



| ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY



REGIONAL FRECUENCIES MANAGEMENT FOR CAR AND SAM REGIONS

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ICAO NACC AND SAM REGIONAL OFFICES

DEVELOPMENT OF THE NATIONAL AIR NAVIGATION PLAN

INTRODUCTION



IMPORTANT NOTES



Frequency Management



CNS SYSTEMS



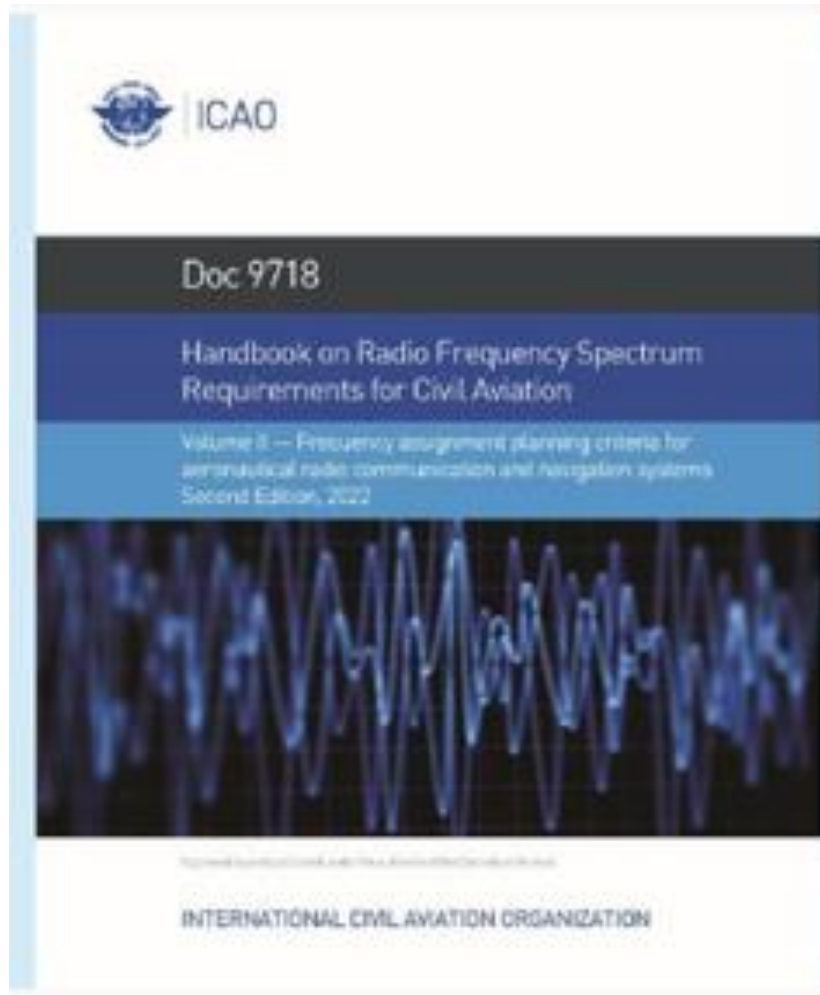
COMM LIST 1, 2 AND 3



FREQUENCY MANAGEMENT PROJECT



RESOURCES



DOCUMENT 9718- Handbook on radio frequency spectrum, volume I and Volume II



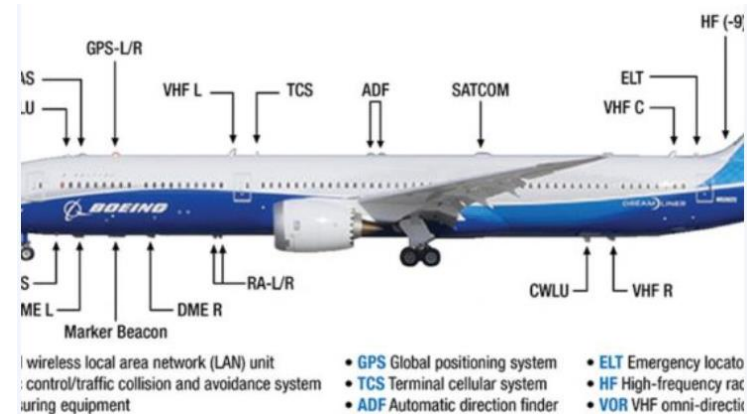
Annex 10: Aeronautical Communications:

Volume I: radio navigational Aids

Volume III Communication System

Volume V aeronautical radio frequency spectrum utilization

INTRODUCCION



1. Spectrum is a range of electromagnetic frequencies, usually called Radio Frequency Spectrum.
2. Radio frequency spectrum is a natural resource.
3. Spectrum has a finite capacity, its limit and every year its demands increase.
4. Spectrum is regulated at international, regional and national level.
5. The ITU: International Telecommunications Union (ITU) is the specialized agency of United Nations responsible of the standardization and allocation of the range of frequencies for different services.
6. Aircraft flight is made safe due to communication, navigation and surveillance systems because the use of different frequencies antennas use to support critical flight functions.



IMPORTANT NOTES

1. Communications, navigation and surveillance system to support air traffic management and its services are highly dependent of the availability of allocation range of frequencies to cover all services.
2. Because spectrum is a limit resource, we need to share with other services and at the same time, we need to protect the frequencies allocate for aeronautical use.
3. Air traffic services and all States must be very proactive about frequencies management.
4. Communication, navigation and surveillance system operate in various bands all over the frequency range.
5. Aircraft operations dependent on spectrum availability, in that sense its necessary to have an appropriate frequencies management and protect the aviation frecuencias for actual and future services.

Frequency Management

It is important to implement a strong methodology of frequency management to ensure quality of the service, avoid interference and improve the use and quality of the services.

How to implement a good methodology:

1. Establish a real and update database about the frequencies in use.
2. Establish procedures to do an analysis about future allocation frequencies
3. Provide training to staff responsible of the frequencies States management.
4. Coordinate with ICAO Regional Offices the frequencies allocation.

To have a correct mechanism of frequencies management avoid any harmful interference.

Safety!

CNS SYSTEMS

1. Systems of communications, navigations and surveillance operate in various bands all over the frequency range and exist many services working at adjacent bands.
2. Aircraft flights is made safe thanks to a different CNS systems that work providing information to support critical functions
3. If we loss access or get interference in some of those frequencies bands occurs a loss of CNS capability and it could be a safety issue.

AERONAUTICAL NAVIGATION AND COMMUNICATIONS SERVICES

NAVIGATION

BAND	USAGE
74.8 – 75.2 MHZ	Marker beacon for use with ILS
108 – 117.975 MHZ	ILS localizer VOR GBAS

COMMUNICATIONS

BAND	USAGE
117.975 – 137 MHZ	Air-ground and air-air communications (VHF voice and data)
121.5 MHZ 123.1 MHZ	Emergency frequencies

***ICAO COM LIST N° 1* Facilities Operating on Frequencies in the LF/MF Band (190-1750 kHz)**

The following list of frequency assignments, used mainly for NDBs, is intended to keep the States/Territories of the CAR/SAM Regions informed of the availability or current/planned uses for Low Frequency (LF)/Medium Frequency (MF) for aeronautical radio navigation aids, facilitating the concerned States/Territories to coordinate their national plans with their neighboring States/Territories.

The list of LF/MF assignments to aeronautical radio navigation aids of the CAR States/Territories presents the national and international frequency assignments in the 190-1750 kHz classified by order of State/Territory and type of service.



ICAO COM LIST N° 2 Record of VHF Frequency Assignments to Caribbean VOR and ILS Radio Navigation Aids

The VHF frequency assignments to ILS Localizer, VOR, GBAS (Ground based augmentation system) are assigned between 108.00 to 117.975 MHz.

https://www.icao.int/NACC/Documents/frequencies/Int_List2A.pdf

***ICAO COM LIST N° 3* List of Frequency Assignments in the Band 117.975- 137.000 MHz**

This List of VHF Frequency Assignments is intended as a means to keep the States informed as to the use being made of and/or planned for VHF frequencies in the Aeronautical Mobile Service (AMS).

This List shows the frequency assignments made taking into account the communication requirements contained in Table CNS 2A of the ICAO CAR/SAM Air Navigation Plan.

The operational control channels required by airline operating agencies should be chosen in accordance with paragraph 4.1.8.1.3 of Annex 10, Volume V, following consultation between States and aircraft operating agencies, and the frequencies assigned by each State for its own domestic requirements, so as to permit the States concerned to coordinate their plans with those of neighboring States.

https://www.icao.int/NACC/Documents/frequencies/Int_List3A.pdf

CAR/SAM FREQUENCIES MANAGEMENT APPROACH

Regional project under GREPECAS

1. Update the information on aeronautical frequency assignment in the CAR/SAM Regions by November 2023.
2. Establish/update the regional frequency assignment procedure.
3. Propose a regional training programme for the management of aeronautical frequencies.
4. Establish follow-up and evaluation mechanisms on World Radiocommunications Conference (WRC) of the International Telecommunication Union (ITU) issues.
5. Search for mechanisms that allow the application of procedures standardization.



Thank You!