(S): UNLIMITED
CREDIT(S) USED: 3
CREDIT(S) REMAINING: UNLIMITED
EXPIRATION DATE: 09/09/09

Note File Popup

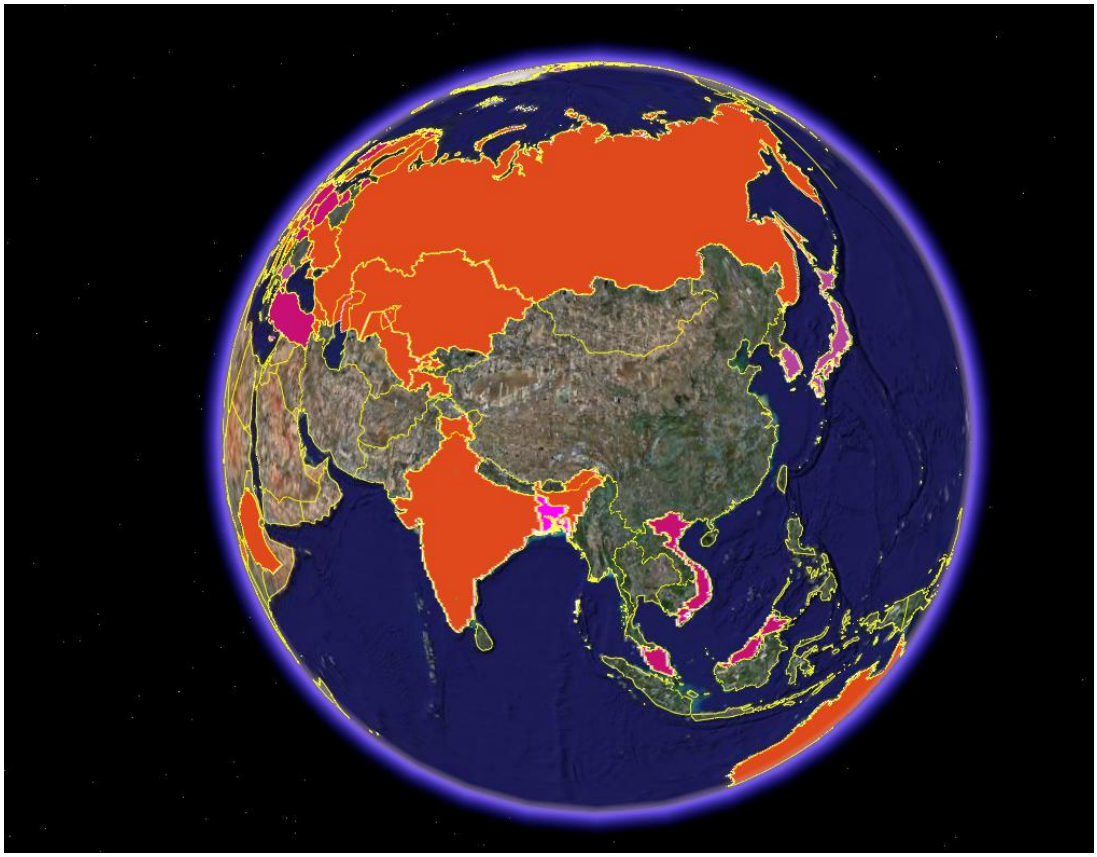
US294	In the spectrum below 490 kHz electric utilities operate Power Line Carrier (PLC) systems on power transmission lines for communications important to the reliability and security of electric service to the public. These PLC systems operate under the provisions of Part 15 of the Federal Communications Commission's Rules and Regulations or Chapter 7 of the National Telecommunications and Information Administration's Manual of Regulations and Procedures for Federal Radio Frequency Management, on an unprotected and noninterference basis with respect to authorized radio users. Notification of intent to place new or revised radio frequency assignments or PLC frequency uses in the bands below 490 kHz is to be made in accordance with the Rules and Regulations of the FCC and NTIA, and users are urged to minimize potential interference to the degree practicable. This footnote does not provide any allocation status to PLC radio frequency uses.
US296	In the bands designated for ship wide-band telegraphy, facsimile and special transmission systems, the following assignable frequencies are available to non-Federal stations on a shared basis with Federal stations: 2070.5 kHz, 2072.5 kHz, 2074.5 kHz, 2076.5 kHz, 4154 kHz, 4170 kHz, 6235 kHz, 6259 kHz, 8302 kHz, 8338 kHz, 12370 kHz, 12418 kHz, 16551 kHz, 16615 kHz, 18848 kHz, 18868 kHz, 22182 kHz, 22238 kHz, 25123 kHz, and 25159 kHz.
US297	The bands 47.2-49.2 GHz and 81-82.5 GHz are also available for feeder links for the broadcasting-satellite service.
US298	Channels 27555 kHz, 27615 kHz, 27635 kHz, 27655 kHz, 27765 kHz, and 27860 kHz are available for use by forest product licensees on a secondary basis to Federal operations including experimental stations. Non-Federal operations on these channels will not exceed 150 watts output power and are limited to the states of Washington, Oregon, Maine, North Carolina, South Carolina, Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas (eastern portion).
US299	The 1615-1705 kHz band in Alaska is also allocated to the maritime mobile services and the Alaska fixed service on a secondary basis to Region 2 broadcast operations.
US30	The band 121.9375-123.0875 MHz is available to FAA aircraft for communications pursuant to flight inspection functions in accordance with the Federal Aviation Act of 1958.
US300	The frequencies 169.445, 169.505, 170.245, 170.305, 171.045, 171.105, 171.845 and 171.905 MHz are available for wireless microphone operations on a secondary basis to Federal and non-Federal operations.
US301	Except as provided in US302, broadcast auxiliary stations licensed as of November 21, 1984, to operate in the band 942-944 MHz may continue to operate on a co-equal primary basis to other stations and services operating in the band in accordance with the Table of Frequency Allocations.
US302	The band 942-944 MHz in Puerto Rico is allocated as an alternative allocation to the fixed service for broadcast auxiliary stations only.
US303	In the band 2285-2290 MHz, non-Federal space stations in the space research, space operations and Earth exploration-satellite services may be authorized to transmit to the Tracking and Data Relay Satellite System subject to such conditions as may be applied on a case-by-case basis. Such transmissions shall not cause harmful interference to authorized Federal stations. The power flux-density at the Earth's surface from such non-Federal stations shall not exceed -144 to -154 dBW/m²/4 kHz, depending on angle of arrival, in accordance with ITU Radio Regulation 21.16.
US307	The sub-band 5150-5216 MHz is also allocated for space-to-Earth transmissions in the fixed satellite service for feeder links in conjunction with the radiodetermination satellite service operating in the bands 1610-1626.5 MHz and 2483.5-2500 MHz. The total power flux density at the Earth's surface shall in no case exceed -159 dBW/m² per 4 kHz for all angles of arrival.
US308	In the frequency bands 1549.5-1558.5 MHz and 1651-1660 MHz, the Aeronautical-Mobile- Satellite (R) requirements that cannot be accommodated in the 1545-1549.5 MHz, 1558.5-1559 MHz, 1646.5-1651 MHz and 1660-1660.5 MHz bands shall have priority access with real-time preemptive capability for communications in the mobile-satellite service. Systems not interoperable with the aeronautical mobile-satellite (R) service shall operate on a secondary basis. Account shall be taken of the priority of safety-related communications in the mobile-satellite service.
US309	Transmissions in the bands 1545-1559 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links. Transmissions in the band 1646.5-1660.5 MHz from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.

Clicking on the *Notes* link on a Table output will pop up a new page of notes positioned at the selected *Note*.

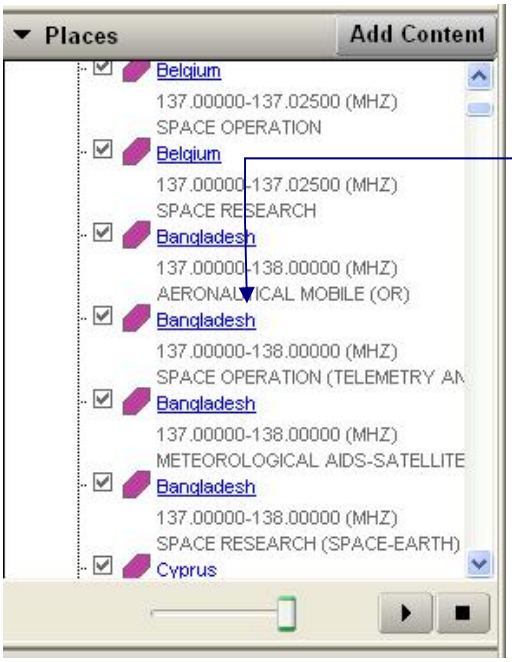
Google Earth .KML File

Google Earth .KML output option allows a unique method of visualizing Bandplan data. When the 'KML Output' option is selected, a .KML file is created and clicking on the file link will automatically load the file into Google Earth. The .KML option offers added support for the output sequence. For example, when the 'Frequency' sequence is selected, countries with the same frequencies are color coded with the same color. Each unique 'Frequency' is shaded with a different color. Users can visualize specific frequencies by check and un-checking various records within Google Earth. This feature works the same with all available sequence options.

Note: Users must have Google Earth installed to use the Google Earth .KML option. It can be downloaded for free from http://earth.google.com . New users should consult the Google Earth website or program documentation for help using the Google Earth viewer software if necessary.

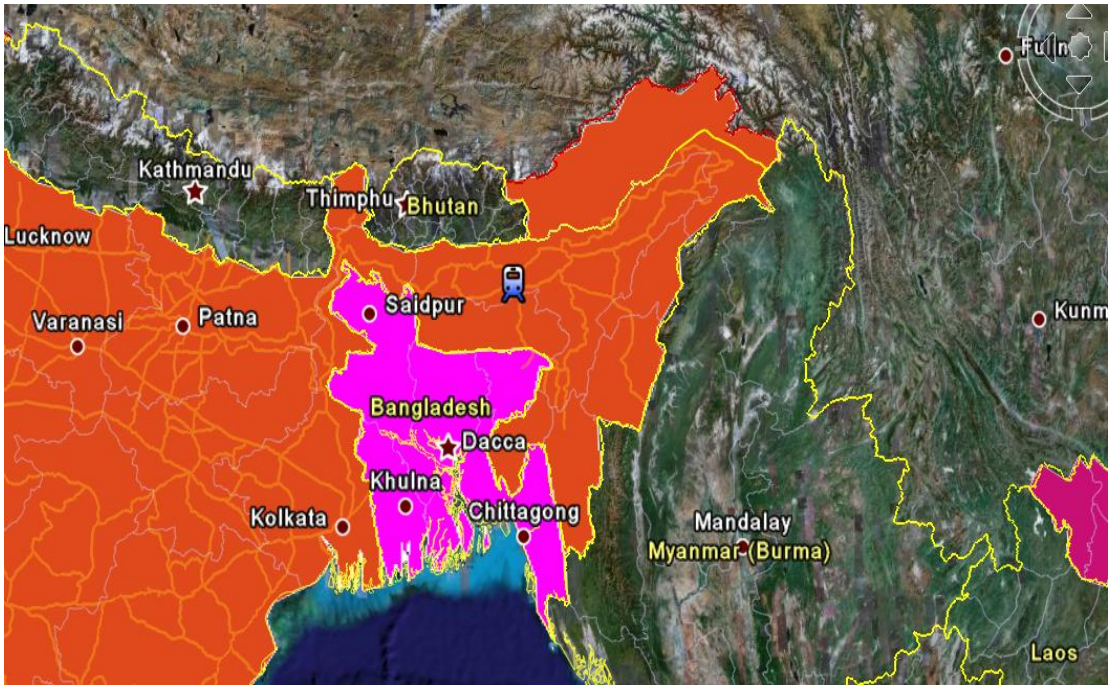


Google Earth .KML File – Cont.



Clicking on the places link in Google Earth will zoom in to the selected country.

This view is a zoomed image of the previous extraction. Note that 137-138 is used in Bangladesh in 4 services. This extraction shows the usage of this band in multiple countries

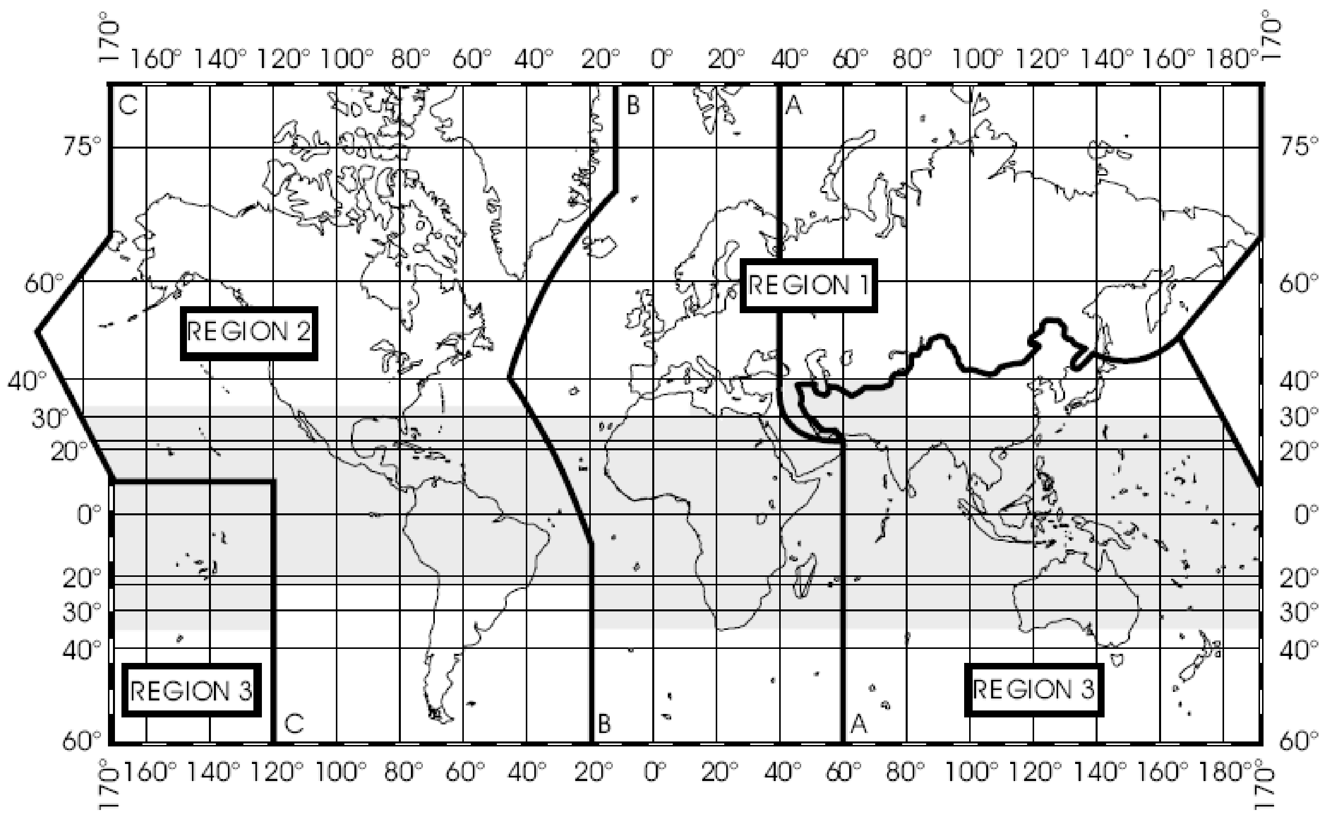


Google Earth .KML File – Cont.

This image is an example of a broader view of the previous example.

ITU Region Map

The following map shows ITU region coverage.



Current List of Countries and Organizations

The table below lists all countries or organizations currently found in the PerCon Worldwide Bandplan Database.

AFGHANISTAN	FRANCE	PAKISTAN
ALBANIA	GABON (2017)	PANAMA
ANGOLA	GEORGIA	PAPUA NEW GUINEA
ANTIGUA AND BARBUDA	GERMANY	PARAGUAY
ARGENTINA	GHANA (2017)	PERU
ARMENIA	GIBRALTOR	PHILIPPINES
AUSTRALIA	GRENADA	POLAND
AUSTRIA	GUATEMALA	PORTUGAL
AZERBAIJAN	GUYANA	PUERTO RICO (US)
THE BAHAMAS	HONDURAS	QATAR
BAHRAIN	HONG KONG	ROMANIA
BANGLADESH	HUNGARY	RUSSIA
BARBADOS	ICELAND	SAINT KITTS AND NEVIS
BELARUS	INDIA	SAINT LUCIA
BELGIUM	INDONESIA	SAINT VINCENT AND THE GRENADINES
BHUTAN	IRAQ	SAMOA
BOLIVIA	IRELAND	SAO TOME AND PRINCIPE (2017)
BOSNIA AND HERZEGOVINA	ITALY	SAUDI ARABIA
BOTSWANA	ITU-1 (2017)	SENEGAL
BRAZIL	ITU-2 (2017)	SEYCHELLES
BULGARIA	ITU-3 (2017)	SINGAPORE
BURKINA FASO (2017)	JAMAICA	SLOVAKIA
BURUNDI (2017)	JAPAN	SLOVENIA
CANADA	KAZAKHSTAN	SOUTH AFRICA
CAPE VERDE (CABO VERDE)	SOUTH KOREA	SPAIN

CENTRAL AFRICAN REPUBLIC (2017)	LATVIA	SUDAN
CHAD (2017)	LESOTHO	SURINAME
CHILE	LIBERIA (2017)	SWAZILAND
CHINA	LIBYA (2017)	SWEDEN
COLOMBIA	LIECHTENSTEIN	SWITZERLAND
CONGO (Brazzaville) Republic of the	LITHUANIA	TAIWAN
CONGO (Kinshasa) Democratic Republic of the	LUXEMBOURG	TAJIKISTAN
COSTA RICA	MACEDONIA	TANZANIA
CÔTE D'IVOIRE (2017)	MADAGASCAR	THAILAND
CROATIA	MALAWI	TRINIDAD AND TOBAGO
CYPRUS	MALAYSIA	TURKEY
CZECH REPUBLIC	MALI	UGANDA
DENMARK	MALTA	UKRAINE
DJIBOUTI (2017)	MAURITANIA	UNITED ARAB EMIRATES
DOMINICA	MAURITIUS	UNITED KINGDOM
DOMINICAN REPUBLIC	MEXICO	UNITED STATES (Non Gov't) (2017)
ECTEL	FEDERATED STATES OF MICRONESIA	UNITED STATES (Gov't) (2017)
ECA	MOLDOVA	UNITED STATES MINOR OUTLYING ISLANDS (2017)
ECUADOR	MOROCCO	URUGUAY
EGYPT	MOZAMBIQUE	UZBEKISTAN
EL SALVADOR	NAMIBIA	VANUATU
EQUATORIAL GUINEA (2017)	NETHERLANDS	VENEZUELA
ESTONIA	NEW ZEALAND	VIETNAM
ETHIOPIA	NICARAGUA	VIRGIN ISLANDS (US) (2017)
EU	NIGER (2017)	ZAMBIA
FINLAND	NORWAY	ZIMBABWE
	OECS	

Upcoming List of Countries

BENIN	CAYMAN ISLANDS	GUINEA	KIRIBATI	KYRGYZSTAN	MONGOLIA	MYANMAR (BURMA)	NIUE

BRUNEI	ERITREA	JORDAN	KOSOVO	LEBANON	TUNISIA	NIGERIA	RWANDA
CAMEROON	GREECE	KENYA	KUWAIT	TOGO	TUVALU		

Database Structure

The table below shows the structure for the PerCon Worldwide Bandplan Database. This information can be helpful when working with the .DBF, .XLS and .TXT output file options.

Field Name	Type	Length	# of Dec	Description
COUNTRY	C	6	0	Country Code
SERVICE	C	100	0	Service
FREQ_LOW	N	17	7	Low Frequency
FREQ_HIGH	N	17	7	High Frequency
BW	N	17	7	Bandwidth
EXCL_GOVT	C	1	0	Exclusive Government Designator
SHARED	C	1	0	Shared Government Designator
EXCL_NGOVT	C	1	0	Exclusive Non Government Designator
NOTES	C	254	0	Notes
NOTE_FTEXT	M	4	0	Note Full Text
CNTRY_NAME	C	30	0	Country Name
CC_FIPS	C	2	0	Country Fips Code
CC_ISO2	C	2	0	Country Iso2 Code
CC_ISO3	C	3	0	Country Iso3 Code
CC_ISO3N	C	3	0	Country Iso3N Code
CC_CITEL	C	10	0	Country Citel Code
ITU	C	3	0	Country Itu Code
INTERNET	C	3	0	Country Internet Code
BP_LANG	C	20	0	WTFA Language
NATIVE_LAN	C	2	0	Native Language
TRIGRAM	C	3	0	Trigram Code
DIGRAM	C	2	0	Digram Code
EU	C	1	0	EU Code
ECTEL	C	1	0	Ectel Code
AU	C	1	0	AU Code
ECA	C	1	0	ECA Code
APT	C	1	0	APTCode
SADC	C	1	0	SADC Code
IRG	C	1	0	IRG Code

RCC	C	1	0	RCC Code
UNIFIEDCOM	C	16	0	Unified Command
CONTINENT	C	2	0	Continent
COMMENTS	C	254	0	Comments
USAGE	C	25	0	Usage
ITU_REGION	C	1	0	ITU Region Code
FREQUENCY	C	40	0	Frequency Description
P_S	C	1	0	Primary Secondary
UNITS	C	3	0	Units
NOTES1 - NOTES20	C	10	0	Notes 1 - 20
PARTS1-PARTS10	C	3	0	US CFR-47 Number
ITUBAND	C	10	0	ITU Band Designator
NATOBAND	C	10	0	Nato Band Designator
IEEEBAND	C	10	0	Ieee Band Designator
USAGE_LINK	C	254	0	Usage_Link Code
DETAIL	M	4	0	Detail
BAND	C	10	0	Band

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November 2007:
- Initial publication.

January 2008:
- Modified layout.

January 2018:
- Complete update.

DataLinks Tutorials

Tutorial #1:
Introduction To PerCon DataLinks

Tutorial #2:
PerCon DataLinks Output Options

Tutorial #3:
DataLinks Frequency Finder

Tutorial #4:
PerCon DataLinks Co-Channel / Adjacent Channel Analysis

Tutorial #5:
DataLinks Wildcard Searches

Tutorial #6:
Keyhole .KML Output Option

Tutorial #7:
SQL Query Builder & Editor

Tutorial #8:
Dynamic Database Browsing

Tutorial #9:
Worldwide Bandplan Database