



ICAO MID Frequency Management Webinar, 11-12 November 2020

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Agenda

- ❑ Introduction to FF
- ❑ Start page
- ❑ Home page Q/A
- ❑ VHF COM List 3
 - Query
 - Select
 - Export database or parts of it Q/A
 - Test compatibility of frequency assignments
 - View calculation results
 - Modify/add/delete frequency
 - Mapping using Google earth Q/A

Introduction to FF

- Frequency assignment planning criteria as per Handbook Volume II implemented
- Module for VHF COM frequency assignments
- Global COM list 3 synchronized by Regional Offices
- Assess compatibility of frequency assignments
- Graphical interface with Google Earth

Introduction to FF

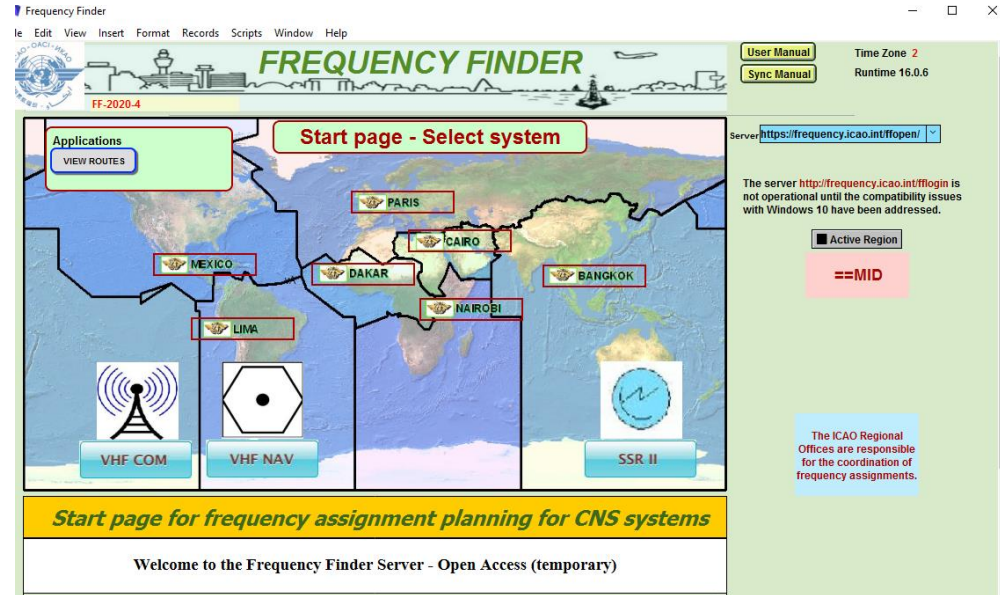
- Download from the FSMP website the zip-file *FF2020-4* (www.icao.int/safety/fsmp/documents/frequencyfinder)
- Remove earlier version of Frequency Finder, if any.
- Run the installer file *FF2020.04R.exe*
- Select to create desktop icon
- Download and install Google Earth
- More details in the User Manual :

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Start page

- User manual
- Sync Manual
- Active Region
- Web sites
- Module VHF COM
- Other Modules



Frequency Finder

File Edit View Insert Format Records Scripts Window Help

FREQUENCY FINDER

FF-2020-4

Applications
VIEW ROUTES

Start page - Select system

PARIS
CAIRO
MEXICO
DAKAR
LIMA
NAIROBI
BANGKOK

VHF COM
VHF NAV
SSR II

Start page for frequency assignment planning for CNS systems

Welcome to the Frequency Finder Server - Open Access (temporary)

User Manual
Sync Manual

Time Zone 2
Runtime 16.0.6

Server: <https://frequency.icao.int/ffopen/>

The server <http://frequency.icao.int/fflogin> is not operational until the compatibility issues with Windows 10 have been addressed.

Active Region
==MID

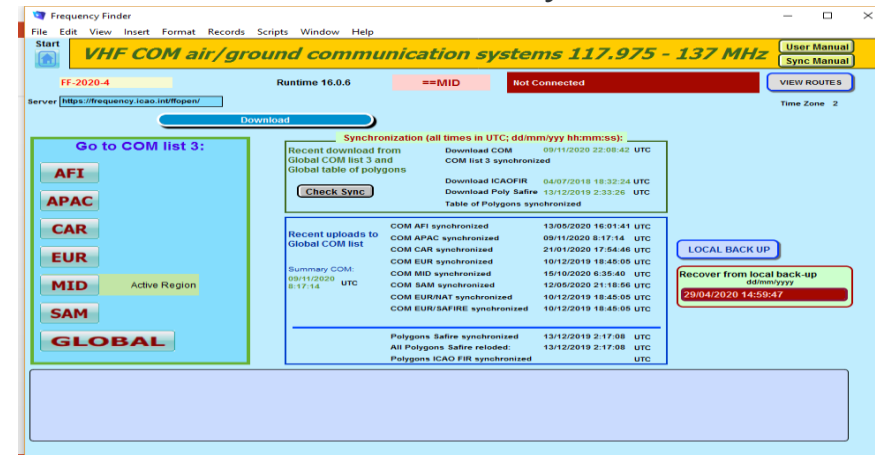
The ICAO Regional Offices are responsible for the coordination of frequency assignments.

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Home page VHF COM List 3

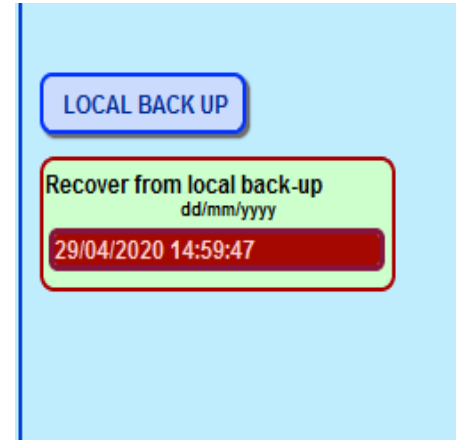
- Navigate to Home Page: Automatic Connection Test and check if the COM list 3 was modified
- Also with button Check Sync
- Dialog box is displayed if a download synchronization is necessary
- Full URL
- Download button
- Back-up and Recovery



Home Page VHF COM list 3

Back-up and recovery

- Click “LOCAL BACK UP” to create a backup
- Back-up # is added to the list
- Click relevant back-up # (1 – 5) to recover
- Backup:
 - Table COM list 3
 - Table Polygons
 - Table Historical
 - Home Page
- See user manual to recover from a back-up



Introduction to FF/process of assigning frequencies



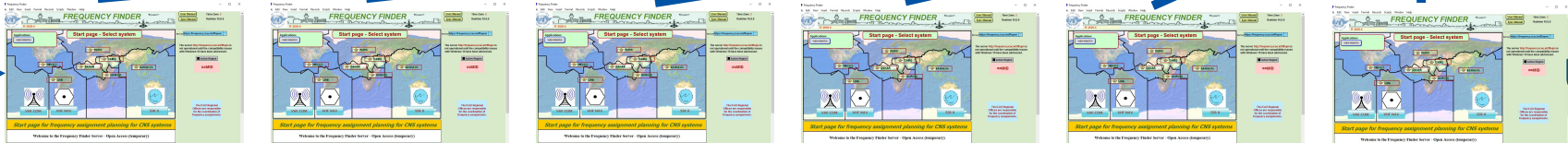
ICAO

Main Server
in HQ

.....

APAC

ICAO MID
Office/CNS



USERS

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VHF COM list 3

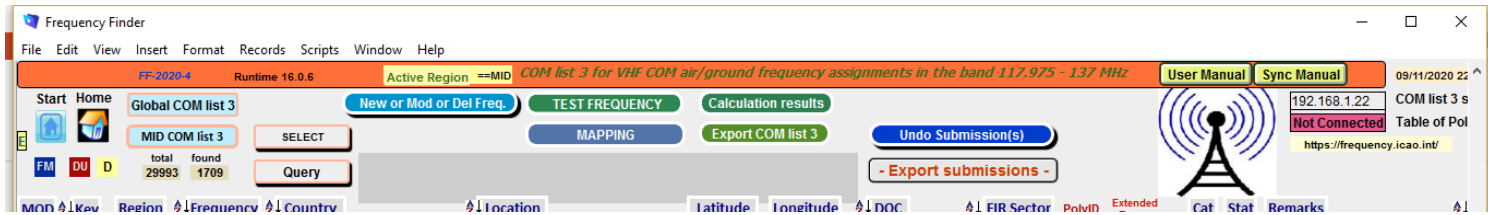
- “Go to COM list 3” triggers the integrity check.
- COM list 3 is the main page to:
 - Add, modify, delete frequency assignments
 - Browse and Query COM list 3
 - Select
 - Test compatibility of frequency assignments
 - View calculation results
 - Export database or parts of it

VHF COM list 3

Integrity Check

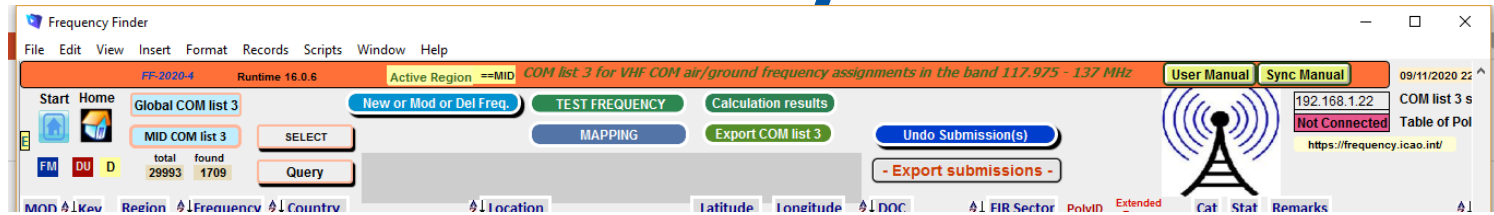
- Find records same Key
- Find records with empty essential fields
- Records outside the range 117.975 – 137 MHz
- Find draft records
- Request user which record to keep
- User intervention (keep/delete/repair)
- User intervention (keep/delete/repair)
- User intervention (keep/convert/delete)

VHF COM list 3/Buttons



- Navigation buttons:
 - Start Go to Start Page of Frequency Finder
 - Home Go to Home Page VHF COM of Frequency Finder
 - DU Find recently downloaded frequency assignments
 - D Find draft frequency assignments
- Query/Find buttons
 - Global COM list Display the Global COM list 3
 - Regional COM list Display the Regional COM list 3 for the Active Region
 - Query Start query the COM list 3
 - Select Select specific frequency assignments from COM list 3
 - Active Find Return last Query/Selection

VHF COM list 3/Buttons



- **Functions (buttons):**
 - New or Mod or Del Freq.: Adds, modifies or deletes frequency assignment
 - Test Frequency Test compatibility of single frequency or selection
 - Mapping Displays on map coverage of single or found frequencies
 - Calculation results Display calculation results of recent and previous compatibility calculations
 - Export COM list 3 Export COM list 3 (or a selection)

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VHF COM list 3/Query

- Query button – start query page
Query database
 - Select Region
 - Select Country (optional)
 - Select Location (optional)
 - Select either Frequency, Service or FIR Sector
 - Click button **Find**

VHF COM list 3/Query

- Query button – start query page Query database
 - Select Region
 - If no country is selected, button **Find** returns COM list 3 for the selected Region
 - Select Country (optional) –
 - If no Location is selected, button **Find** returns COM list 3 for the selected country
 - Select Location (optional) –
 - Button **Find** returns the COM list 3 for the selected Location

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VHF COM list 3/Select

- Button *SELECT*

- 1 – Click button *SELECT* to select current (active) frequency

Button *SELECT* gets a red background

2. – Click any other frequency assignment to be added to the selection

3. When selection is complete click button *SELECT*

4. Button *SELECT* gets green background and returns the manual selection of frequency assignments.

5. Button *Active Find* becomes active for quick redo of the selection/find

6. Click button *SELECT* to remove the selection (or previous query).

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Test Frequency (1)

- Click button *Test Frequency* on window *COM list 3*
- Options:
 - Test Single Frequency
 - Test found frequencies
(all frequencies in the found-set)
- As desired by the user, the calculation results can be displayed on a map with Google Earth.
- When the calculations are completed the window *Summary Calculations* is displayed

Test Frequency (2)

Summary calculation results (1)

COM Data Base (COM LIST 3) Summary Calculations											
Active Region ==APAC											
Regional COM list											
Delete all records											
Redo calculations											
Co-frequency details											
Adj. frequency details											
Date	Key	D	Frequency	Region	Country	Location	Service	Margin	Result Co. freq.	Margin	Result Adj. freq.
17_Sep_2016 11:31:31	05952	R	126.500	EUR	Libya	BENGHAZI ACC	ACC	-441	Not compatible	382	Compatible
17_Sep_2016 10:31:18	05952	R	126.500	EUR	Libya	BENGHAZI ACC	ACC	-441	Not compatible	382	Compatible
17_Sep_2016 8:53:41	00065	R	136.350	EUR	Albania	TIRANA ACC	ACC	-199	Not compatible	134	Compatible

- Presents most recent and earlier test results
- Option to redo earlier tests with button with button *Redo* or click in field *Co-frequency details*
- Option to view detailed co- and adjacent calculation results of the most recent test. Click button Co- or Adj frequency details
- Alternatively the user can navigate to the window *Summary Calculations* with the button *Calculation Results* on the window COM list 3

Test Frequency

Detailed calculation results – Co-frequency

- Details include
 - Actual distance between the two stations
 - Minimum required distance
 - Margin in NM (positive figure means frequency assignment are compatible; negative figure means frequency assignments are not compatible)

Test Frequency (5)

Detailed calculation results – Co-frequency (3)

Buttons (2)

- Plot interference – all
 - Plot compatibility of all frequency assignments in the table
- Plot coverage
 - Plot coverage of the station that has been tested
- Plot interference
 - Plot interference or compatibility of the station that is being tested with the selected station against which compatibility is tested.

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Test Frequency (6)

Detailed calculation results – Adjacent frequency (1)

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 - **Modify/add/delete frequency**
 - Mapping using Google earth **Q/A**

Add, Modify or Delete frequency assignment (1)

- Button *New or Mod or DEL Freq.*
 - Options:
 - 1 – New Frequency
 - Add a new frequency to the COM list 3
 - 2 – Add Frequency
 - Add a new frequency to the selected station
 - 3 – Modify Frequency
 - Modifies the selected frequency
 - 4 – Delete Frequency
 - Deletes the selected frequency
 - 5 – Cancel
 - Cancels modifying COM list 3

Add, Modify or Delete frequency assignment (2)

- Button *New or Mod or DEL Freq.*
 - When adding a new frequency assignment or modifying an existing frequency assignment, initially a *draft* frequency assignment is created
 - The user can modify and test the draft frequency assignment as is considered necessary
 - When completed, the draft frequency assignment can be saved as a draft or as a registered frequency assignment (or deleted from the local COM list 3)

Add, Modify or Delete frequency assignment (3)

Add a new Frequency to COM list 3

- Button New or Mod or Del Freq. → New Frequency
- Opens window New/Mod Frequency
- Enter the following (essential) parameters:
 - Country name (from drop-down menu)
 - Location name
 - Latitude
 - Longitude
 - Service
 - Category
 - Frequency
 - Remarks
- Click button *TEST* to check compatibility of the new frequency

Add, Modify or Delete frequency assignment (4)

Add a new Frequency to a Station in COM list 3

- Button New or Mod or Del Freq. → Add Frequency
- Opens window New/Mod Frequency
- Already entered parameters (for the station)
 - Country name (from drop-down menu)
 - Location name
 - Latitude
 - Longitude
 - Category
 - Remarks
- Enter the following essential parameters:
 - Service
 - Frequency
 - Modify Remarks as necessary
- Click button *TEST* to check compatibility of the new frequency

Add, Modify or Delete frequency assignment (5)

Modify a Frequency in COM list 3

- Button New or Mod or Del Freq. → Modify Frequency
- Opens window New/Mod Frequency
- Already entered parameters (for the station)
 - Country name (from drop-down menu)
 - Location name
 - Latitude
 - Longitude
 - Category
 - Service
 - Frequency
 - Remarks
- Modify any of the parameters
- Click button *TEST* to check compatibility of the new frequency
- Modification is added to the table Historical

Add, Modify or Delete frequency assignment (6)

Delete a Frequency in COM list 3

- Button New or Mod or Del Freq. → Delete Frequency
- Dialog box to confirm deletion of the selected frequency
- Click *Delete*
- *If frequency assignment is registered:*
 - *Frequency assignment is functionally deleted (frequency is set to 0.000 MHz)*
 - *Deletion is added to the table Historical*
- If frequency assignment is a draft frequency
 - Frequency is physically deleted

Add, Modify or Delete frequency assignment (7)

Create family of extended range facilities

- Click the drop-down menu in the field ER family
- Select an existing ER family or create a new family
- ER facilities operate on the same frequency typically have overlapping coverage.
- ER facilities are considered in Frequency Finder as not interfering between each other.

Add, Modify or Delete frequency assignment (8) Area services

- Frequency assignments for area service can be linked to a specified geographical area (polygon)
- Frequency protection is provided (only) within the specified area.
- Within the geographical area new stations (extended range stations) can be added without the need for further frequency coordination.
- Extensive use is made of area services in the EUR Region (country wide, for ACC sectors)
- If desired, the use of areas to describe the protected coverage of area services can be implemented in the MID and APAC Regions.

Add, Modify or Delete frequency assignment (9)

Test new or modified frequency assignment

- The draft frequency assignment can be tested with the button *TEST* in the window *NEW/MOD frequency*.
- Test results (compatible/not compatible) are displayed when the test is completed.
- A summary of the test results is in the pane *Summary* and can be viewed with the tab *Co-frequency and Adj. Frequency*.
- Test result can be plotted with Google Earth with the button *Plot interference - All*.
- Detailed test results can be viewed with the button *Save Draft or Modified Freq. → View summary calculations*.
- Test results are also displayed in COM list 3 (Key prefix).

Add, Modify or Delete frequency assignment (10)

Search frequency (1)

- Frequency Finder can search for a new or a replacement frequency
- Two methods:
 - Search in a specified frequency band.
 - (Set START and END frequency).
 - Search in frequency range allotted to a specified service. (Select from Regional Frequency Allotment Plan).
- Select # of frequencies to be found
- Click button **START SEARCH**

Add, Modify or Delete frequency assignment (11)

Search frequency (2)

- Frequency Finder searches for compatible frequencies in the selected range or allotted frequency bands.
- Found frequencies are displayed in the fields *Frequencies Found*
- Margin is displayed in the fields *Margin (co- and adj.)*
- When the search is completed, the user should select the frequency with the smallest margin. Click in the relevant field *Frequencies found*
- The selected frequency is automatically tested and the result are summarized in the Key Prefix.



Thank you for your Attention