



ICAO

*International Civil Aviation Organization***TENTH MEETING OF SPECTRUM REVIEW  
WORKING GROUP (SRWG/10)**

Bangkok, Thailand, 04 – 06 February 2026

**Agenda Item 4:** Update on Frequency Finder**UPDATE ON THE MODULES IN FREQUENCY FINDER**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the latest work, enhancements and functionalities brought to the Frequency Finder tool to assist ICAO Regional Offices and States to manage and coordinate aeronautical frequency assignment as well as SSR Mode S II/SI codes.

Action by the meeting is in paragraph 4.

**1. INTRODUCTION**

1.1 ICAO has developed the program Frequency Finder that offers a tool to assist ICAO Regional Offices and States to manage and coordinate aeronautical frequency assignments. Further Frequency Finder provides also for the calculation of interference areas and a geographical interface for plotting of the frequency assignments, including potential interference area.

1.2 In addition, this program combines the database management functions for updating the ICAO COM lists 2 and 3 as well as the SSR list for SSR Mode S II/SI codes.

**2. DISCUSSION****2.1 UPDATE ON NEW FUNCTIONALITIES AND COMPLETED ENHANCEMENTS/REVISIONS****2.1.1 Upgrade to the Server of the Frequency Finder tool**

2.1.1.1 Due to an audit performed by IT department, it was necessary to implement security improvements to the FF Server (frequency.icao.int). Due to this upgrade, the central database became inaccessible from outside until the necessary security improvements to the FF Server.

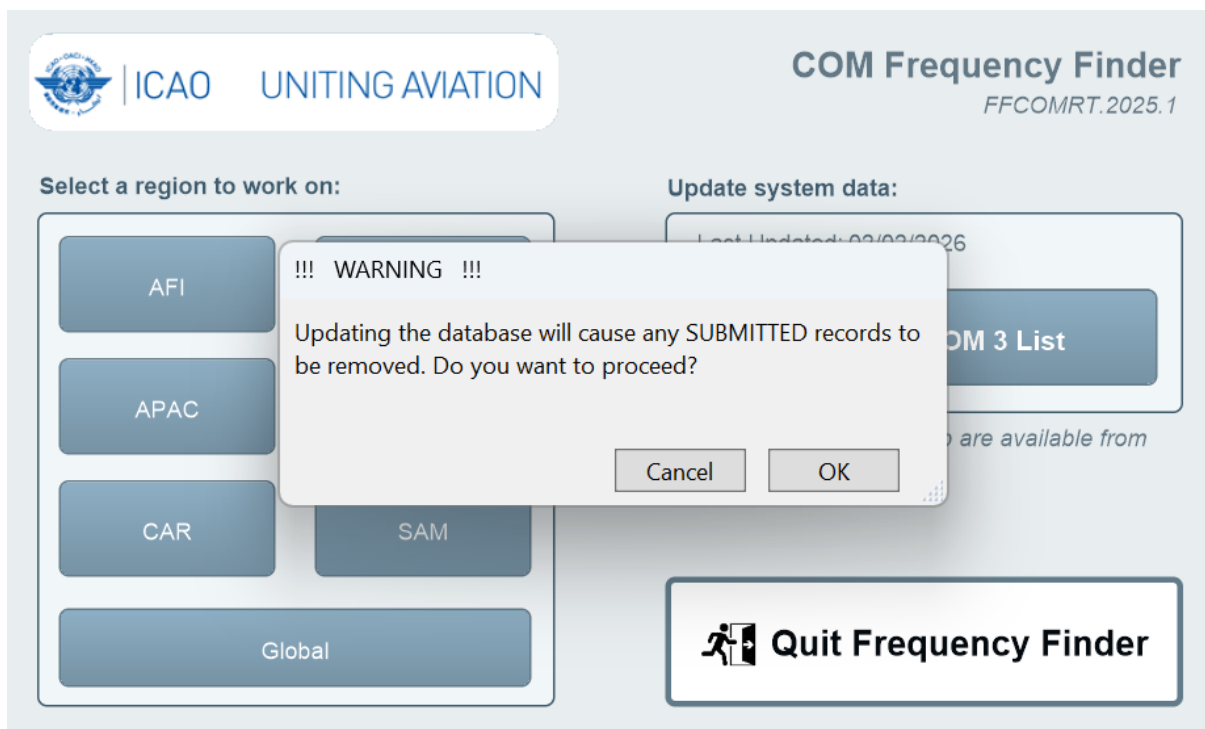
2.1.1.2 After the upgrade to the Server was finalized, the various module scripts of that run the main download and export/import functionalities were upgraded to ensure compliance with the latest server enhancements.

**2.1.2 New stand alone RT version of the VHF-COM module**

2.1.2.1 As mentioned in paragraph 2.1.2, several scripts were modified as a result to run the main functionalities in the VHF-COM module. Downloading speed for example was another enhancement brought.

2.1.2.2 The new standalone RT version for the VHF-COM module is available and can be downloaded from the FSMP website ([FSMP - Documents](#)).

2.1.2.3 A new modern layout has been implemented in the runtime version of the VHF-COM module. You may note that a dialogue box will now prompt the users to automatically download the latest data from the Server. In addition, selecting “Download COM 3 List” will now download all data for the VHF-COM module from the Server. A caution message will appear asking you to confirm that this action will replace your local data with the data from the Server. This means that any “submitted records” will be deleted. Please select “OK” when this message appears so that you can work with the most up-to-date information. If “cancel” is clicked, then the data will not be synchronized.



**Figure 1– Download COM 3 List**

2.1.3 Update on the status of the VHF-NAV and the SSR RT versions

2.1.3.1 Having just completed the work on the VHF-COM module, two stand alone modules for the NAV and SSR will be provided to States. It is recommended to continue using your current versions of these modules offline. Meanwhile, for assignment requests regarding the NAV and SSR modules, please continue to address them to your Regional officer.

2.2 MODERNIZATION OF THE ICAO FREQUENCY FINDER APPLICATION: ENHANCING FREQUENCY SPECTRUM MANAGEMENT FOR AERONAUTICAL COMMUNICATIONS, NAVIGATION, AND SURVEILLANCE

2.2.1 With the rise of new CNS technologies, such as space-based VHF, and the growing complexity of frequency planning, the FF application requires a significant upgrade to support modern demands. Without these improvements, the FF application will struggle to meet the future needs of global aviation, leading to unsafe frequency assignments and a loss of trust among ICAO member States.

2.2.2 This project aims to modernize the existing FF application to address its current limitations, including the challenges posed by the discontinuation of the FileMaker runtime license, and to introduce new capabilities. The modernization will be implemented in four distinct phases described below. Each phase will have clearly defined objectives and deliverables to ensure a structured and efficient approach.

### **Some of the Common Modernizations Across All Phases**

- **Cyber Resilience:** Implement advanced security features to protect the FF application from threats and ensure data integrity.
- **Enhanced Data Presentation:** Improve the visualization and presentation of data, optimize frequency assignment workflows, and enable better decision-making for ICAO member states and regional offices.
- **Real-Time Visualization:** Enhance real-time visualization of communication spectrum usage for more accurate and efficient decision-making.
- **Platform Transition:** Migrate the modules away from FileMaker to a more robust, modular, scalable and secured platform, ensuring operational continuity.

### **Phase 1: VHF- COMMUNICATION SYSTEMS MODULE**

This phase focuses on modernizing the Aeronautical Communication Module, improving the frequency assignment processes for VHF air/ground communications by ensuring compatibility and minimizing interference.

### **Phase 2: NAVIGATION SYSTEMS MODULE**

The second phase focuses on upgrading the Navigation Module, particularly in the frequency planning of navigation aids such as ILS, DME, and VOR.

### **Phase 3: SURVEILLANCE MODULE**

This phase will modernize the Surveillance Module, focusing on improving Interrogator codes (IC codes including II and SI codes) assignment for surveillance systems such as secondary Surveillance Radar.

### **Phase 4: IMPROVEMENTS OF FREQUENCY FINDER**

This phase will enhance the Frequency Finder Application. The key deliverables expected from this phase will include:

- Space based VHF added to the Communications Module;
- Intermodulation products calculator, and
- Coverage analysis and Simulation

## **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) make extensive usage of the Frequency finder tool; and
- c) provide feedback on FF tool usage, bugs and recommendations.

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